DATE/TIME	4/14/2017 3:07 PM
LAYOUT	TITLE SHEET
DESIGNED	BCL
CHECKED	JP/AJ
DRAFTED	SH/BP/BB

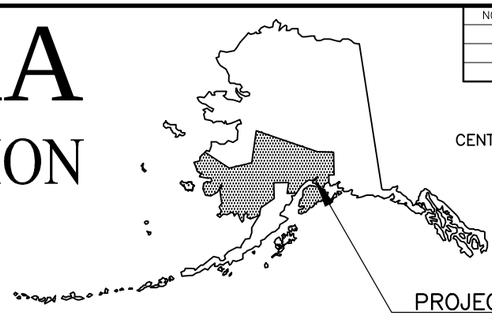
FILE: Z:\PROJECTS\00332_BEAVER LP RD\DWGS\C\SHEETS\A1_TITLE_SHEET.DWG

STATE OF ALASKA

DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

NO.	DATE	REVISION

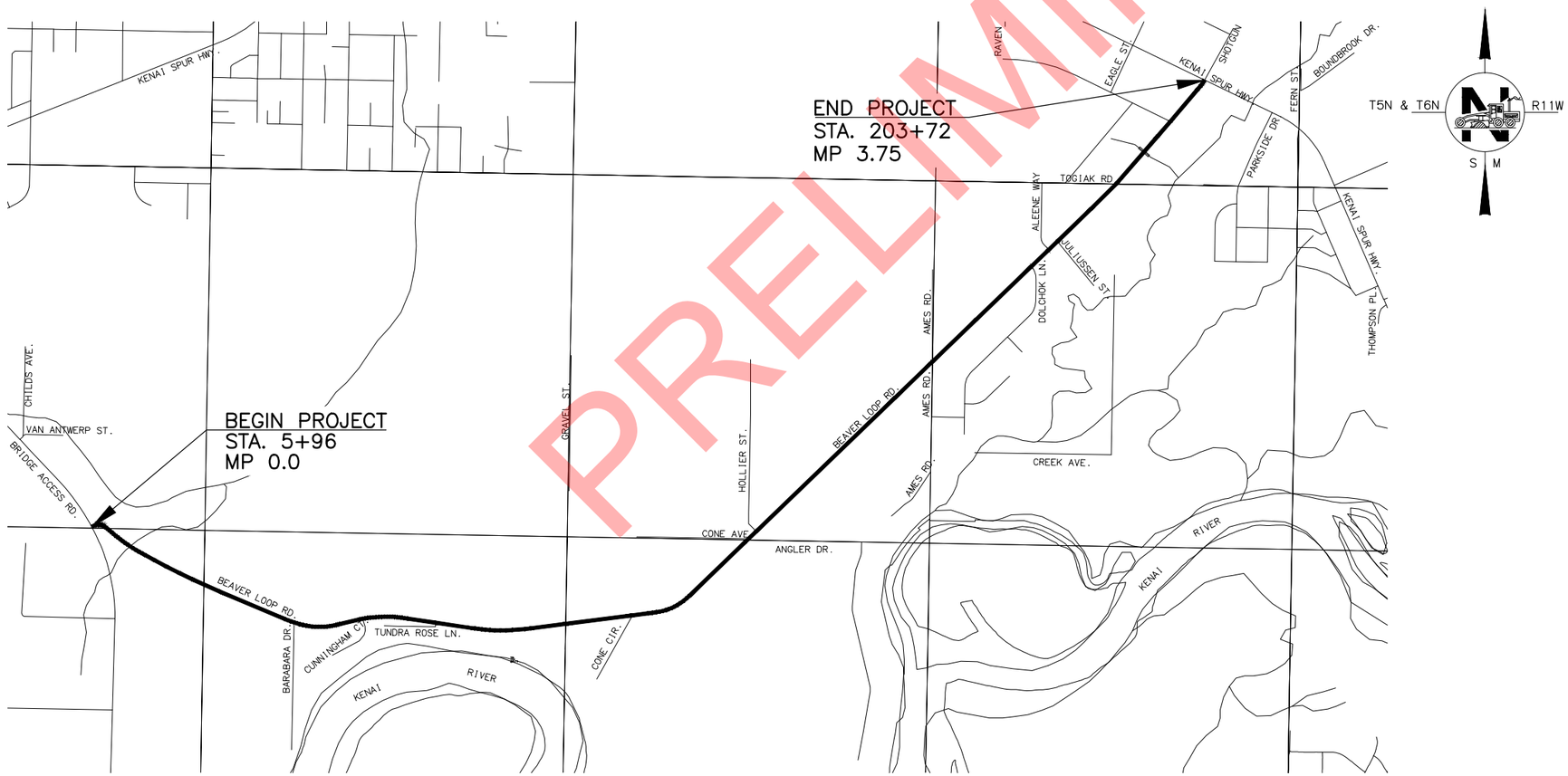
STATE	PROJECT DESIGNATION		YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0001453/Z534560000		2018	A1	A8
CDS ROUTE	117770	MILEPOINT	0.0–3.75		
LATITUDE	60.545545	LONGITUDE	–151.160210		



PROPOSED HIGHWAY PROJECT

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY PROJECT NO. 0001453/Z534560000

GRADING, DRAINAGE, PAVING, PATHWAYS, ILLUMINATION, SIGNING, AND STRIPING



PROJECT SUMMARY		
ROADWAY	WIDTH	LENGTH
BEAVER LOOP ROAD MP 0–3.75	26 FT	3.75 MILES
PATHWAY	8 FT	3.75 MILES

DESIGN DESIGNATIONS	
	BEAVER LOOP ROAD
FUNCTIONAL CLASS	MAJOR COLLECTOR
AADT (2015)	1,420
AADT (2037)	1,585
DESIGN SPEED (V) (MPH)	50 MPH
DHV	10%
T–PERCENT COMMERCIAL TRUCKS (%)	5.39%
D–DIRECTIONAL DISTRIBUTION (%)	60/40
ESALs	98,557/202,155

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
4111 AVIATION AVENUE, ANCHORAGE, AK 99502
(907)269–0590

APPROVED:

REGIONAL PRE–CONSTRUCTION ENGINEER DATE

CONCUR:

REGIONAL CONSTRUCTION ENGINEER DATE

REVISIONS		
NO.	DATE	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0001453/Z534560000	2018	A2	A8

DESIGNED BY BCL
CHECKED BY JP/AJ
DRAFTED BY SH/BP/BB

XREFS

SCALE N/A

LAYOUT A2

DATE TIME 4/14/2017 9:56 AM

DRAWING LOCATION Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\A2_INDEX.dwg

GENERAL NOTES:

1. ALL CONSTRUCTION SHALL BE CONTAINED WITHIN THE RIGHT-OF-WAY, TEMPORARY CONSTRUCTION EASEMENTS, AND 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.

2. CLEARING LIMITS ARE FROM THE EXISTING EDGE OF PAVEMENT TO THE ROW, BOTH SIDES OF THE ROAD. GRUBBING LIMITS ARE FROM EXISTING EDGE OF PAVEMENT TO PROPOSED TOE, EXCAVATION LIMIT, OR ROW LINE PER TYPICAL SECTIONS. SEE THE CLEARING AND GRUBBING SUMMARY, SHEET D2, FOR ADDITIONAL INFORMATION.

3. ALL PAVEMENT CUTS SHALL BE MADE WITH A SAW OR ALTERNATE METHOD APPROVED BY THE ENGINEER. SKEW TRANSVERSE JOINTS IN THE TOP LIFT OF PAVEMENT IN ACCORDANCE WITH SUBSECTION 401-3.17.

4. TOPSOIL AND SEED ANY AREAS WITHIN THE RIGHT-OF-WAY DISTURBED BY CONSTRUCTION, AND AS DIRECTED BY THE ENGINEER. TOPSOIL DEPTH SHALL BE 4".

5. ADJUST ALL PAVEMENT PENETRATIONS TO FINAL GRADE PRIOR TO TOP LIFT OF PAVING.

   IF ANY PAVEMENT PENETRATION REQUIRES GRADE ADJUSTMENT AFTER FINAL LIFT PAVING, AS DETERMINED BY THE ENGINEER, SAW CUT A NEAT LINE ALONG THE PAVEMENT TO BE REMOVED. USE AN INFRARED HEATER TO HEAT THE EXISTING PAVEMENT, EQUIPMENT AND MAXIMUM TEMPERATURE SHALL BE APPROVED BY THE ENGINEER. REPLACE THE REMOVED ASPHALT WITH NEW HOT MIX ASPHALT AND THOROUGHLY COMPACT. SEAL JOINTS AT LEAST 12 INCHES WIDE USING ASPHALT SYSTEMS GSB-88 OR APPROVED EQUAL, WHILE THE HOT MIX ASPHALT IS CLEAN, FREE OF MOISTURE AND PRIOR TO STRIPING.

   THERE SHALL BE NO PAYMENT FOR ADDITIONAL WORK CAUSED BY FAILURE TO ADJUST PAVEMENT PENETRATIONS TO FINAL GRADE.

6. ON STANDARD DRAWING C-03.10, REPLACE THE SAFETY FENCE AND TYPE II BARRICADE OR TUBULAR MARKINGS SHOWN IN THE TYPICAL SECTION WITH ADA COMPLIANT BARRICADES.

ABBREVIATIONS

A.A.D.T.	AVERAGE ANNUAL DAILY TRAFFIC
ADA	AMERICANS WITH DISABILITIES ACT
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
ATB	ASPHALT TREATED BASE COURSE
AUTH	AUTHORIZATION
AVE	AVENUE
AWS	AMERICAN WELDING SOCIETY
BOP	BEGINNING OF PROJECT
BLR	BEAVER LOOP ROAD
BLVD	BOULEVARD
℄	CENTERLINE
C/A	CONTROLLED ACCESS
C.F.	CUBIC FOOT
CERT	CERTIFICATION
CIDH	CAST IN DRILLED HOLE
CJP	COMPLETE JOINT PENETRATION
CLR	CLEAR
CMP	CORRUGATED METAL PIPE
CPM	CORRUGATED STEEL PIPE
CSP	CRITICAL PATH METHOD
CY	CUBIC YARD
D(%)	DIRECTIONAL SPLIT
DHV	DESIGN HOURLY VOLUME
DIP	DUCTILE IRON PIPE
DIR	DIRECTION
DOT&PF	ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
DR	DRIVE
DWG	DRAWING
E	EASTING/EAST
EB	EASTBOUND
EOP	END OF PROJECT/END OF PAVEMENT
ESALS	EQUIVALENT SINGLE AXLE LOADS
EX	EXISTING
FT	FOOT / FEET
H	HEIGHT
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HMA	HOT MIX ASPHALT
HP	HORSEPOWER
HWY	HIGHWAY
L	LENGTH OF CURVE
LB / LBS	POUND / POUNDS
LN	LANE
LT	LOCATION LEFT
MAX	MAXIMUM
M.E.	MATCH EXISTING
MI	MILES
MIN	MINIMUM
M GAL.	THOUSAND GALLON
MP	MILE POST
MPH	MILES PER HOUR
N	NORTHING/NORTH
NA	NOT APPLICABLE
NB	NORTHBOUND
NE	NORTHEAST
NIC	NOT IN CONTRACT
NO	NUMBER
NPS	NOMINAL PIPE SIZE
NTS	NOT TO SCALE
NW	NORTHWEST
OC	ON CENTER
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVE
PH	PHASE
PI	POINT OF INTERSECTION
PL	PLACE/PLATE
PRC	POINT OF REVERSE CURVATURE
PT	POINT OF TANGENCY
R	RADIUS
RD	ROAD
REQ'D	REQUIRED
ROW	RIGHT-OF-WAY
RT	LOCATION RIGHT
S	SOUTH / SUPERELEVATION
SB	SOUTHBOUND
SCH.	SCHEDULE
SE	SOUTHEAST
SHLD/SHLD'R	SHOULDER
SP	SPECIAL PROVISION
SPPA	STRUCTURAL PLATE PIPE ARCH
SPP	STRUCTURAL PLATE PIPE
SRFRS	SEDIMENT RETENTION FIBER ROLLS
SS	SANITARY SYSTEM
ST	STREET
STA	STATION
STD	STANDARD
SW	SOUTHWEST
T	TANGENT
T(%)	PERCENT TRUCKS
TYP	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
V	DESIGN SPEED
V.C.	VERTICAL CURVE
V.P.I.	VERTICAL POINT OF INTERSECTION
W	WEST
WB	WESTBOUND

INDEX

THE FOLLOWING REGIONAL DRAWINGS APPLY TO THIS PROJECT:

CR-T-01.02

IN THE EVENT OF A CONFLICT, REGIONAL DRAWINGS SUPERSEDE STANDARD DRAWINGS.

THE FOLLOWING STANDARD DRAWINGS APPLY TO THIS PROJECT:

C-03.10*, C-04.12, C-05.20,
D-01.02, D-04.21, D-06.10, D-07.00, D-30.11, D-31.01
L-30.10
S-00.11*, S-05.01,S-30.04, S-31.01
T-21.03, T-22.03

* AS MODIFIED HEREIN.

SPECIFICATION:

CONSTRUCT THE IMPROVEMENTS COVERED BY THESE PLANS IN ACCORDANCE WITH THE ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES 2015 STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND THE PROJECT SPECIAL PROVISIONS AS OF THE ADVERTISEMENT DATE OF THIS PROJECT.

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC
3909 Arctic Blvd, Suite 400
Anchorage, Alaska 99503
(907) 346-2373
CERT. OF AUTH. NO. AECL 1102

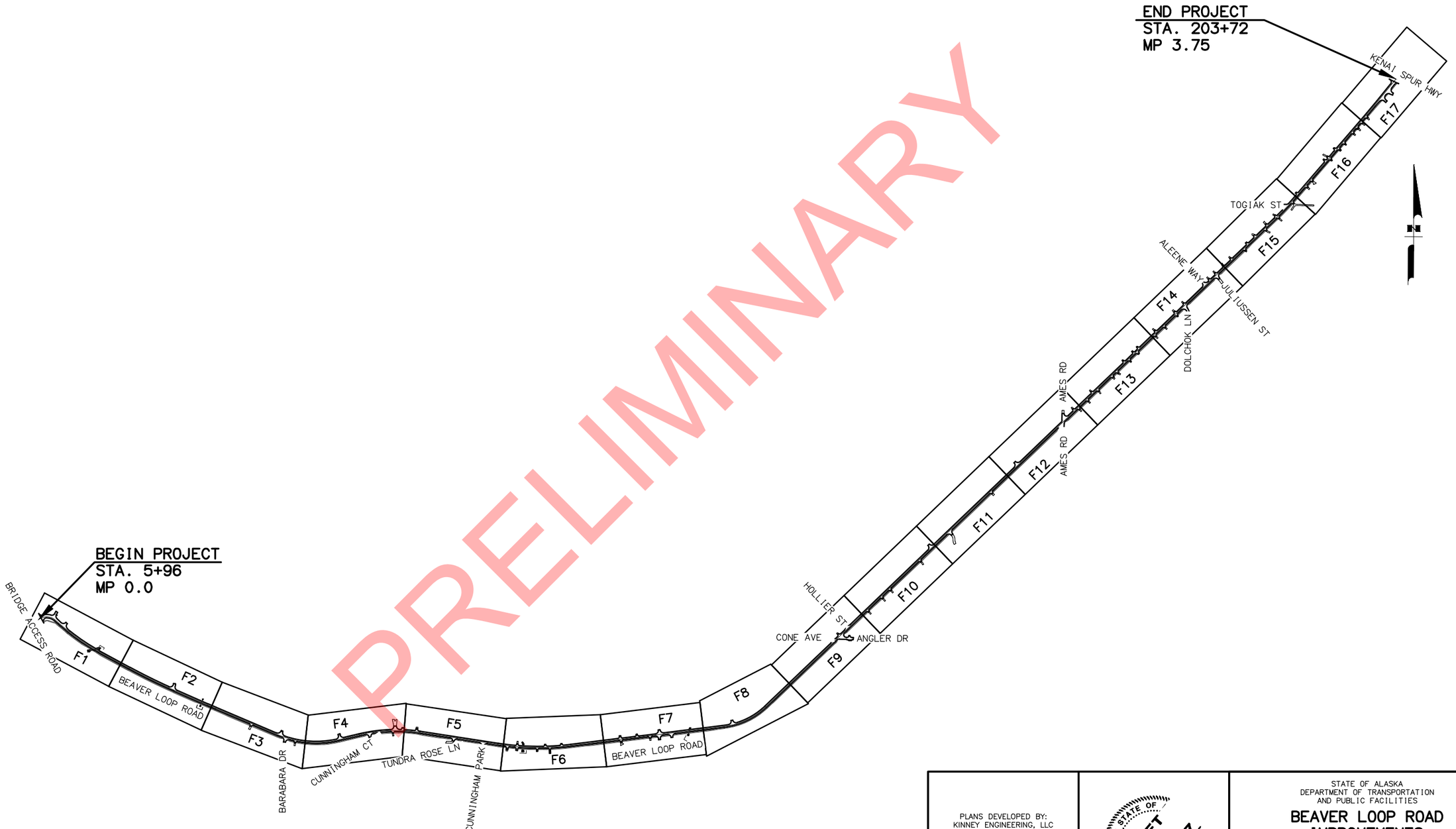
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY

INDEX, ABBREVIATIONS & GENERAL NOTES

REVISIONS		
NO.	DATE	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	**0001453/Z534560000**	2018	A3	A8



PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC
3909 Arctic Blvd, Suite 400
Anchorage, Alaska 99503
(907) 346-2373
CERT. OF AUTH. NO. AECL 1102

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY

SHEET LAYOUT

DESIGNED BY: BCL
CHECKED BY: JP/AJ
DRAFTED BY: SH/BP/BB

XREFS

SCALE: N/A

LAYOUT: A3

DATE TIME: 4/14/2017 9:58 AM

DRAWING LOCATION
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REVISIONS		
NO.	DATE	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0001453/Z534560000	2018	A4	A8

DESIGNED BY XXX
CHECKED BY XXX
DRAFTED BY XXX

XREFS

SCALE N/A

LAYOUT A4

DATE TIME 4/3/2017 9:50 AM

DRAWING LOCATION Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\A4_LEGEND.dwg

UTILITIES

	EXISTING	PROPOSED
PIPELINES:		
STORM DRAIN STRUCTURE AND PIPE NUMBERS, APPLICABLE IF SHOWN	S1-1, S1-2, P1-1, P1-2	
STORM DRAIN	SD	
MANHOLE STORM DRAIN	SD	SD
CURB INLET CATCH BASIN		
FIELD INLET CATCH BASIN	FI	FI
PIPE CULVERT w/ END SECTION		
CLEANOUT	CO	CO
SANITARY SEWER	SS	SS
MANHOLE SANITARY SEWER	SS	SS
SEPTIC VENTS		
WATER	W	W
FIRE HYDRANT		
WELL		
VALVE OR RISER		
NATURAL GAS	G	G
OIL OR GASOLINE PIPELINE	O	O
ELECTRIC (OVERHEAD)	OE	
ELECTRIC (DIRECT BURY)	UE	
ELECTRIC (OVERHEAD)	OE&OT	
UTILITY POLE		
UTILITY POLE WITH LUMINAIRE		
GUY POLE	GP	
GUY WIRE ANCHOR		
TRANSMISSION TOWER [WOOD]		
TRANSMISSION TOWER [STEEL]		
ELECTRICAL PEDESTAL	E	
ELECTRICAL TRANSFORMER	E	
ELECTRIC METER		
ELECTRICAL OUTLET		
ELECTRIC MANHOLE	E	
TELEPHONE (OVERHEAD)	OT	
TELEPHONE (DIRECT BURY)	UT	
TELEPHONE (DIRECT BURY)	UT&TV	
TELEPHONE PEDESTAL	T	
TELEPHONE MANHOLE	T	
FIBER OPTIC	FO	
FIBER OPTIC MANHOLE	FO	
CABLE TV (OVERHEAD)	OTV	
CABLE TV (DIRECT BURY)	UTV	
CABLE T.V. PEDESTAL	V	
SATELLITE DISH		
U.G. DUCT (E, T, FO)		

UTILITIES

	EXISTING	PROPOSED
ELECTROLIER		
HIGHTOWER		
SIGNAL POLE WITH MAST		
PEDESTRIAN PUSH BUTTON		
RURAL BEACON		
SCHOOL ZONE BEACON		

RIGHT OF WAY

	EXISTING	PROPOSED
PRIMARY CENTERLINE MONUMENT		
SECONDARY CENTERLINE MONUMENT		
PROJECT RIGHT-OF-WAY LINES		ROW
CONTROLLED ACCESS LINE		C/A
1/4 SECTION LINE		
PROJECT CENTERLINE	27+00	
EXISTING UTILITY EASEMENT LINE		
RAILROAD CENTERLINE		
PROPOSED PERMANENT EASEMENT		
TEMPORARY CONSTRUCTION EASEMENT		
TEMPORARY CONSTRUCTION PERMIT		

EXISTING TOPOGRAPHY

CONIFER TREE OR TREES

DECIDUOUS TREE OR TREES
WETLANDS
SHRUB OR SHRUBS
CREEK

RIVER

LAKE / POND (LAKE, POND)

EXISTING/PROPOSED

DRAINAGE FLOW

CONTOURS - MAJOR (515)

CONTOURS - MINOR

MISCELLANEOUS

	EXISTING	PROPOSED
BUILDING		
TANKS		
ABOVE GROUND	A	
UNDERGROUND	U	
PRIVATE SIGN		
POST/BOLLARDS		
MAILBOX	MB	MB
TRAFFIC SIGN		
TRAFFIC SIGN POST #		##
VENT		

ROADWAY

	EXISTING	PROPOSED
ROADWAY OBLITERATION		
LIMIT OF CUT SLOPE		
LIMIT OF FILL SLOPE		
EDGE OF PAVEMENT		
CONCRETE CURB		
CONCRETE CURB & GUTTER		
CONCRETE CURB CUT		
SIDEWALK		
CURB RAMPS		
PARALLEL CURB RAMP		
PERPENDICULAR CURB RAMP		
MID-BLOCK CURB RAMP		
UNIDIRECTIONAL CURB RAMP		
DETECTABLE WARNING TILES		
DRIVEWAY APPROACH		
GRAVEL EDGE		
PATH / TRAIL		
BRIDGE		
TUNNEL		
NOISE BARRIER	X	X
FENCE	X	X
RETAINING WALL		
HEAD & WINGWALLS		
GUARDRAIL		
END SECTION		
PARALLEL GUARDRAIL SECTION		

	EXISTING	PROPOSED
DITCH LINEAR GRADING		
BOTTOM OF DITCH		
RIPRAP		
BOULDER OR BOULDERS		
REMOVAL OF PAVEMENT		

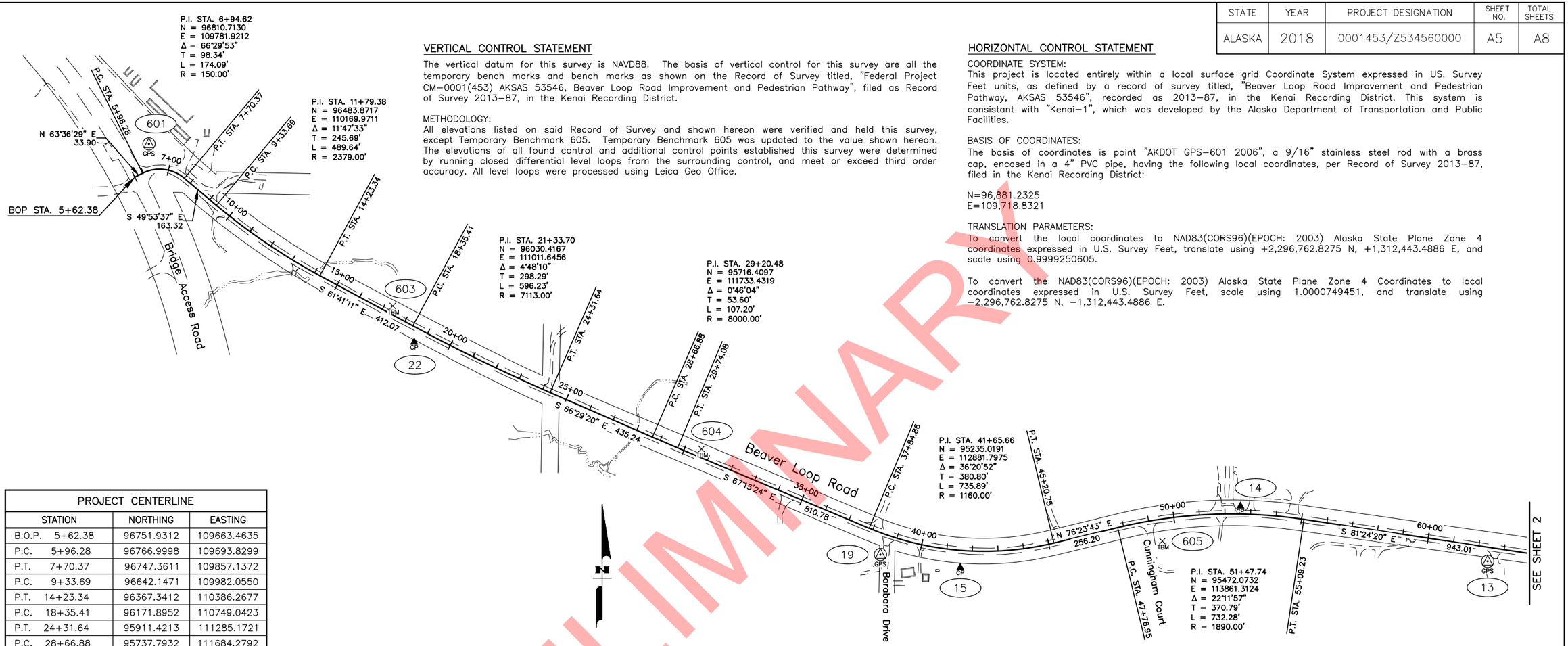
PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC
3909 Arctic Blvd, Suite 400
Anchorage, Alaska 99503
(907) 346-2373
CERT. OF AUTH. NO. AECL 1102

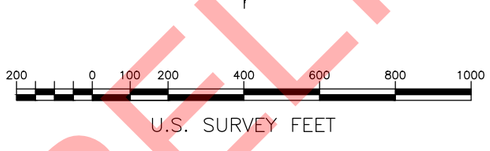
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY

LEGEND

STATE	YEAR	PROJECT DESIGNATION	SHEET NO.	TOTAL SHEETS
ALASKA	2018	0001453/Z534560000	A5	A8





VERTICAL CONTROL STATEMENT

The vertical datum for this survey is NAVD88. The basis of vertical control for this survey are all the temporary bench marks and bench marks as shown on the Record of Survey titled, "Federal Project CM–0001(453) AKSAS 53546, Beaver Loop Road Improvement and Pedestrian Pathway", filed as Record of Survey 2013–87, in the Kenai Recording District.

METHODOLOGY:
All elevations listed on said Record of Survey and shown hereon were verified and held this survey, except Temporary Benchmark 605. Temporary Benchmark 605 was updated to the value shown hereon. The elevations of all found control and additional control points established this survey were determined by running closed differential level loops from the surrounding control, and meet or exceed third order accuracy. All level loops were processed using Leica Geo Office.

HORIZONTAL CONTROL STATEMENT

COORDINATE SYSTEM:
This project is located entirely within a local surface grid Coordinate System expressed in US. Survey Feet units, as defined by a record of survey titled, "Beaver Loop Road Improvement and Pedestrian Pathway, AKSAS 53546", recorded as 2013–87, in the Kenai Recording District. This system is consistant with "Kenai–1", which was developed by the Alaska Department of Transportation and Public Facilities.

BASIS OF COORDINATES:
The basis of coordinates is point "AKDOT GPS–601 2006", a 9/16" stainless steel rod with a brass cap, encased in a 4" PVC pipe, having the following local coordinates, per Record of Survey 2013–87, filed in the Kenai Recording District:

N=96,881.2325
E=109,718.8321

TRANSLATION PARAMETERS:
To convert the local coordinates to NAD83(CORS96)(EPOCH: 2003) Alaska State Plane Zone 4 coordinates expressed in U.S. Survey Feet, translate using +2,296,762.8275 N, +1,312,443.4886 E, and scale using 0.9999250605.

To convert the NAD83(CORS96)(EPOCH: 2003) Alaska State Plane Zone 4 Coordinates to local coordinates expressed in U.S. Survey Feet, scale using 1.0000749451, and translate using –2,296,762.8275 N, –1,312,443.4886 E.

PROJECT CENTERLINE		
STATION	NORTHING	EASTING
B.O.P. 5+62.38	96751.9312	109663.4635
P.C. 5+96.28	96766.9998	109693.8299
P.T. 7+70.37	96747.3611	109857.1372
P.C. 9+33.69	96642.1471	109982.0550
P.T. 14+23.34	96367.3412	110386.2677
P.C. 18+35.41	96171.8952	110749.0423
P.T. 24+31.64	95911.4213	111285.1721
P.C. 28+66.88	95737.7932	111684.2792
P.T. 29+74.08	95695.6868	111782.8668
P.C. 37+84.86	95382.2390	112530.6019
P.T. 45+20.75	95324.5924	113251.9173
P.C. 47+76.95	95384.8559	113500.9280
P.T. 55+09.23	95416.6628	114227.9368

VERTICAL CONTROL						
POINT	STATION	OFFSET	NORTHING	EASTING	ELEVATION	DESCRIPTION
13	62+42.67	54.83 Rt	95253	114945	31.55	Fd AC/ROD[4469–S]: GPS–13
19	38+59.82	80.63 Rt	95279	112574	42.98	Fd AC/ROD[4469–S]: GPS–19
601	6+40.46	102.07 Lt	96881	109719	42.20	Fd BD/ROD: AKDOT GPS–601 2006
603	17+30	31 Lt	96249	110670	44.37	Fd Spike in Spruce: N side Beaver Loop Rd 2000' W of Barabara Dr
604	30+62	32 Lt	95691	111876	44.48	Fd Spike in Cottonwood: N side Beaver Loop Rd 800' W of Barabara Dr
605	49+42	86 Rt	95332	113675	49.61	Fd Spike in Birch: S side Road Inx Beaver Loop/Cunningham

HORIZONTAL CONTROL					
POINT	STATION	OFFSET	NORTHING	EASTING	DESCRIPTION
13	62+42.67	54.83 Rt	95252.8380	114944.9520	Fd AC/ROD[4469–S]: GPS–13
14	52+59.74	30.72 Lt	95468.2900	113980.0620	Fd Rbr/AC[4469–S]: GPS–14
15	41+57.79	66.45 Rt	95229.0820	112886.6070	Fd Rbr/AC[4469–S]: GPS–15
19	38+59.82	80.63 Rt	95279.2920	112574.3190	Fd AC/ROD[4469–S]: GPS–19
22	18+70.01	53.48 Rt	96108.3580	110754.4080	Fd Rbr/AC[4469–S]: GPS–22
601	6+40.46	102.07 Lt	96881.2325	109718.8321	Fd BD/ROD: AKDOT GPS–601 2006

LEGEND

- GPS — GPS Control Point
- CP — Control Point
- TBM — Temporary Benchmark
- 13 — Survey Point Number

NOTES

1. The information shown hereon is based on a field survey performed by R&M Consultants, Inc. (R&M) between September 21, 2015 and November 20, 2015. Field survey information is located in R&M field books no. 2310.01, books 1 thru 6.
2. Project control coordinates shown on this sheet were established by using least–squares adjusted, conventional closed traverse and static GPS techniques.
3. All dimensions and coordinates shown hereon are in U.S. Survey Feet, unless otherwise noted.
4. Verify horizontal and vertical control prior to use. For multi–year projects, verify all control on a seasonal basis.
5. Background mapping is shown for orientation purposes only.
6. Whether listed or not, ALL monuments or property markers, corners, or accessories, which will be disturbed or buried, shall be referenced and re–established in their original position (A.S. 19.10.260) and recorded (A.S. 34.65.040).

SURVEYOR'S CERTIFICATE

I hereby certify that I am properly Registered and Licensed to practice Land Surveying in the State of Alaska, and that this drawing represents a survey made by me or under my direct supervision, and that the monuments shown hereon actually exist as described, and that all dimensions and other details are correct to the extent shown hereon.

Chad A. Weiler LS–12042 Date

STATE OF ALASKA 49TH
Chad A. Weiler
LS–12042
REGISTERED PROFESSIONAL LAND SURVEYOR

PREPARED BY:
R & M CONSULTANTS, INC.
9101 VANGUARD DRIVE
ANCHORAGE, ALASKA 99507
(907) 522–1707
CERTIFICATE OF AUTHORIZATION
No. AECC111

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

Survey Control Sheet

Federal Project No. 0001453
Z534560000

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY

Located within Sections 1, 2, 4, & 9 thru 11, T. 5 N., R. 11 W., and Sections 31 & 36, T. 6 N., R. 11 W., S.M., Alaska

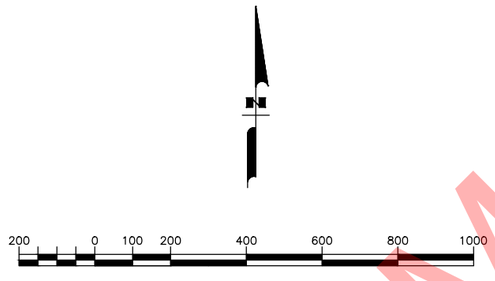
DRAWN KJR/BRM	DATE 3/27/2017	SCALE 1" = 200'
CHECKED CAW	DATE 3/28/2017	SHEET 1 OF 4

STATE	YEAR	PROJECT DESIGNATION	SHEET NO.	TOTAL SHEETS
ALASKA	2018	0001453/Z534560000	A6	A8

HORIZONTAL CONTROL					
POINT	STATION	OFFSET	NORTHING	EASTING	DESCRIPTION
8	116+66.34	28.61 Lt	97097.7340	119733.2350	Fd Rbr/AC[4469-S]: GPS-8
9	109+40.50	53.24 Rt	96535.1930	119267.2670	Fd AC/ROD[4469-S]: GPS-9
10	118+66.62	924.99 Rt	96550.5890	120539.5240	Fd Rbr/AC[4469-S]: GPS-10
11	95+06.33	40.78 Rt	95566.3860	118198.2080	Fd Rbr/AC[4469-S]: GPS-11
12	70+90.97	53.25 Rt	95191.5760	115800.0490	Fd Rbr/AC[4469-S]: GPS-12

VERTICAL CONTROL						
POINT	STATION	OFFSET	NORTHING	EASTING	ELEVATION	DESCRIPTION
9	109+40.50	53.24 Rt	96535	119267	51.43	Fd AC/ROD[4469-S]: GPS-9
606	75+06	73 Rt	95217	116219	37.17	Fd Spike in Birch: S side Beaver Loop Rd 350' W Dean St
607	87+34	60 Lt	95503	117420	36.93	Fd Spike in Aspen: N side Beaver Loop at intx Cone Cir
608	100+22	35 Rt	95912	118593	54.58	Fd Spike in Birch: SE side Beaver Loop Rd 900' SW of Cone Ave

PROJECT CENTERLINE		
STATION	NORTHING	EASTING
P.C. 64+52.24	95275.7401	115160.3559
P.T. 73+23.66	95265.5948	116028.9474
P.C. 91+75.21	95499.4526	117865.6681
P.T. 97+31.35	95735.4164	118358.8464
P.C. 112+85.68	96812.8409	119479.1601
P.T. 113+19.26	96836.1373	119503.3432



LEGEND
- GPS — GPS Control Point
- CP — Control Point
- TBM — Temporary Benchmark
- 8 — Survey Point Number

STATE OF ALASKA 49TH
Chad A. Weiler LS-12042
REGISTERED PROFESSIONAL LAND SURVEYOR

PREPARED BY:
R & M CONSULTANTS, INC.
9101 VANGUARD DRIVE
ANCHORAGE, ALASKA 99507
(907) 522-1707
CERTIFICATE OF AUTHORIZATION
No. AECC111

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

Survey Control Sheet

Federal Project No. 0001453
Z534560000

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY

Located within Sections 1, 2, 4, & 9 thru 11, T. 5 N., R. 11 W., and Sections 31 & 36, T. 6 N., R. 11 W., S.M., Alaska

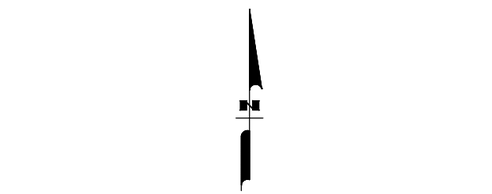
DRAWN KJR/BRM	DATE 3/27/2017	SCALE 1" = 200'
CHECKED CAW	DATE 3/28/2017	SHEET 2 OF 4

STATE	YEAR	PROJECT DESIGNATION	SHEET NO.	TOTAL SHEETS
ALASKA	2018	0001453/Z534560000	A7	A8

HORIZONTAL CONTROL					
POINT	STATION	OFFSET	NORTHING	EASTING	DESCRIPTION
5	159+75.68	29.77 Lt	100090.0380	122834.3140	Fd Rbr/AC[4469-S]: GPS 5
6	146+62.40	52.15 Lt	99194.8960	121873.1000	Fd AC/ROD[4469-S]: GPS-6
7	139+20.40	751.54 Rt	98101.5160	121896.9890	Fd Rbr/AC[4469-S]: GPS-7

VERTICAL CONTROL						
POINT	STATION	OFFSET	NORTHING	EASTING	ELEVATION	DESCRIPTION
6	146+62.40	52.15 Lt	99195	121873	58.58	Fd AC/ROD[4469-S]: GPS-6
609	122+50	34 Rt	97458	120197	61.24	Fd Spike in Spruce: SE side Beaver Loop Rd 1350' NE of Cone Ave
610	134+91	44 Lt	98375	121035	58.32	Fd Spike in Aspen: NW side Beaver Loop 1150' SW of Ames Ave
611	158+73	35 Lt	100022	122757	58.13	Fd Spike in Aspen: NW side Beaver Loop 750' SW Dolchok Ln
612	170+28	28 Rt	100778	123632	57.73	Fd Spike in Spruce: SE side Beaver Loop at intx Aleene Way

PROJECT CENTERLINE		
STATION	NORTHING	EASTING
P.C. 142+16.63	98848.0208	121588.2964
P.T. 142+73.29	98887.3504	121629.0833

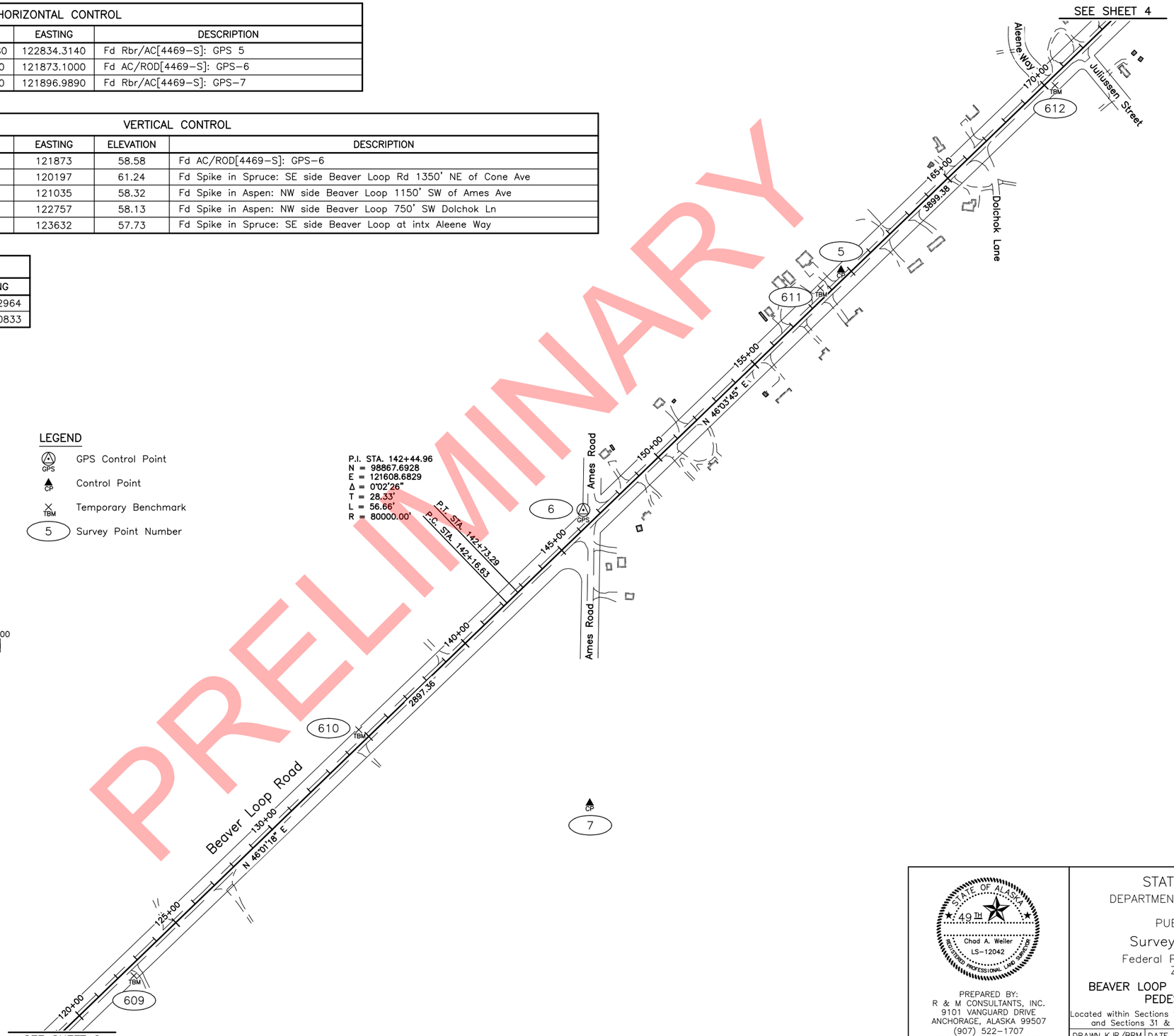


200 0 100 200 400 600 800 1000

U.S. SURVEY FEET

LEGEND

- GPS Control Point
- CP Control Point
- TBM Temporary Benchmark
- 5 Survey Point Number



STATE OF ALASKA
49TH
Chad A. Weiler
LS-12042
REGISTERED PROFESSIONAL LAND SURVEYOR

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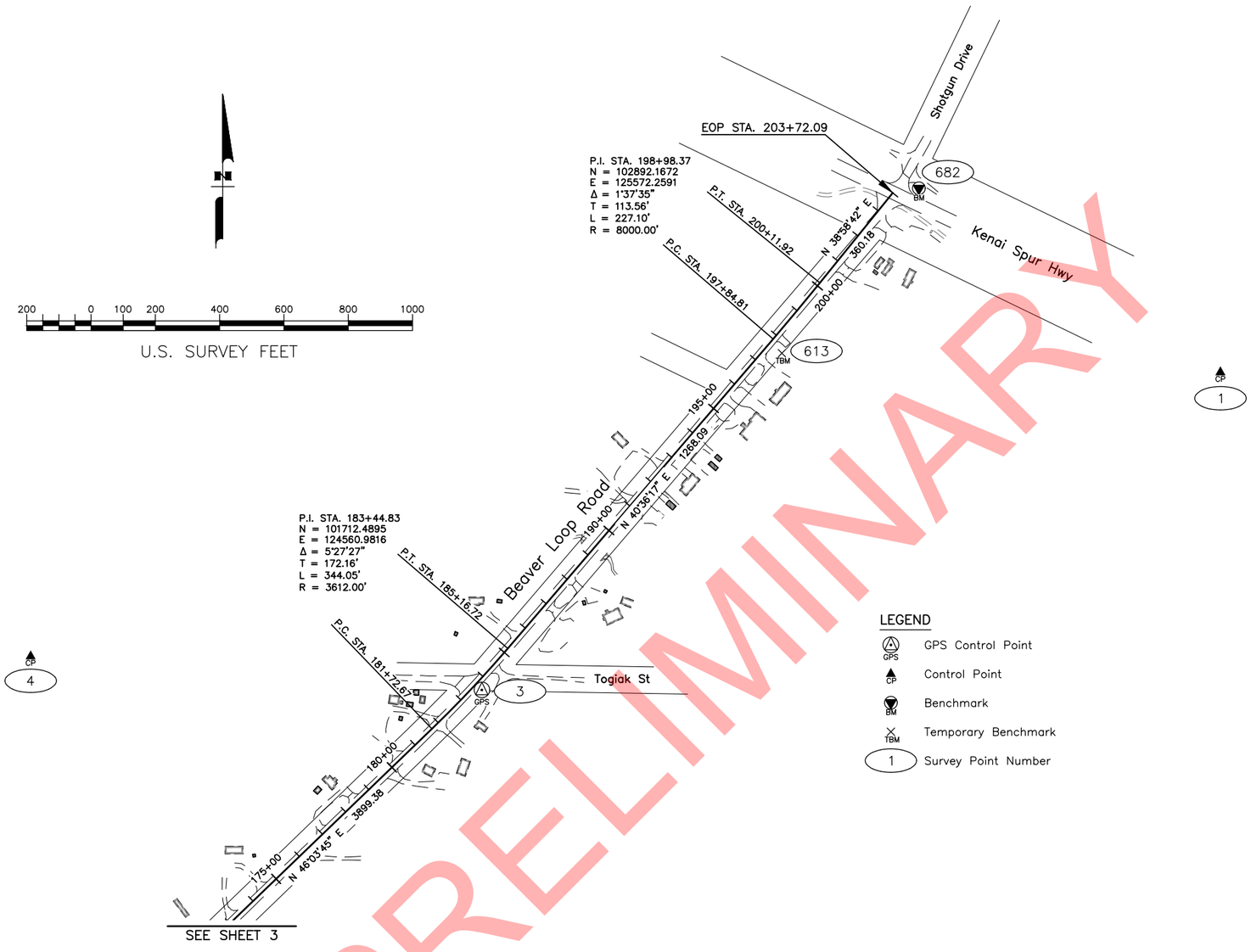
Federal Project No. 0001453
Z534560000

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY

Located within Sections 1, 2, 4, & 9 thru 11, T. 5 N., R. 11 W., and Sections 31 & 36, T. 6 N., R. 11 W., S.M., Alaska

DRAWN KJR/BRM	DATE	3/27/2017	SCALE 1" = 200'
CHECKED CAW	DATE	3/28/2017	SHEET 3 OF 4

STATE	YEAR	PROJECT DESIGNATION	SHEET NO.	TOTAL SHEETS
ALASKA	2018	0001453/Z534560000	A8	A8



HORIZONTAL CONTROL					
POINT	STATION	OFFSET	NORTHING	EASTING	DESCRIPTION
1	N/A	N/A	102702.1280	126889.3630	Fd Rbr/AC[4469–S]: GPS–1
3	183+67.09	25.98 Rt	101713.9310	124592.3260	Fd AC/ROD[4469–S]: GPS–3
4	174+30.46	1028.48 Lt	101818.6350	123188.9130	Fd AM[6101–S]: C4 ASLS 2004–25

N/A = Not Adjacent to Alignment

PROJECT CENTERLINE		
STATION	NORTHING	EASTING
P.C. 181+72.67	101593.0344	124437.0124
P.T. 185+16.72	101843.1937	124673.0277
P.C. 197+84.81	102805.9513	125498.3506
P.T. 200+11.92	102980.4462	125643.6907
E.O.P. 203+72.09	103260.4421	125870.2513

VERTICAL CONTROL						
POINT	STATION	OFFSET	NORTHING	EASTING	ELEVATION	DESCRIPTION
3	183+67.09	25.98 Rt	101714	124592	52.69	Fd AC/ROD[4469–S]: GPS–3
613	197+69	49 Rt	102762	125525	51.42	Fd TBM: Chiseled "X" on S lower Flange Bolt of FH on SE side Beaver Loop 1350' NE of Togiak St
681	179+46	4188 Lt	104451	121368	70.92	Fd BC/ROD[USC&GS]: Z–80 BC in Cast Pipe N side Kenai Spur 4600' W of Beaver Loop
682	N/A	N/A	103274	125951	50.99	Fd BC/ROD[USC&GS]: Y–80 BC intx Beaver Loop/Kenai Spur

N/A = Not Adjacent to Alignment

STATE OF ALASKA 49TH
Chad A. Weiler
LS–12042
REGISTERED PROFESSIONAL LAND SURVEYOR

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Survey Control Sheet

Federal Project No. 0001453
Z534560000

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY

Located within Sections 1, 2, 4, & 9 thru 11, T. 5 N., R. 11 W., and Sections 31 & 36, T. 6 N., R. 11 W., S.M., Alaska

DRAWN KJR/BRM	DATE	3/27/2017	SCALE	1" = 200'
CHECKED CAW	DATE	3/28/2017	SHEET	4 OF 4

REVISIONS		
NO.	DATE	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0001453/Z534560000	2018	B1	B4

DESIGNED BY: BCL
CHECKED BY: JP/AJ
DRAFTED BY: SH/BP/BB

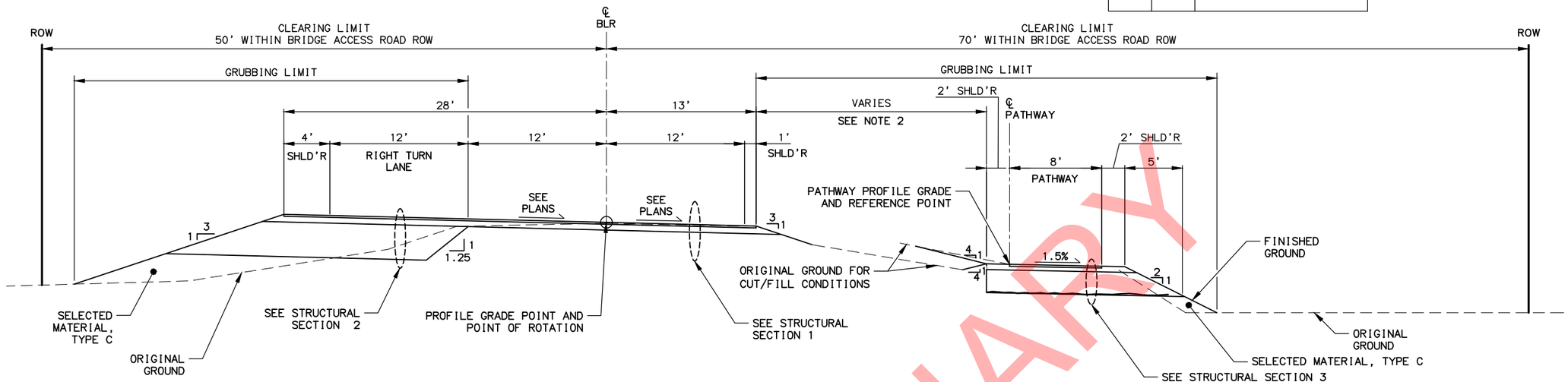
XREFS

SCALE: N/A

LAYOUT: B1

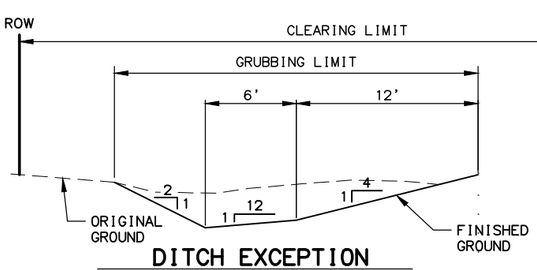
DATE TIME: 4/14/2017 10:08 AM

DRAWING LOCATION: Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\B1-BX_Typicals.DWG



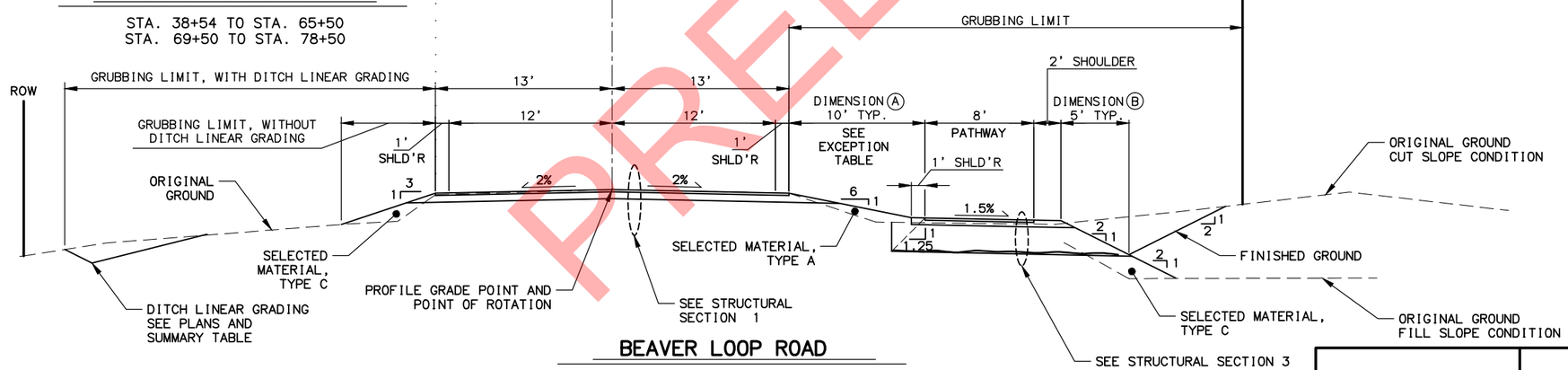
BEAVER LOOP ROAD

STA. 5+96 TO STA. 9+35



DITCH EXCEPTION

STA. 38+54 TO STA. 65+50
STA. 69+50 TO STA. 78+50



BEAVER LOOP ROAD

STA. 9+35 TO STA. 199+62
SEE SHEET B2 FOR DIG-OUT LOCATIONS

EXCEPTION TABLE

START STATION	END STATION	DIMENSION (A)	DIMENSION (B)
9+35	9+50	7'	
12+50	14+00	6'	
27+50	31+00	7'	
39+00	43+00	7'	
53+00	55+00	7'	
58+00	65+30	7'	
65+30	70+00	5'	TRANSITION 5' TO 7', GRADE TO DRAIN
70+00	75+00	7'	
91+00	98+00	5'	
98+00	115+00	7'	
177+50	188+00	7'	
188+00	188+30	7'	0'
188+30	203+46	7'	

NOTES:

1. USE A 15:1 TAPER WHEN TRANSITIONING BETWEEN PATHWAY OFFSETS.
2. SEE SHEET F25 FOR DETACHED PATHWAY PLAN AND PROFILE.
3. AFTER GRUBBING, EXCAVATE ORGANICS FROM EX. FORESLOPE TO SLOPE STAKES DOWN TO FIRM BOTTOM, OR AS DIRECTED BY THE ENGINEER. PAID FOR AS UNCLASSIFIED EXCAVATION.

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC
3909 Arctic Blvd, Suite 400
Anchorage, Alaska 99503
(907) 346-2373
CERT. OF AUTH. NO. AECL 1102

STATE OF ALASKA
49
DRAFT FINAL
4/14/2017
PROFESSIONAL ENGINEER

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY

TYPICAL SECTIONS

REVISIONS		
NO.	DATE	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0001453/Z534560000	2018	B2	B4

DESIGNED BY BCL
CHECKED BY JP/AJ
DRAFTED BY SH/BP/BB

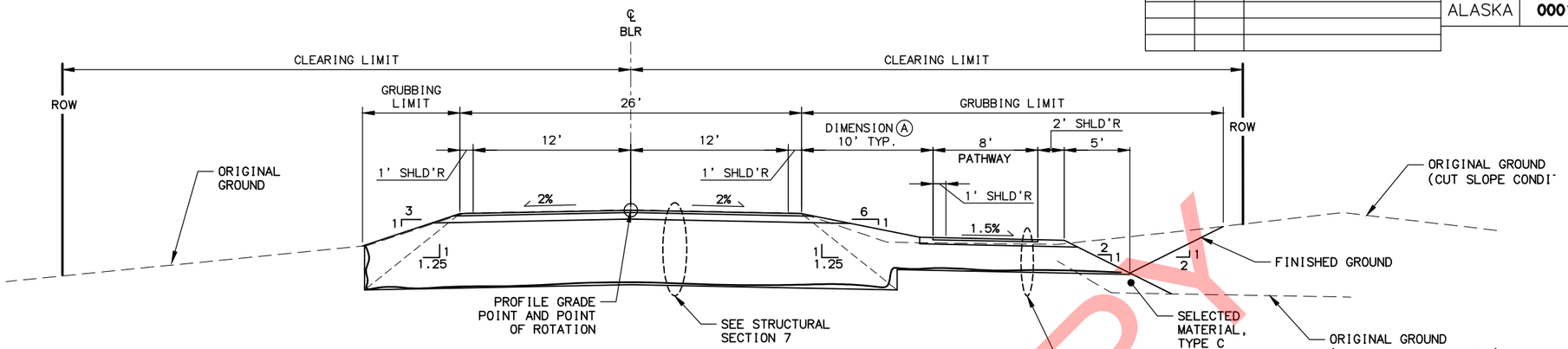
XREFS

SCALE N/A

LAYOUT B2

DATE TIME 4/14/2017 10:08 AM

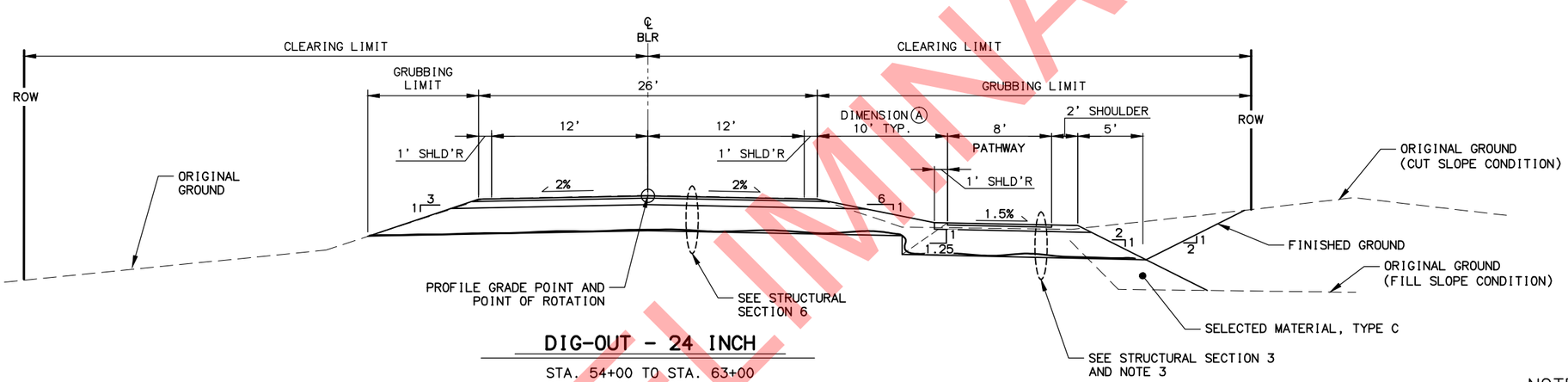
DRAWING LOCATION Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\B1-BX_Typicals.DWG



DIG-OUT - 60 INCH

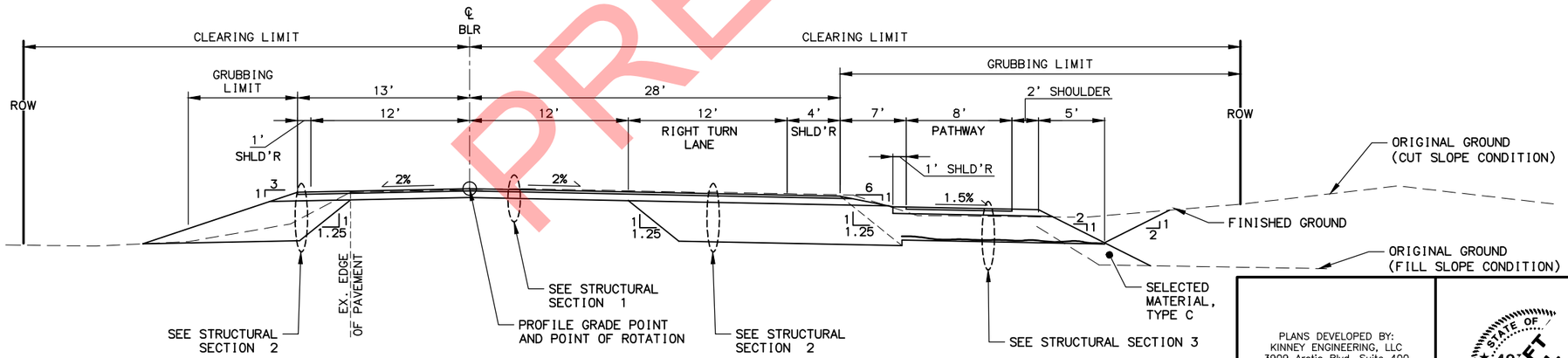
STA. 11+50 TO STA. 19+50
STA. 24+50 TO STA. 25+50
STA. 103+50 TO STA. 107+00
STA. 110+50 TO STA. 112+00
STA. 130+50 TO STA. 131+50
STA. 147+50 TO STA. 150+25
STA. 179+00 TO STA. 186+00
STA. 191+50 TO STA. 193+50

DIG-OUT NOTE:
STATIONS REFER TO THE BEGIN/END OF FULL DEPTH AT DIG-OUTS.



DIG-OUT - 24 INCH

STA. 54+00 TO STA. 63+00
STA. 86+00 TO STA. 91+00
STA. 93+00 TO STA. 94+00



BEAVER LOOP ROAD

STA. 199+62 TO STA. 203+23

NOTES:

1. SEE SHEET B1 FOR SLOPE EXCEPTION TABLE AND DIMENSION (A).
2. COMPLY WITH OSHA BENCHING AND SLOPING STANDARD NO. 1926 SUBPART P, APPENDIX B.
3. PATHWAY EMBANKMENT AT STA. 54+00 TO 63+00 SHALL BE IN PLACE 6 WEEKS PRIOR TO PAVING.
4. AFTER GRUBBING, EXCAVATE ORGANICS FROM EX. FORESLOPE TO SLOPE STAKES DOWN TO FIRM BOTTOM, OR AS DIRECTED BY THE ENGINEER. PAID FOR AS UNCLASSIFIED EXCAVATION.

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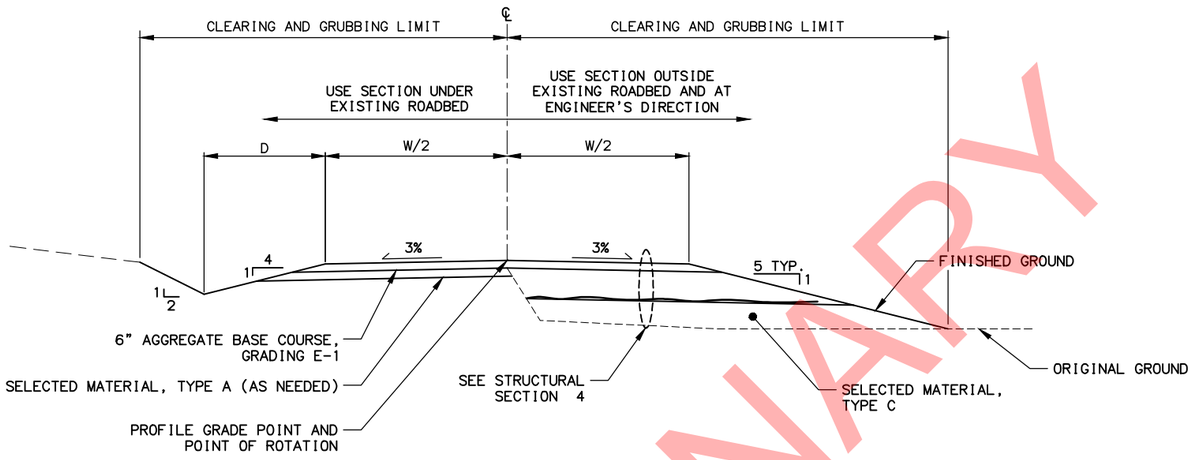
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY

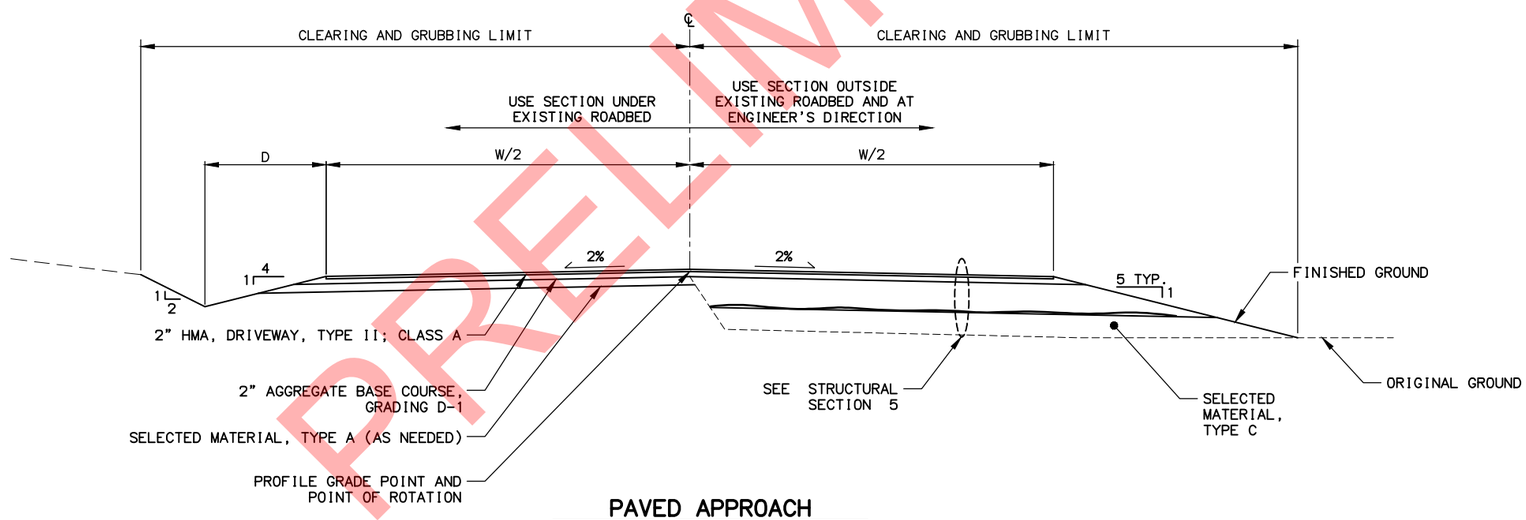
TYPICAL SECTIONS

REVISIONS		
NO.	DATE	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0001453/Z534560000	2018	B3	B4



GRAVEL APPROACH



PAVED APPROACH

NOTES:

1. SEE APPROACH SUMMARY ON SHEET D7 FOR 'W' AND 'D' DIMENSIONS.
2. APPROACH SECTIONS SHOW A CUT SECTION ON THE LEFT AND A FILL SECTION ON THE RIGHT FOR CLARITY.
3. AFTER GRUBBING, EXCAVATE ORGANICS FROM EX. FORESLOPE TO SLOPE STAKES DOWN TO FIRM BOTTOM, OR AS DIRECTED BY THE ENGINEER.

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STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY

TYPICAL SECTIONS

DESIGNED BY: BCL
CHECKED BY: JP/AJ
DRAFTED BY: SH/BP/BB

XREFS

SCALE: N/A

LAYOUT: B3

DATE TIME: 4/14/2017 10:08 AM

DRAWING LOCATION: Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\B1-BX_Typicals.DWG

REVISIONS		
NO.	DATE	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0001453/Z534560000	2018	B4	B4

DESIGNED BY BCL
CHECKED BY JP/AJ
DRAFTED BY SH/BP/BB

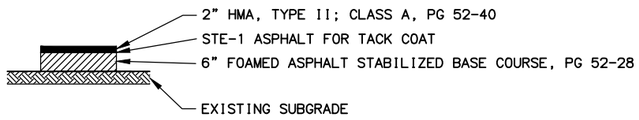
XREFS

SCALE N/A

LAYOUT B4

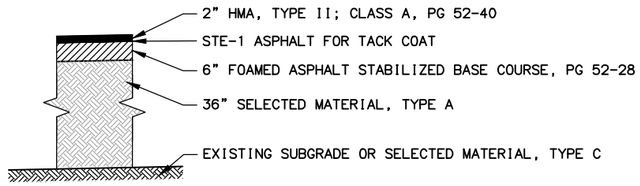
DATE TIME 4/14/2017 10:08 AM

DRAWING LOCATION Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\B1-BX_Typicals.DWG



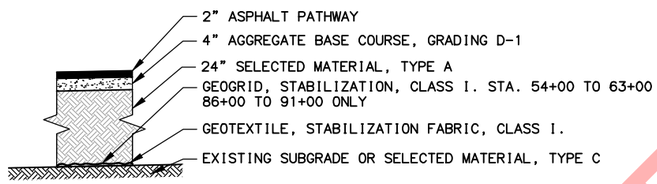
STRUCTURAL SECTION 1

N.T.S.



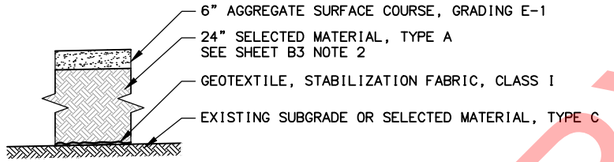
STRUCTURAL SECTION 2 - NEW EMBANKMENT

N.T.S.



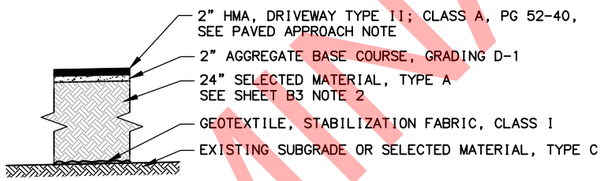
STRUCTURAL SECTION 3 - PATHWAY

N.T.S.



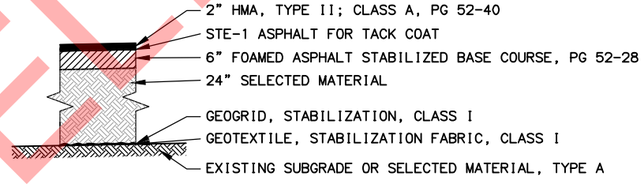
STRUCTURAL SECTION 4 - GRAVEL APPROACH

N.T.S.



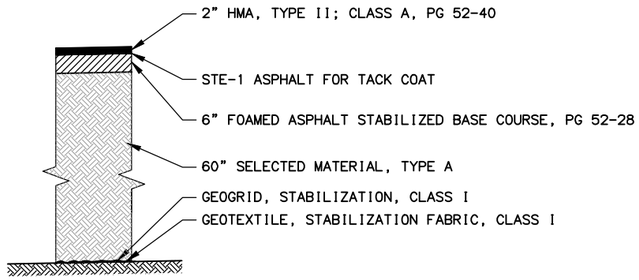
STRUCTURAL SECTION 5 - PAVED APPROACH

N.T.S.



STRUCTURAL SECTION 6 - DIG OUT

N.T.S.



STRUCTURAL SECTION 7 - DIG OUT

N.T.S.

PAVED APPROACH NOTE:

IF APPROVED BY THE ENGINEER, ASPHALT PATHWAY MAY BE USED IN PLACE OF HMA, DRIVEWAY TYPE II; CLASS A FOR APPROACHES ON THE RT SIDE OF BEAVER LOOP RD.

FOAMED ASPHALT STABILIZED BASE COURSE NOTES:

1. ALL WORK REQUIRED TO PULVERIZE AND REGRADE IS SUBSIDIARY TO PAY ITEM 318(1) FOAMED ASPHALT STABILIZED BASE COURSE. SECTIONS TO BE FOAMED MUST BE PULVERIZED, SHAPED PER PLAN GRADES AND WIDTHS PRIOR TO FOAMING OPERATIONS.
2. FOR AREAS WHERE PAVEMENT IS SCHEDULED FOR REMOVAL AND AT NEW TURN LANES, PRIOR TO FOAMING OPERATIONS: PLACE 2 INCES OF ATB OVER 4 INCHES OF AGGREGATE SURFACE COURSE, GRADING E-1. PAID FOR AS ATB AND AGGREGATE SURFACE COURSE, GRADING E-1.

PLANS DEVELOPED BY:
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DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY

TYPICAL SECTIONS

REVISIONS		
NO.	DATE	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0001453/Z534560000	2018	C1	C2

ESTIMATE OF QUANTITIES

ITEM NO.	ITEM DESCRIPTION	PAY UNIT	TOTAL QUANTITY
201(1A)	CLEARING	ACRE	34
201(2A)	GRUBBING	ACRE	26
202(1)	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LUMP SUM	ALL REQ'D
202(2)	REMOVAL OF PAVEMENT	SQUARE YARD	15,852
202(4)	REMOVAL OF CULVERT PIPE	LINEAR FOOT	3,053
202(12A)	RELOCATE CLUSTER MAILBOX	EACH	1
203(3)	UNCLASSIFIED EXCAVATION	CUBIC YARD	60,300
203(6)	BORROW	TON	110,971
203(9)	OBLITERATION OF ROADWAY	SQUARE YARD	894
203(27)	DITCH LINEAR GRADING	STATION	95
206(1)	FILTER BLANKET	CUBIC YARD	166
301(1)	AGGREGATE BASE COURSE, GRADING D-1	TON	7,619
301(3)	AGGREGATE SURFACE COURSE, GRADING E-1	TON	5,227
306(1)	ATB	TON	2,007
306(2)	ASPHALT BINDER, GRADE PG 52-28	TON	106
318(1)	FOAMED ASPHALT STABILIZED BASE COURSE	SQUARE YARD	59,118
318(2)	ASPHALT BINDER, GRADE PG 52-28	TON	559
318(3)	PORTLAND CEMENT, TYPE I OR II	TON	186
318(15)	ASPHALT MATERIAL PRICE ADJUSTMENT	CONTINGENT SUM	ALL REQ'D
401(1)	HMA, TYPE II; CLASS A	TON	6,551
401(4)	ASPHALT BINDER, GRADE PG 52-40	TON	348
401(8)	HMA PRICE ADJUSTMENT, TYPE II; CLASS A	CONTINGENT SUM	ALL REQ'D
401(12)	HMA, DRIVEWAY, TYPE II; CLASS A	TON	1,205
401(14)	JOINT ADHESIVE	LINEAR FOOT	27,241
501(1A)	CLASS A CONCRETE (HEADWALL)	LUMP SUM	ALL REQ'D
603(1-18)	18 INCH CSP	LINEAR FOOT	2,983
603(1-24)	24 INCH CSP	LINEAR FOOT	873
603(1-48)	48 INCH CSP	LINEAR FOOT	61
603(2-33)	49 X 33 INCH CSP ARCH	LINEAR FOOT	63
603(3-18)	END SECTION FOR 18 INCH CSP	EACH	148
603(3-24)	END SECTION FOR 24 INCH CSP	EACH	30
603(3-48)	END SECTION FOR 48 INCH CSP	EACH	1
603(4-33)	END SECTION FOR 49 X 33 INCH CSP ARCH	EACH	1
603(17-60)	60 INCH PIPE	LINEAR FOOT	161
603(19-71)	8'-7" SPAN, 5'-11" RISE PIPE ARCH	LINEAR FOOT	110
604(4)	ADJUST EXISTING MANHOLE	EACH	8
608(7)	ASPHALT PATHWAY	TON	1,829
611(2A)	RIPRAP, CLASS I	TON	334
611(2B)	RIPRAP, CLASS II	TON	518
615(1)	STANDARD SIGN	SQUARE FOOT	397
615(2)	REMOVE AND RELOCATE EXISTING SIGN	EACH	3
616(4)	THAW WIRE INSTALLATION	EACH	4
618(2)	SEEDING	POUND	1,074
618(3)	WATER FOR SEEDING	M GAL.	688
620(1)	TOPSOIL	SQUARE YARD	76,327
625(1)	PIPE HAND RAIL	LINEAR FOOT	64

PLANS DEVELOPED BY:
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STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY

ESTIMATE OF QUANTITIES

DESIGNED BY
CHECKED BY
DRAFTED BY

XREFS

SCALE

LAYOUT
C1

DATE TIME
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DRAWING LOCATION
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STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	**0001453/Z534560000**	2018	C2	C2

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ESTIMATE OF QUANTITIES

ITEM NO.	ITEM DESCRIPTION	PAY UNIT	TOTAL QUANTITY
627(4)	FIRE HYDRANT ADJUSTMENT	EACH	1
627(10)	ADJUSTMENT OF VALVE BOX	EACH	7
630(2)	GEOTEXTILE, STABILIZATION, CLASS 1	SQUARE YARD	54,420
634(1)	GEOGRID, STABILIZATION, CLASS 1	SQUARE YARD	21,878
639(6)	APPROACH	EACH	97
640(1)	MOBILIZATION AND DEMOBILIZATION	LUMP SUM	ALL REQ'D
640(4)	WORKERS MEALS AND LODGING, OR PER DIEM	LUMP SUM	ALL REQ'D
641(1)	EROSION, SEDIMENT AND POLLUTION CONTROL ADMINISTRATION	LUMP SUM	ALL REQ'D
641(2)	TEMPORARY EROSION, SEDIMENT AND POLLUTION CONTROL	CONTINGENT SUM	ALL REQ'D
641(6)	WITHHOLDING	CONTINGENT SUM	ALL REQ'D
641(7)	SWPPP MANAGER	LUMP SUM	ALL REQ'D
642(1)	CONSTRUCTION SURVEYING	LUMP SUM	ALL REQ'D
642(3)	THREE PERSON SURVEY PARTY	HOUR	100
642(16)	PASSING SIGHT DISTANCE MEASUREMENT	STATION	396
643(2)	TRAFFIC MAINTENANCE	LUMP SUM	ALL REQ'D
643(3)	PERMANENT CONSTRUCTION SIGNS	LUMP SUM	ALL REQ'D
643(15A)	FLAGGING	CONTINGENT SUM	ALL REQ'D
643(23)	TRAFFIC PRICE ADJUSTMENT	CONTINGENT SUM	ALL REQ'D
643(25)	TRAFFIC CONTROL	CONTINGENT SUM	ALL REQ'D
644(1)	FIELD OFFICE	LUMP SUM	ALL REQ'D
644(2)	FIELD LABORATORY	LUMP SUM	ALL REQ'D
644(10)	ENGINEERING COMMUNICATIONS	CONTINGENT SUM	ALL REQ'D
644(15)	NUCLEAR TESTING EQUIPMENT STORAGE SHED	EACH	1
645(1)	TRAINING PROGRAM, 1 TRAINEES/APPRENTICES	LABOR HOUR	500
646(1)	CPM SCHEDULING	LUMP SUM	ALL REQ'D
646(2)	SCHEDULE PRICE ADJUSTMENT	LUMP SUM	ALL REQ'D
647(5)	BACKHOE, 4WD, 1 CY BUCKET, 75 HP MIN, 15 FT DEPTH	CONTINGENT SUM	ALL REQ'D
660(3)	HIGHWAY LIGHTING SYSTEM COMPLETE	LUMP SUM	ALL REQ'D
661(3)	LOAD CENTER, TYPE 2	EACH	4
670(1)	PAINTED TRAFFIC MARKINGS	LUMP SUM	ALL REQ'D

TABLE OF ESTIMATING FACTORS

ITEM NO.	ITEM DESCRIPTION	ESTIMATING FACTOR
203(6)	BORROW	144 LB/CF
301(1)	AGGREGATE BASE COURSE, GRADING D-1	144 LB/CF
301(3)	AGGREGATE SURFACE COURSE, GRADING E-1	144 LB/CF
306(1)	ATB	151 LB/CF
306(2)	ASPHALT BINDER, GRADE PG 52-28	5.3 % WEIGHT OF 306(1)
318(1)	FOAMED ASPHALT STABILIZED BASE COURSE	140 LB/CF
318(2)	ASPHALT BINDER, GRADE PG 52-28	3.0 % WEIGHT OF 318(1)
318(3)	PORTLAND CEMENT, TYPE I OR II	1.0 % WEIGHT OF 318(1)
401(1)	HMA, TYPE II; CLASS A	151 LB/CF
401(4)	ASPHALT BINDER, GRADE PG 52-40	5.3 % OF 401(1)
401(1)	HMA, DRIVEWAY, TYPE II; CLASS A	151 LB/CF
608(7)	ASPHALT PATHWAY	150 LB/CF
611(2A)	RIPRAP, CLASS I	108 LB/CF
611(2B)	RIPRAP, CLASS II	108 LB/CF
618(2)	SEEDING	68 LB/ACRE
618(3)	WATER FOR SEEDING	1,000 GAL/1,000 SF

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BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY

ESTIMATE OF QUANTITIES

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EARTHWORK SUMMARY TABLE WILL BE REMOVED PRIOR TO ADVERTISING AND INCLUDED IN THE QUANTITY COMPUTATIONS NOTEBOOK.

EARTHWORK SUMMARY

SHEET	DESCRIPTION	UNCLASSIFIED EXCAVATION	EXCAVATION ASSUMED USABLE AS TYPE C	SELECTED MATERIAL, TYPE A REQUIRED	SELECTED MATERIAL, TYPE C	AGGREGATE BASE COURSE, GRADING D-1
		(CY)	(CY)	(CY)	(CY)	(CY)
F1-F17	BEAVER LOOP RD CORRIDOR	70,063	5,152	53,459	3,355	3,022
F1-F17	SUBTRACT PAVEMENT REMOVAL AND FOAMED MATERIALS	(9,811)				
	D-1 BETWEEN ROAD AND PATH					50
F1-F17	RESIDENTIAL APPROACHES			690		242
F1-F17	COMMERCIAL APPROACHES			833		94
F1-F17	PUBLIC APPROACHES			259		156
F1-F17	BEDDING FOR 18-INCH PIPE			1,048		
F1-F17	BEDDING FOR 24-INCH PIPE			383		
E11	BEDDING FOR 48-INCH PIPE			44		
E8-E9	BEDDING FOR 60-INCH PIPE			169		
E6	BEDDING FOR 103X71 PIPE			199		
SHOULDERING, 10%						356
SUBTRACT USABLE EXCAVATION					-5,152	
SUBTOTAL (CY) ROUNDED		60,300	5,152	57,084	0	3,919
ITEM NUMBER		203(3)		203(6)	203(6)	301(1)
TOTAL PAY ITEM QUANTITY (CY) (ROUNDED)		60,300				
TOTAL PAY ITEM QUANTITY (TON) (ROUNDED)				110,971	0	7,619

NOTES:

1. EXCAVATION FOR PIPES AND STRUCTURES IS SUBSIDIARY PER SPECS 204-5.01.
2. BEDDING VOLUMES ARE BASED ON STD DWG D-01.02 TYPE "B." WITH SELECT MATERIAL TYPE A 12 INCHES ABOVE THE TOP OF THE PIPE PER SPECS 204-2.01.
3. EXCAVATION FOR APPROACHES IS SUBSIDIARY TO APPROACH ITEM.
4. EARTHWORK FOR THE DETACHED PATHWAY SECTION IS INCLUDED IN THE BLR CORRIDOR.
5. THE CALCULATIONS ASSUME THAT THE 60" DIG-OUT AREAS WILL HAVE 2' OF EXCAVATION THAT WILL BE USABLE AS TYPE C.
6. SEE SHEET D3 FOR 301(3) AGGREGATE SURFACE COURSE QUANTITIES.

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202(4) REMOVAL OF CULVERT PIPE

SHEET	BEGIN STATION	BEGIN OFFSET	CULVERT SIZE	QUANTITY (LF)	REMARKS
F1	12+09	CROSSING	24"	54	
F1	13+31	RT	36"	18	
F1	14+00	CROSSING	48"	61	
F2	24+17	LT	18"	25	
F2	27+91	CROSSING	48"	60	
F3	34+41	RT	18"	42	
F3	38+17	LT	UNKNOWN	50	DAMAGED APPROACH CULVERT, LENGTH IS APPROXIMATE
F3	38+69	RT	16"	51	BARABARA DR.
F4	45+49	LT	UNKNOWN	27	DAMAGED APPROACH CULVERT, LENGTH IS APPROXIMATE
F4	51+85	RT	16"	27	
F4	52+31	LT	UNKNOWN	24	DAMAGED APPROACH CULVERT, LENGTH IS APPROXIMATE
F4	52+99	LT	24"	36	
F5	58+59	CROSSING	24"	44	
F5	62+69	RT	18"	37	
F6	65+56	RT	18"	46	
F6	66+35	CROSSING	24"	42	
F6	66+88	RT	18"	29	
F6	67+50	CROSSING	24"	49	
F6	68+12	CROSSING	24"	46	
F6	69+23	RT	18"	35	
F6	70+19	LT	18"	26	
F6	70+76	RT	18"	34	
F6	72+11	LT	18"	29	
F7	79+21	LT	16"	26	
F7	79+28	RT	18"	26	
F7	81+22	LT	18"	20	
F7	82+81	RT	18"	38	
F7	83+84	LT	18"	28	
F7	87+49	CROSSING	36"	62	
F8	92+71	LT	16"	46	
F9	108+64	LT	UNKNOWN	33	CONE AVE, DAMAGED APPROACH CULVERT, LENGTH IS APPROXIMATE
F9	110+24	RT	16"	49	DRIVEWAY OFF OF ANGLER DR
F9	109+57	LT	16"	27	
F9	110+94	LT	16"	38	HOLLIER ST
F10	114+07	RT	16"	25	
F10	117+75	RT	18"	31	
F10	122+73	RT	18"	31	
F10	124+77	LT	16"	38	
F11	131+07	CROSSING	24"	58	
F12	139+11	LT	18"	26	
F12	146+01	RT	15"	34	
F12	146+13	RT	18"	90	AMES RD (SOUTH)
F12	146+92	LT	18"	90	AMES RD (NORTH)
F12	148+43	LT	18"	27	
F12	148+99	RT	18"	25	
F13	150+55	RT	18"	47	
F13	151+44	LT	18"	25	
F13	152+18	RT	18"	26	
F13	154+52	RT	18"	24	
F13	155+45	RT	18"	26	
F13	156+75	LT	18"	26	
F13	157+37	RT	18"	24	
F13	158+32	LT	18"	26	
F13	158+69	RT	18"	26	
F13	159+12	LT	18"	26	

202(4) REMOVAL OF CULVERT PIPE (CONTINUED)

SHEET	BEGIN STATION	BEGIN OFFSET	CULVERT SIZE	QUANTITY (LF)	REMARKS
F14	161+62	RT	18"	26	
F14	161+97	LT	18"	30	
F14	163+15	RT	18"	25	
F14	165+12	RT	18"	26	
F14	165+23	LT	18"	26	
F14	170+11	LT	18"	36	ALEENE WAY
F14	170+82	LT	18"	25	
F14	171+50	CROSSING	18"	41	
F14	171+82	RT	18"	40	JULIUSSEN ST
F14	171+92	LT	18"	26	
F15	173+23	LT	18"	26	
F15	174+49	LT	18"	26	
F15	176+38	RT	18"	39	
F15	180+38	LT	15"	20	
F15	181+93	LT	18"	30	
F15	182+00	RT	18"	27	
F16	187+01	RT	15"	30	
F16	188+04	RT	15"	30	
F16	191+32	RT	15"	30	
F16	191+87	RT	15"	30	
F16	192+60	LT	18"	31	
F16	192+98	RT	15"	40	
F16	193+91	RT	15"	30	
F16	194+62	RT	15"	60	
F16	195+49	RT	15"	30	
F16	196+19	RT	15"	30	
F17	197+10	RT	15"	30	
F17	198+01	RT	15"	31	
F17	200+92	RT	15"	40	
F17	202+77	RT	15"	41	
F17	203+22	CROSSING	24"	65	
			TOTAL	3,053	

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201(1A) & 201(2A) CLEARING AND GRUBBING SUMMARY

BEGIN STATION	END STATION	OFFSET	201(1A) CLEARING (ACRE)	201(2A) GRUBBING (ACRE)	REMARKS
5+96	203+72	RT	16.80	16.80	EX EOP TO ROW
5+96	203+72	LT	16.80		EX EOP TO ROW
5+96	10+25	LT		0.07	
7+30	102+30	BOTH	0.45	0.45	APPROACHES BEYOND ROW
11+85	19+50	LT		0.22	
12+90	13+61	RT		0.04	CULVERT AND RIPRAP BEYOND ROW
23+00	38+00	LT		0.82	
38+00	79+00	LT		1.91	
67+25	67+75	RT	0.04	0.04	RIPRAP APRON
79+00	88+00	LT		0.58	
87+00	87+40	RT	0.01	0.01	RIPRAP APRON
93+00	131+50	LT		2.36	
133+00	148+50	LT		0.95	
151+00	153+20	LT		0.14	
154+50	156+50	LT		0.75	
167+50	175+00	LT		0.44	
178+00	183+00	LT		0.08	
189+50	195+20	LT		0.35	
199+75	203+18	LT		0.14	
		TOTAL	34.10	26.15	

202(1) REMOVAL OF STRUCTURES AND OBSTRUCTIONS - LUMP SUM

SHEET	STATION	OFFSET	DESCRIPTION
F1	12+83	RT	REMOVE EXISTING WOODEN BRIDGE
F1	13+31	RT	REMOVE EXISTING GATE
F1	13+31	RT	REMOVE EXISTING DRIVEWAY WOODEN RETAINING WALLS
F7	84+50	RT	REMOVE CONCRETE FOUNDATION
F15	183+46	RT	REMOVE SATELLITE DISH
F16	192+07 TO 192+82	RT	REMOVE FENCE WHERE WITHIN ROW, 105 LF

202(2) REMOVAL OF PAVEMENT - SQUARE YARD

SHEET	BEGIN STATION	END STATION	WIDTH	QUANTITY	REMARKS
F1-F2	10+95	20+05	26	2,629	
F2	23+95	26+05	26	607	
F2	27+71	28+16	26	130	
F5	53+75	63+25	26	2,744	
F6	66+20	66+50	26	87	
F6	67+23	68+34	26	321	
F7-F8	85+75	91+15	26	1,560	
F8	92+75	94+25	26	433	
F9	102+95	107+55	26	1,329	
F9	109+94	112+55	26	754	
F11	129+95	132+05	26	607	
F12-F13	146+95	150+80	26	1,112	
F14	171+38	171+63	26	72	
F15-F16	178+45	186+55	26	2,340	
F16	190+95	194+05	26	896	
F17	202+79	203+42		231	
			TOTAL	15,852	

202(12A) RELOCATE CLUSTER MAILBOX - EACH

SHEET	STATION	OFFSET	QUANTITY	REMARKS
F9	110+14	124 RT	1	
		TOTAL	1	

203(9) OBLITERATION OF ROADWAY - SQUARE YARD

SHEET	STATION	OFFSET	QUANTITY	REMARKS
F11	127+00	RT	283	OBLITERATE OLD DRIVEWAY LOCATION
F16	194+50	RT	490	OBLITERATE DRIVEWAY
F17	202+75	RT	121	OBLITERATE DRIVEWAY
		TOTAL	894	

203(27) DITCH LINEAR GRADING - STATION

SHEET	BEGIN	END	OFFSET	QUANTITY	DITCH TYPE	REMARKS
F2	23+62	23+83	LT	0.21	V	
F2	24+45	27+78	LT	3.33	FLAT BOTTOM	
F2&F3	28+10	37+80	LT	9.70	FLAT BOTTOM	
F7	78+59	79+02	LT	0.43	FLAT BOTTOM	
F7	79+40	81+06	LT	1.66	FLAT BOTTOM	
F7	81+40	83+67	LT	2.27	FLAT BOTTOM	
F7	84+22	87+57	LT	3.35	V	
F8	93+03	95+35	LT	2.32	V	
F8-F9	96+02	108+28	LT	12.26	V	
F9	108+81	109+38	LT	0.57	FLAT BOTTOM	
F9	109+72	110+64	LT	0.92	FLAT BOTTOM	
F9-F10	111+16	118+13	LT	6.97	FLAT BOTTOM	
F10	118+63	124+50	LT	5.87	FLAT BOTTOM	
F11	125+01	131+21	LT	6.20	V	
F11-F12	131+28	138+73	LT	7.45	V	
F12	139+32	146+55	LT	7.23	V	
F12	147+33	148+27	LT	0.94	V	
F13	150+99	151+28	LT	0.29	V	
F13	151+61	153+08	LT	1.47	FLAT BOTTOM	
F13	154+50	156+58	LT	2.08	FLAT BOTTOM	
F13	156+92	157+17	LT	0.25	FLAT BOTTOM	
F13	157+77	158+15	LT	0.38	FLAT BOTTOM	
F13	158+49	158+94	LT	0.45	V	
F13-F14	159+28	161+82	LT	2.54	V	
F14	162+15	165+10	LT	2.95	V	
F14	165+42	165+62	LT	0.20	V	
F14	167+53	169+85	LT	2.32	V	
F14	170+37	170+74	LT	0.37	V	
F14	171+08	171+77	LT	0.69	V	
F14-F15	172+11	173+07	LT	0.96	V	
F15	173+42	174+34	LT	0.92	FLAT BOTTOM	
F15	174+67	174+86	LT	0.19	V	
F16	189+65	190+60	LT	0.95	V	
F16	190+94	191+14	LT	0.20	V	
F16	191+48	192+42	LT	0.94	V	
F16	192+77	195+15	LT	2.38	V	
F17	199+84	203+01	LT	3.17	V	
			TOTAL	95		

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301(3) AGGREGATE SURFACE COURSE, GRADING E-1 - TON

SHEET	BEGIN STATION	END STATION	WIDTH (FT)	SQUARE FOOT	DEPTH (IN)	VOLUME (CF)	QUANTITY	REMARKS
F1	5+95	9+95	13.7	5,480	4	1,827	132	RIGHT TURN LANE
F1-F2	10+95	20+05	27	24,570	4	8,190	590	PROFILE ADJUSTMENT AND DIG-OUT
F2	23+95	26+05	27	5,670	4	1,890	136	DIG-OUT
F2	27+71	28+16	27	1,215	4	405	29	CROSS CULVERT
F5	53+75	63+25	27	25,650	4	8,550	616	DIG-OUT
F6	66+20	66+50	27	810	4	270	19	CROSS CULVERT
F6	67+23	68+34	27	2,997	4	999	72	CROSS CULVERTS
F7-F8	85+75	91+25	27	14,850	4	4,950	356	DIG-OUT
F8	92+75	94+25	27	4,050	4	1,350	97	DIG-OUT
F9	102+95	107+55	27	12,420	4	4,140	298	DIG-OUT
F9	109+94	112+55	27	7,047	4	2,349	169	DIG-OUT
F11	129+95	132+05	27	5,670	4	1,890	136	DIG-OUT
F12-F13	146+95	150+80	27	10,395	4	3,465	249	DIG-OUT
F14	171+38	171+63	27	675	4	225	16	CROSS CULVERT
F15-F16	178+45	186+55	27	21,870	4	7,290	525	DIG-OUT
F16	190+95	194+05	27	8,370	4	2,790	201	DIG-OUT
F17	199+62	203+23	13.7	4,946	4	1,649	119	RIGHT TURN LANE
F17	202+79	203+42		2,076	4	692	50	CROSS CULVERT
F1-F17						19,855	1,430	APPROACHES
						TOTAL	5,240	

603(2-33) 49 X 33 INCH CSP ARCH - LINEAR FOOT

SHEET	PIPE #	SIZE (INCH)	LENGTH (LF) QUANTITY	END SECTION	INLET			OUTLET			% SLOPE	REMARKS
					STATION	OFFSET	INVERT	STATION	OFFSET	INVERT		
F1	P1-1	36	63	2	12+05.96	23.8 LT	37.69	12+17.01	38.4 RT	37.37	0.5%	CROSS CULVERT, USE CORRUGATED PIPE WITH SMOOTH INTERIOR WALLS
		TOTAL	63									

603(17-60) 60 INCH PIPE - LINEAR FOOT

SHEET	PIPE #	QUANTITY	REMARKS
E9/F28	P2-2	82	SEE DETAIL SHEET E8
E9/F7	P7-8	79	SEE DETAIL SHEET E9
	TOTAL	161	

603(19-71) 8'-7" SPAN, 5'-11" RISE PIPE ARCH - LINEAR FOOT

SHEET	PIPE #	QUANTITY	REMARKS
E7/F1	P1-2	110	SEE DETAIL SHEET E7
	TOTAL	110	

604(4) ADJUST EXISTING MANHOLE - EACH

SHEET	STATION	OFFSET	QUANTITY	REMARKS
F15	184+27	31 RT	1	SANITARY SEWER CLEANOUT
F16	186+06	39 RT	1	SANITARY SEWER MANHOLE
F16	188+14	37 RT	1	SANITARY SEWER MANHOLE
F16	190+75	40 RT	1	SANITARY SEWER MANHOLE
F16	193+64	41 RT	1	SANITARY SEWER MANHOLE
F16	196+75	39 RT	1	SANITARY SEWER MANHOLE
F17	199+70	40 RT	1	SANITARY SEWER MANHOLE
F17	202+51	43 RT	1	SANITARY SEWER MANHOLE
		TOTAL	8	

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CERT. OF AUTH. NO. AECL 1102

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY

SUMMARY TABLES

REVISIONS		
NO.	DATE	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0001453/Z534560000	2018	D4	D8

603(1) & 603(3) CORRUGATED STEEL PIPE SUMMARY

SHEET	PIPE #	SIZE (INCH)	LENGTH (LF)	END SECTION	INLET			OUTLET			% SLOPE	REMARKS
					STATION	OFFSET	INVERT	STATION	OFFSET	INVERT		
F1	P1-3	18	21	2	6+57.76	36.0 RT	42.42	6+62.61	56.4 RT	40.41	9.73%	PATHWAY CULVERT
F2	P2-1	18	61	2	23+83.42	34.2 LT	40.40	24+44.88	30.0 LT	40.20	0.3%	DRIVEWAY CULVERT
F3	P3-1	18	42	2	34+62.71	38.0 RT	42.32	34+20.78	38.0 RT	42.29	0.1%	DRIVEWAY CULVERT
F3	P3-2	18	57	2	38+39.92	31.0 LT	42.55	37+81.00	31.6 LT	42.45	0.2%	DRIVEWAY CULVERT
F3	P3-3	24	68	2	39+12.58	33.3 RT	44.00	38+47.12	42.5 RT	42.80	1.8%	BARABARA DR CULVERT
F3	P3-4	18	32	2	40+17.55	34.9 RT	43.73	39+86.14	34.9 RT	43.70	0.1%	DRIVEWAY CULVERT
F4	P4-1	18	59	2	45+69.43	30.8 LT	42.99	45+10.57	31.2 LT	42.79	0.3%	DRIVEWAY CULVERT
F4	P4-2	24	49	2	49+22.63	38.1 RT	43.85	48+72.70	38.1 RT	43.47	0.8%	CUNNINGHAM CT CULVERT
F4	P4-3	18	37	2	51+64.30	38.0 RT	44.06	52+02.12	38.0 RT	43.93	0.4%	DRIVEWAY CULVERT
F4	P4-4	18	65	2	51+77.27	31.2 LT	45.20	52+41.67	31.0 LT	45.10	0.2%	DRIVEWAY CULVERT
F4	P4-5	18	38	2	52+83.05	31.1 LT	45.39	53+20.01	31.1 LT	45.15	0.6%	DRIVEWAY CULVERT
F5	P5-1	18	39	2	54+47.77	30.9 LT	43.83	54+86.54	30.9 LT	43.01	2.1%	DRIVEWAY CULVERT
F5	P5-2	24	55	2	58+61.10	19.5 LT	33.40	58+58.36	35.7 RT	33.03	0.7%	CROSS CULVERT
F5	P5-3	24	47	2	58+93.45	33.2 RT	33.10	59+40.64	32.8 RT	32.80	0.6%	TUNDRA ROSE LN CULVERT
F5	P5-4	18	51	2	62+47.75	35.0 RT	31.26	62+98.99	36.2 RT	30.93	0.6%	DRIVEWAY CULVERT
F6	P6-1	18	31	2	65+50.51	33.0 RT	31.92	65+80.98	33.5 RT	31.90	0.1%	DRIVEWAY CULVERT
F6	P6-2	24	53	2	66+35.42	21.2 LT	31.50	66+35.92	32.0 RT	31.32	0.3%	CROSS CULVERT
F6	P6-3	18	43	2	66+58.46	34.7 RT	31.24	67+00.93	34.5 RT	31.20	0.1%	DRIVEWAY CULVERT
F6/E11	P6-4	48	61	1	SEE E11							CROSS CULVERT, USE 12 GAGE CSP
F6	P6-5	18	34	2	69+01.76	33.0 RT	32.56	69+35.33	33.0 RT	32.50	0.2%	DRIVEWAY CULVERT
F6	P6-6	18	33	2	70+35.89	30.1 LT	31.70	70+02.14	30.1 LT	31.60	0.3%	DRIVEWAY CULVERT
F6	P6-7	18	39	2	70+90.17	35.1 RT	32.46	70+51.17	34.9 RT	32.38	0.2%	DRIVEWAY CULVERT
F6	P6-8	18	29	2	72+29.09	30.3 LT	31.97	71+99.68	30.3 LT	31.94	0.1%	DRIVEWAY CULVERT
F7	P7-1	18	33	2	79+04.87	37.3 LT	33.49	79+37.78	36.5 LT	33.10	1.2%	DRIVEWAY CULVERT
F7	P7-2	18	45	2	79+48.13	38.1 RT	32.63	79+03.43	38.1 RT	32.56	0.2%	DRIVEWAY CULVERT
F7	P7-3	18	30	2	81+07.67	36.8 LT	32.85	81+37.65	36.8 LT	32.83	0.1%	DRIVEWAY CULVERT
F7	P7-4	18	45	2	82+96.56	38.0 RT	33.15	82+51.89	38.0 RT	33.08	0.2%	DRIVEWAY CULVERT
F7	P7-5	18	57	2	84+11.95	38.0 RT	33.26	83+55.15	38.0 RT	33.21	0.1%	DRIVEWAY CULVERT
F7	P7-6	18	51	2	83+68.74	35.4 LT	32.74	84+19.49	35.9 LT	32.71	0.1%	DRIVEWAY CULVERT
F7	P7-7	18	56	2	85+61.23	38.0 RT	33.32	85+05.05	38.0 RT	33.29	0.1%	DRIVEWAY CULVERT
F8	P8-1	18	47	2	93+00.22	43.9 LT	40.45	92+51.19	42.0 LT	39.00	3.1%	DRIVEWAY CULVERT
F9	P9-1	24	50	2	108+79.21	38.0 LT	49.90	108+29.47	36.1 LT	49.65	0.5%	CONE AVE CULVERT
F9	P9-2	18	30	2	109+70.53	38.1 LT	50.70	109+40.28	38.2 LT	50.50	0.7%	DRIVEWAY CULVERT
F9	P9-3	24	87	2	110+00.37	35.2 RT	48.41	109+13.57	41.1 RT	48.11	0.3%	ANGLER DR CULVERT
F9	P9-4	18	49	2	110+07.86	64.3 RT	48.40	110+41.41	99.4 RT	46.90	3.1%	DRIVEWAY CULVERT
F9	P9-5	24	48	2	111+13.92	38.4 LT	51.30	110+66.03	38.3 LT	51.20	0.2%	HOLLIER ST CULVERT
F10	P10-1	18	39	2	114+23.26	34.9 RT	55.06	113+84.67	34.9 RT	54.62	1.1%	DRIVEWAY CULVERT
F10	P10-2	18	41	2	117+51.89	38.0 RT	56.05	117+92.71	38.0 RT	56.03	0.0%	DRIVEWAY CULVERT
F10	P10-3	18	46	2	122+45.61	38.0 RT	55.80	122+91.32	38.0 RT	55.77	0.1%	DRIVEWAY CULVERT
F10	P10-4	18	49	2	124+50.77	38.3 LT	56.39	124+99.69	38.0 LT	56.30	0.2%	DRIVEWAY CULVERT
F11	P11-1	24	54	2	131+24.13	18.9 LT	55.14	131+23.62	34.8 RT	54.16	1.8%	CROSS CULVERT
F11	P11-2	18	39	2	134+69.36	38.0 RT	54.12	134+30.35	38.0 RT	54.05	0.2%	DRIVEWAY CULVERT
F12	P12-1	18	55	2	139+29.75	31.8 LT	55.78	138+74.86	34.6 LT	55.71	0.1%	DRIVEWAY CULVERT
F12	P12-2	24	82	2	146+45.76	38.0 RT	56.50	145+64.24	30.3 RT	56.20	0.4%	AMES RD CULVERT
F12	P12-3	18	40	2	146+13.74	66.9 RT	57.38	145+86.29	95.6 RT	56.50	2.2%	DRIVEWAY CULVERT
F12	P12-4	24	71	2	147+30.74	34.6 LT	56.40	146+59.70	39.1 LT	56.00	0.6%	AMES RD CULVERT
F12	P12-5	18	30	2	148+28.90	36.7 LT	56.90	148+59.30	34.8 LT	56.85	0.2%	DRIVEWAY CULVERT
F12	P12-6	18	40	2	149+16.69	38.1 RT	56.55	148+76.65	38.1 RT	56.52	0.1%	DRIVEWAY CULVERT
F13	P13-1	18	49	2	150+15.89	38.1 RT	56.49	150+64.73	38.1 RT	56.39	0.2%	DRIVEWAY CULVERT
F13	P13-2	18	30	2	151+29.43	37.7 LT	57.80	151+59.78	38.2 LT	57.75	0.2%	DRIVEWAY CULVERT
F13	P13-3	18	41	2	151+95.13	38.1 RT	55.91	152+35.68	38.1 RT	55.70	0.5%	DRIVEWAY CULVERT
F13	P13-4	18	43	2	154+29.54	38.1 RT	54.89	154+72.11	38.1 RT	54.85	0.1%	DRIVEWAY CULVERT
F13	P13-5	18	44	2	155+51.72	38.1 RT	54.95	155+08.14	38.1 RT	54.87	0.2%	DRIVEWAY CULVERT

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STATE OF ★ 49 ★ ALASKA
DRAFT FINAL
4/14/2017
PROFESSIONAL ENGINEER

STATE OF ALASKA
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BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY

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603(1) & 603(3) CORRUGATED STEEL PIPE SUMMARY (CONTINUED)

SHEET	PIPE #	SIZE (INCH)	LENGTH (LF)	END SECTION	INLET			OUTLET			% SLOPE	REMARKS
					STATION	OFFSET	INVERT	STATION	OFFSET	INVERT		
F13	P13-6	18	30	2	156+90.29	37.1 LT	56.65	156+60.08	38.5 LT	56.55	0.3%	DRIVEWAY CULVERT
F13	P13-7	18	46	2	157+11.20	38.1 RT	55.00	157+57.24	38.1 RT	54.86	0.3%	DRIVEWAY CULVERT
F13	P13-8	18	31	2	158+16.46	38.0 LT	55.45	158+47.59	37.3 LT	55.35	0.3%	DRIVEWAY CULVERT
F13	P13-9	18	41	2	158+45.87	38.1 RT	54.25	158+87.14	38.1 RT	53.94	0.8%	DRIVEWAY CULVERT
F13	P13-10	18	30	2	158+95.45	37.7 LT	54.85	159+25.62	37.9 LT	54.75	0.3%	DRIVEWAY CULVERT
F14	P14-1	18	42	2	161+38.34	38.1 RT	52.50	161+80.52	38.1 RT	52.43	0.2%	DRIVEWAY CULVERT
F14	P14-2	18	31	2	161+81.28	34.8 LT	53.45	162+12.53	34.7 LT	53.35	0.3%	DRIVEWAY CULVERT
F14	P14-3	18	41	2	163+32.29	38.2 RT	52.41	162+91.35	38.2 RT	52.40	0.0%	DRIVEWAY CULVERT
F14	P14-4	18	46	2	165+36.76	38.2 RT	52.43	164+91.12	38.2 RT	52.42	0.0%	DRIVEWAY CULVERT
F14	P14-5	18	34	2	165+40.49	38.0 LT	53.70	165+06.92	39.1 LT	53.35	1.0%	DRIVEWAY CULVERT
F14	P14-6	24	48	2	169+87.40	37.4 LT	52.25	170+35.34	39.0 LT	52.20	0.1%	ALEENE WAY CULVERT
F14	P14-7	18	31	2	170+76.06	37.7 LT	52.15	171+06.62	37.0 LT	52.10	0.2%	DRIVEWAY CULVERT
F14	P14-8	24	43	2	171+61.33	38.0 RT	51.80	172+04.11	38.0 RT	51.70	0.2%	JULIUSSEN ST CULVERT
F14	P14-9	18	30	2	172+09.19	36.5 LT	52.70	171+79.42	36.4 LT	52.60	0.3%	DRIVEWAY CULVERT
F15	P15-1	18	31	2	173+39.99	36.8 LT	52.80	173+09.12	37.6 LT	52.70	0.3%	DRIVEWAY CULVERT
F15	P15-2	18	28	2	174+64.66	37.3 LT	53.00	174+36.33	37.2 LT	52.90	0.4%	DRIVEWAY CULVERT
F15	P15-3	18	44	2	176+62.43	38.1 RT	55.98	176+18.31	38.1 RT	55.12	2.0%	DRIVEWAY CULVERT
F15	P15-4	18	36	2	179+70.14	35.0 RT	57.77	180+06.24	35.0 RT	57.42	1.0%	DRIVEWAY CULVERT
F15	P15-5	18	31	2	180+21.03	37.7 LT	56.60	180+51.95	35.4 LT	56.50	0.3%	DRIVEWAY CULVERT
F15	P15-6	18	30	2	181+71.84	35.1 LT	54.30	182+02.11	40.3 LT	54.20	0.3%	DRIVEWAY CULVERT
F15	P15-7	18	35	2	181+86.27	37.0 RT	55.28	182+19.99	43.0 RT	52.23	8.7%	DRIVEWAY CULVERT
F15	P15-8	24	34	2	184+28.51	35.0 RT	50.60	184+62.13	35.0 RT	50.33	0.8%	TOGIAK ST CULVERT
F16	P16-1	18	46	2	186+76.80	35.0 RT	44.98	187+22.36	35.0 RT	43.83	2.5%	DRIVEWAY CULVERT
F16	P16-2	18	53	2	187+73.85	35.0 RT	42.55	188+26.69	32.8 RT	42.16	0.7%	DRIVEWAY CULVERT
F16	P16-3	18	40	2	191+49.16	35.0 RT	44.44	191+09.24	35.0 RT	43.36	2.7%	DRIVEWAY CULVERT
F16	P16-4	18	44	2	193+10.99	35.0 RT	47.71	192+66.50	35.0 RT	47.00	1.6%	DRIVEWAY CULVERT
F16	P16-5	18	30	2	192+74.53	36.1 LT	48.05	192+44.89	38.4 LT	47.85	0.7%	DRIVEWAY CULVERT
F16	P16-6	18	38	2	194+02.28	35.0 RT	48.78	193+64.39	35.0 RT	48.41	1.0%	DRIVEWAY CULVERT
F16	P16-7	18	38	2	195+62.04	35.0 RT	49.38	195+24.38	35.0 RT	49.32	0.2%	DRIVEWAY CULVERT
F16	P16-8	18	38	2	196+44.40	35.0 RT	49.20	196+06.74	35.0 RT	49.10	0.3%	DRIVEWAY CULVERT
F16	P16-9	18	38	2	197+28.62	35.0 RT	49.63	196+90.27	35.0 RT	49.57	0.2%	DRIVEWAY CULVERT
F16	P16-10	18	31	2	190+92.87	32.0 LT	44.10	190+61.59	31.7 LT	43.80	1.0%	DRIVEWAY CULVERT
F16	P16-11	18	31	2	191+46.39	31.8 LT	44.75	191+15.52	32.1 LT	44.55	0.6%	DRIVEWAY CULVERT
F17	P17-1	18	38	2	198+12.57	35.0 RT	49.74	197+74.62	35.0 RT	49.70	0.1%	DRIVEWAY CULVERT
F17	P17-2	18	56	2	200+62.71	37.7 RT	49.38	201+18.77	41.5 RT	49.18	0.4%	DRIVEWAY CULVERT
F17	P17-3	18	54	2	201+80.82	45.5 RT	48.98	202+34.02	51.7 RT	47.92	2.0%	DRIVEWAY CULVERT
F17	P17-4	24	84	2	203+00.10	33.9 LT	49.38	203+05.03	49.8 RT	47.78	1.9%	CROSS CULVERT

206(1), 611(2A) & 611(2B) RIPRAP SUMMARY

SHEET	STATION	AREA (SF)	SLOPE ADJUSTMENT FACTOR	CLASS I DEPTH (LF)	CLASS II DEPTH (LF)	FILTER BLANKET DEPTH (LF)	611(2A) RIPRAP, CLASS I (CY)	611(2B) RIPRAP, CLASS II (CY)	206(1) FILTER BLANKET (CY)	REMARKS
F1/E6	13+00	950	1.12		3	1	0	119	40	CULVERT OUTLET
F1/E6	13+00	1,062	1.00		3		0	118	0	CULVERT LINING
F1/E6	13+00	1,005	1.05		3	1	0	118	40	CULVERT INLET
F2/E8	27+93	180	1.12	2		1	15	0	8	CULVERT OUTLET
F2/E8	27+93	410	1.00	2			31	0	0	CULVERT LINING
F2/E8	27+93	170	1.05	2		1	14	0	7	CULVERT INLET
F6/E11	67+50	651	1.12	2		1	55	0	28	CULVERT OUTLET
F6/E11	67+50	720	1.05	2		1	56	0	28	CULVERT INLET
F7/E9	87+52	180	1.12	2		1	15	0	8	CULVERT OUTLET
F7/E9	87+52	390	1.00	2			29	0	0	CULVERT LINING
F7/E9	87+52	178	1.05	2		1	14	0	7	CULVERT INLET
						TOTAL	334	518	166	

616(4) THAW WIRE INSTALLATION - EACH

SHEET	PIPE #	TYPE	QUANTITY	REMARKS
E6	P1-2	REMOTE THAW WIRE	1	SEE DETAIL SHEETS E13 AND E14
E8	P2-2	REMOTE THAW WIRE	1	SEE DETAIL SHEETS E13 AND E14
E11	P6-4	REMOTE THAW WIRE	1	SEE DETAIL SHEETS E13 AND E14
E9	P7-8	REMOTE THAW WIRE	1	SEE DETAIL SHEETS E13 AND E14
		TOTAL	4	

620(1) TOPSOIL - SQUARE YARD

BEGIN STATION	END STATION	OFFSET	DESCRIPTION	QUANTITY	REMARKS
5+96	203+30	RT	BETWEEN BLR AND PATHWAY	11,680	
5+96	203+30	LT	SLOPE, DITCHES, AND CULVERTS	42,491	
5+96	203+30	RT	RIGHT OF PATHWAY, INCLUDES CULVERTS	22,156	
			TOTAL	76,327	

625(1) PIPE HAND RAIL - LINEAR FOOT

SHEET	BEGIN		END		QUANTITY	REMARKS
	STATION	OFFSET	STATION	OFFSET		
F2	27+84	40.9 RT	28+03	40.9 RT	19.5	
F6	67+39	34.5 RT	63+64	36.5 RT	25.0	
F7	87+24	40.0 RT	87+43	40.0 RT	19.5	
				TOTAL	64	

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627(4) FIRE HYDRANT ADJUSTMENT - EACH

SHEET	STATION	OFFSET	QUANTITY	REMARKS
F16	187+82	46 RT	1	
		TOTAL	1	

627(10) ADJUSTMENT OF VALVE BOX - EACH

SHEET	STATION	OFFSET	QUANTITY	REMARKS
F1	06+36	36 LT	1	
F15	183+25	35 LT	1	
F16	187+80	40 RT	1	
F16	187+78	27 RT	1	
F16	190+84	28 RT	1	
F17	202+81	46 RT	1	
F17	202+86	52 RT	1	
		TOTAL	7	

630(2) GEOTEXTILE, STABILIZATION, CLASS 1 - SQUARE YARD

SHEET	BEGIN STATION	END STATION	WIDTH (LF)	QUANTITY	REMARKS
F1-F17	5+96	203+75	15	32,965	UNDER PATHWAY
F1-F2	11+50	19+50	42	3,734	DIG-OUT
F2	24+50	25+50	42	467	DIG-OUT
F5	54+00	63+00	40	4,000	DIG-OUT
F7-F8	86+00	91+00	40	2,223	DIG-OUT
F8	93+00	94+00	40	445	DIG-OUT
F9	103+50	107+00	42	1,634	DIG-OUT
F9	110+50	112+00	42	700	DIG-OUT
F11	130+50	131+50	42	467	DIG-OUT
F12-F13	147+50	150+25	42	1,284	DIG-OUT
F15-F16	179+00	186+00	42	3,267	DIG-OUT
F16	191+50	193+50	42	934	DIG-OUT
				2,400	APPROACHES
			TOTAL	54,520	

634(1) GEOGRID, STABILIZATION, CLASS 1 - SQUARE YARD

SHEET	BEGIN STATION	END STATION	WIDTH (FT)	QUANTITY	REMARKS
F1-F2	11+50	19+50	40	3,556	DIG-OUT
F2	24+50	25+50	40	444	DIG-OUT
F5	54+00	63+00	60	6,000	DIG-OUT INCLUDES UNDER PATHWAY
F7-F8	86+00	91+00	63	3,500	DIG-OUT INCLUDES UNDER PATHWAY
F8	93+00	94+00	44	489	DIG-OUT
F9	103+50	107+00	40	1,556	DIG-OUT
F9	110+50	112+00	40	667	DIG-OUT
F11	130+50	131+50	40	444	DIG-OUT
F12-F13	147+50	150+25	40	1,222	DIG-OUT
F15-F16	179+00	186+00	40	3,111	DIG-OUT
F16	191+50	193+50	40	889	DIG-OUT
			TOTAL	21,878	

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639(6) APPROACH

SHEET	STATION	OFFSET	WIDTH (LF) "W"	SKEW ANGLE	LANDING LENGTH (LF)	TYPE			PAVED LENGTH (LF)	UNPAVED LENGTH (LF)	RETURN RADIUS (LF)	DITCH WIDTH (LF) "D"	REMARKS
						RESIDENCE DRIVEWAY	COMMERCIAL DRIVEWAY	PUBLIC APPROACH					
F1	7+42	LT	25	90	30.00		X		69	0	40	8	
F1	9+01	LT	24	90	30.00		X		44	0	40	8	
F2	24+14	LT	24	90	30.00		X		62	0	40	8	
F3	34+42	RT	20	90	10.00	X			20	41	20	8	
F3	38+11	LT	24	90	30.00		X		41	12	40	8	
F3	38+79	RT	24	SEE PLANS	SEE PLANS			X	43	95	SEE PLANS	8	BARABARA DRIVE, SEE SHEET F18.
F3	8+76	LT	14	SEE PLANS	10.00	X			0	13	SEE PLANS	8	DRIVEWAY OFF BARABARA DRIVE, SEE SHEET F18.
F3	40+02	RT	14	90	10.00	X			20	34	20	8	
F4	45+42	LT	24	90	30.00		X		52	0	40	8	
F4	48+97	RT	24	SEE PLANS	SEE PLANS			X	41	0	SEE PLANS	8	CUNNINGHAM COURT, SEE SHEET F18.
F4	51+83	RT	14	90	10.00	X			20	32	20	8	
F4	52+09	LT	32	SEE PLANS	30.00		X		39	80	SEE PLANS	5	SEE SHEET F23.
F5	53+01	LT	20	90	10.00	X			22	0	20	8	
F5	54+65	LT	20	90	10.00	X			28	16	20	8	
F5	59+13	RT	22	SEE PLANS	SEE PLANS			X	30	87	SEE PLANS	8	TUNDRA ROSE LANE, SEE SHEET F18.
F5	62+72	RT	24	90	30.00		X		40	10	40	8	
F6	65+65	RT	20	90	10.00	X			33	17	20	8	
F6	66+80	RT	20	90	10.00	X			33	0	20	8	
F6	66+82	LT	14	90	10.00	X			20	31	20	8	
F6	69+20	RT	14	90	10.00	X			32	0	20	8	
F6	70+19	LT	14	90	10.00	X			22	0	20	8	
F6	70+72	RT	14	90	10.00	X			60	0	20	8	
F6	72+14	LT	14	90	10.00	X			20	0	20	8	
F7	79+21	LT	18	90	10.00	X			28	0	20	8	
F7	79+28	RT	16	90	10.00	X			28	28	20	8	
F7	81+23	LT	14	90	10.00	X			20	7	20	8	
F7	82+76	RT	16	90	10.00	X			20	24	20	8	
F7	83+85	RT	24	90	30.00		X		49	0	40	8	
F7	83+94	LT	24	90	30.00		X		40	7	40	8	
F7	85+35	RT	24	90	30.00		X		40	0	40	8	
F8	92+78	LT	24	90	30.00		X		42	0	40	8	
F9	108+60	LT	24	SEE PLANS	SEE PLANS			X	70	41	SEE PLANS	0	CONE AVENUE, SEE SHEET F19.
F9	109+18	RT	24	SEE PLANS	SEE PLANS			X	171	0	SEE PLANS	8	ANGLER DRIVE, SEE SHEET F19.
F9	11+40	LT	14	90	10.00	X			21	0	20	8	DRIVEWAY OFF ANGLER DRIVE
F9	109+55	LT	14	90	10.00	X			20	15	20	8	
F9	110+90	LT	24	SEE PLANS	SEE PLANS			X	40	0	SEE PLANS	8	HOLLIER STREET, SEE SHEET F19.
F10	114+06	RT	14	90	10.00	X			20	33	20	8	
F10	116+37	RT	14	90	10.00	X			20	39	20	8	
F10	117+74	RT	14	90	10.00	X			20	33	20	8	
F10	122+70	RT	14	90	10.00	X			20	41	20	8	
F10	124+75	LT	24	90	30.00		X		40	0	40	8	
F11	127+64	RT	24	SEE PLANS	30.00		X		43	119	SEE PLANS	8	SEE SHEET F23.
F11	134+50	RT	20	90	30.00	X			20	26	20	8	
F12	139+01	LT	24	90	30.00		X		40	0	40	8	
F12	146+49	LT	24	SEE PLANS	SEE PLANS			X	84	38	SEE PLANS	8	AMES ROAD, SEE SHEET F20.
F12	146+55	RT	24	SEE PLANS	SEE PLANS			X	112	0	SEE PLANS	8	AMES ROAD, SEE SHEET F20.
F12	9+02	RT	18	90	10.00	X			25	0	20	8	DRIVEWAY OFF AMES ROAD
F12	148+44	LT	14	90	10.00	X			20	22	20	8	
F12	148+99	RT	14	90	10.00	X			20	27	20	8	

REVISIONS		
NO.	DATE	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0001453/Z534560000	2018	D7	D8

NOTE:

SEE SHEET B3 FOR APPROACH TYPICAL SECTIONS, AND "D" AND "W" DIMENSION REFERENCES. SEE SHEET E1 FOR UNCURBED APPROACH DETAILS THAT ARE NOT DETAILED IN THE F SHEETS

PLANS DEVELOPED BY:
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STATE OF ALASKA
PROFESSIONAL ENGINEER
49
DRAFT FINAL
4/14/2017

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY

SUMMARY TABLES

REVISIONS		
NO.	DATE	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0001453/Z534560000	2018	D8	D8

639(6) APPROACH SUMMARY (CONTINUED)

SHEET	STATION	OFFSET	WIDTH (LF) "W"	SKEW ANGLE	LANDING LENGTH (LF)	TYPE			PAVED LENGTH (LF)	UNPAVED LENGTH (LF)	RETURN RADIUS (LF)	DITCH WIDTH (LF) "D"	REMARKS
						RESIDENCE DRIVEWAY	COMMERCIAL DRIVEWAY	PUBLIC APPROACH					
F13	150+42	RT	14	90	10.00	X			20	27	20	8	
F13	151+45	LT	14	90	10.00	X			20	20	20	8	
F13	152+16	RT	14	90	10.00	X			20	33	20	8	
F13	154+53	RT	16	90	10.00	X			20	23	20	8	
F13	155+21	RT	14	SEE PLANS	10.00	X			29	23	SEE PLANS	8	SEE SHEET F24.
F13	156+75	LT	14	90	10.00	X			20	12	20	8	
F13	157+35	RT	14	90	10.00	X			20	15	20	8	
F13	158+32	LT	14	90	10.00	X			20	10	20	8	
F13	158+67	RT	20	90	10.00	X			20	10	20	8	
F13	159+11	LT	14	90	10.00	X			20	10	20	8	
F14	161+61	RT	14	90	10.00	X			20	27	20	8	
F14	161+97	LT	14	90	10.00	X			20	29	20	8	
F14	163+14	RT	14	90	10.00	X			20	25	20	8	
F14	165+15	RT	14	90	10.00	X			20	10	20	8	
F14	165+24	LT	17	90	10.00	X			20	24	20	8	
F14	166+62	RT	26	SEE PLANS	SEE PLANS			X	87	0	SEE PLANS	8	DOLCHOK LANE, SEE SHEET F21.
F14	166+73	LT	14	90	10.00	X			20	21	20	8	
F14	170+12	LT	24	SEE PLANS	SEE PLANS			X	41	20	SEE PLANS	8	ALEENE WAY, SEE SHEET F21.
F14	170+91	LT	14	90	10.00	X			20	25	20	8	
F14	171+80	RT	24	SEE PLANS	SEE PLANS			X	44	64	SEE PLANS	8	JULIUSSEN STREET, SEE SHEET F22.
F14	171+94	LT	14	90	10.00	X			20	25	20	8	
F15	173+24	LT	14	90	10.00	X			20	24	20	8	
F15	174+50	LT	14	90	10.00	X			20	18	20	8	
F15	176+44	RT	14	90	10.00	X			20	17	20	8	
F15	177+13	LT	16	90	10.00	X			20	5	20	8	
F15	178+44	LT	20	90	10.00	X			20	25	20	8	
F15	179+89	RT	14	90	10.00	X			20	47	20	8	
F15	180+36	LT	14	90	10.00	X			20	33	20	8	
F15	181+87	LT	14	90	10.00	X			20	23	20	8	
F15	181+99	RT	14	90	10.00	X			20	41	20	8	USE 3:1 FORESLOPES
F15	183+84	LT	24	SEE PLANS	SEE PLANS			X	83	0	SEE PLANS	8	TOGIAK ROAD (WEST), SEE SHEET F22.
F15	184+45	RT	14	SEE PLANS	SEE PLANS	X			21	245	SEE PLANS	8	DRIVEWAY IN TOGIAK ROAD ROW, SEE SHEET F22.
F15	10+53	RT	14	SEE PLANS	10.00	X			0	69	SEE PLANS	8	DRIVEWAY OFF TOGIAK STREET (EAST), SEE SHEET F22.
F16	185+60	LT	14	90	10.00	X			20	0	20	8	
F16	186+99	RT	14	90	10.00	X			20	29	20	8	
F16	187+95	RT	14	90	10.00	X			20	46	20	8	
F16	190+77	LT	14	90	10.00	X			20	14	20	8	
F16	191+30	RT	14	90	10.00	X			21	14	20	8	
F16	191+31	LT	14	SEE PLANS	10.00	X			20	54	SEE PLANS	8	SEE SHEET F24.
F16	192+60	LT	14	90	10.00	X			20	8	20	8	
F16	192+92	RT	14	90	10.00	X			31	0	20	8	
F16	193+86	RT	14	90	10.00	X			20	19	20	8	
F16	195+44	RT	14	90	10.00	X			20	23	20	8	
F16	196+27	RT	14	90	10.00	X			20	32	20	8	
F17	197+10	RT	14	90	10.00	X			20	30	20	8	
F17	197+95	RT	14	90	10.00	X			20	31	20	8	
F17	200+91	RT	24	90	30.00		X		62	0	40	8	
F17	207+79	RT	24	SEE PLANS	30.00		X		61	0	40	8	SEE SHEET F24.
						69	16	12					

NOTE:

SEE SHEET B3 FOR APPROACH TYPICAL SECTIONS, AND "D" AND "W" DIMENSION REFERENCES. SEE SHEET E1 FOR UNCURBED APPROACH DETAILS THAT ARE NOT DETAILED IN THE F SHEETS

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STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY

SUMMARY TABLES

DESIGNED BY BCL
CHECKED BY JBP
DRAFTED BY WJP

XREFS

SCALE

LAYOUT D8

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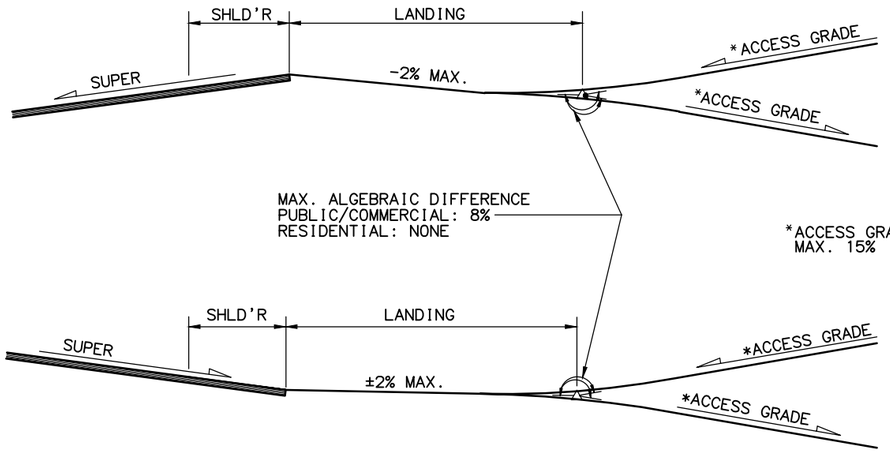
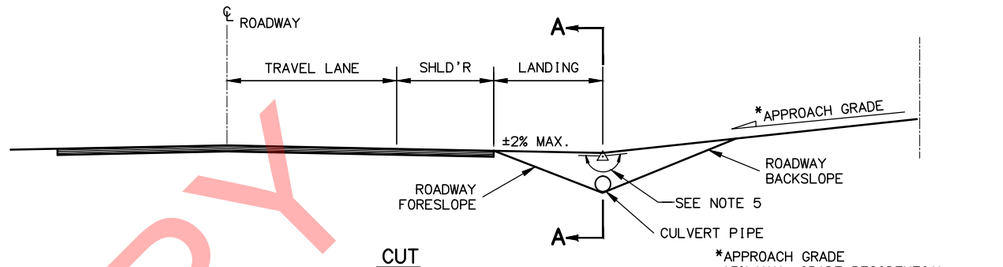
REVISIONS		
NO.	DATE	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0001453/Z534560000	2018	E1	E14

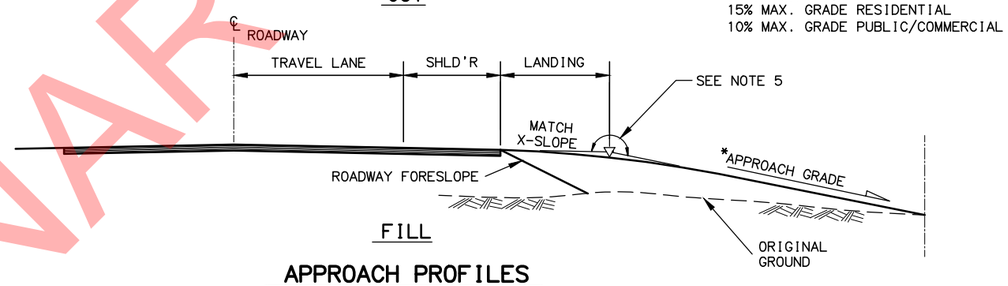


APPROACH PROFILES ON SUPER ELEVATED ROADWAY



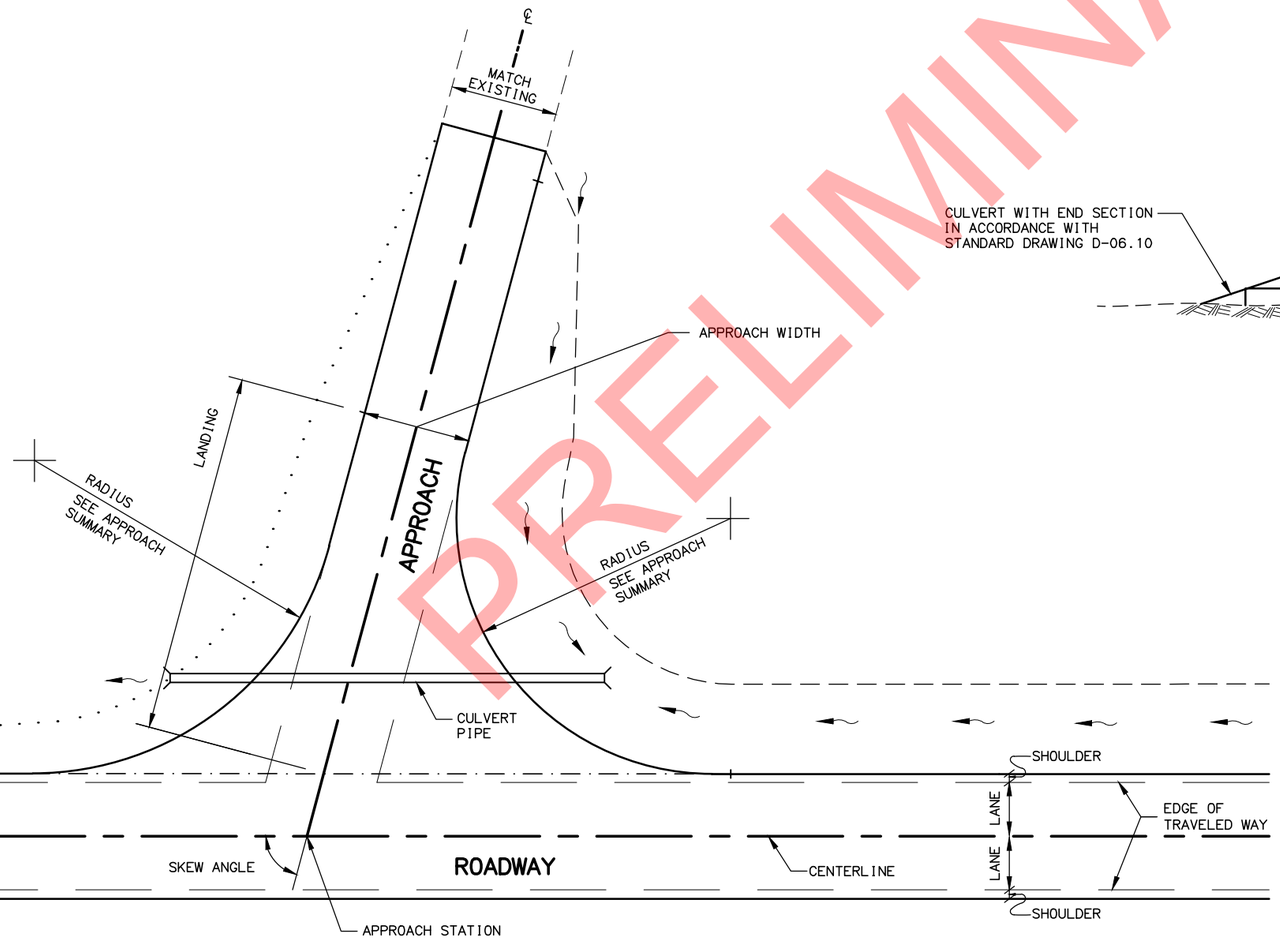
CUT

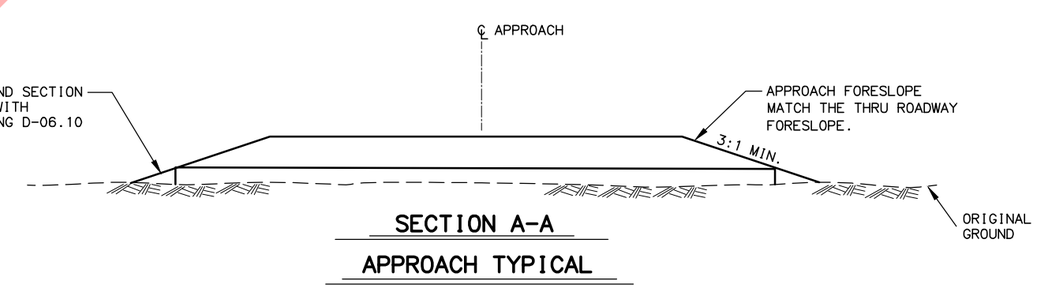
*APPROACH GRADE
15% MAX. GRADE RESIDENTIAL
10% MAX. GRADE PUBLIC/COMMERCIAL



FILL

APPROACH PROFILES





SECTION A-A
APPROACH TYPICAL

NOTES:

1. SEE APPROACH SUMMARY (D7 & D8) FOR APPROACH STATION, LENGTH, WIDTH, SKEW ANGLE, LANDING LENGTH AND TYPE.
2. SEE PIPE SUMMARY (D4 & D5) FOR CULVERT PIPE SIZE, LENGTH, AND PLACEMENT.
3. THE PAVED PORTION OF THE APPROACH STRUCTURAL SECTION SHALL BE CONSTRUCTED OF THE SAME MATERIAL AS THE ROADWAY STRUCTURAL SECTION UNLESS A SEPARATE TYPICAL SECTION IS INCLUDED IN THE PLANS COVERING APPROACHES.
4. PAVE TO THE END OF THE RADIUS RETURN UNLESS OTHERWISE INDICATED IN THE PLANS.
5. MAXIMUM ALGEBRAIC DIFFERENCE FOR A PUBLIC/COMMERCIAL APPROACH IS 8%.
6. SEE APPROACH PLAN & PROFILE "F" SHEETS FOR APPROACH VERTICAL CURVE REQUIREMENTS. APPROACH VERTICAL CURVE REQUIREMENTS IF MINIMUM NOT SPECIFIED: CREST - 2 1/2" MAXIMUM IN A 10-FOOT CHORD. SAG - 2" MAXIMUM IN A 10-FOOT CHORD.

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BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY

UNCURBED APPROACH DETAILS

DESIGNED BY BCL
CHECKED BY JP
DRAFTED BY SH/BB

XREFS

SCALE N/A

LAYOUT E1

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REVISIONS		
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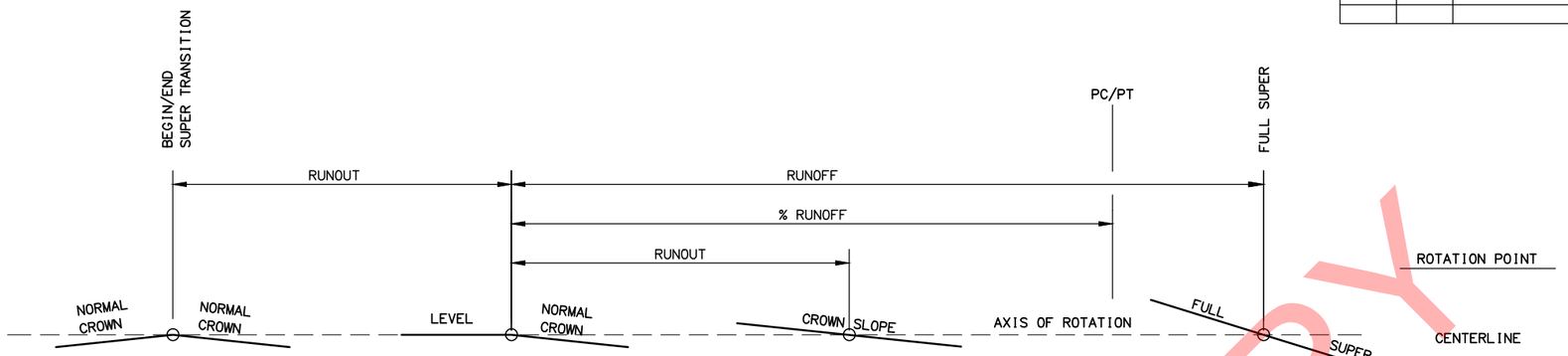
ALASKA	0001453/Z534560000	2018	E2	E14



SUPERELEVATION TRANSITION

NOTES:

1. BUILD SUPERELEVATION INTO SUBGRADE AND CARRY THROUGH SHOULDERS.
2. % RUNOFF = PORTION OF RUNOFF ON TANGENT.
3. WIDENING FOR GUARDRAIL OR CURVATURE DOES NOT CHANGE THE LOCATION OF THE AXIS OF ROTATION.

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BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY

SUPERELEVATION TRANSITION DETAILS

DESIGNED BY: BCL
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DRAFTED BY: SH/BB

XREFS

SCALE: N/A

LAYOUT: E2

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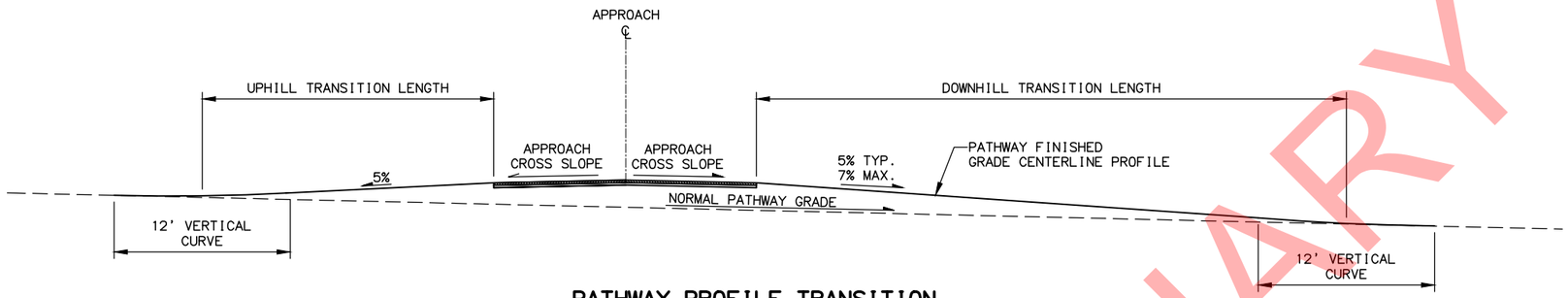
REVISIONS		
NO.	DATE	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0001453/Z534560000	2018	E3	E14

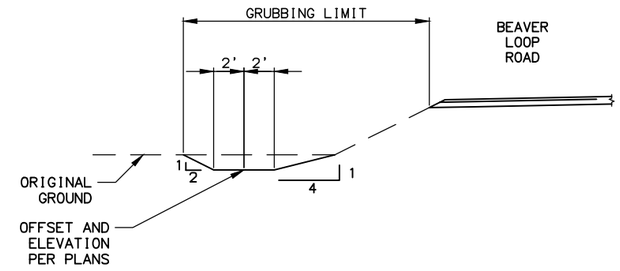


PATHWAY PROFILE TRANSITION

BEAVER LOOP ROAD APPROACHES

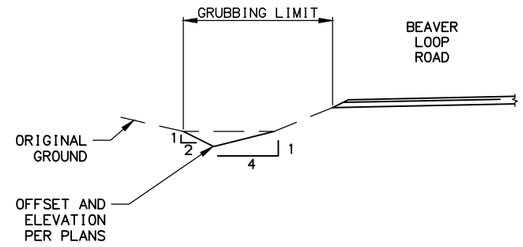
UP-HILL TRANSITION LENGTH	
NORMAL PATHWAY GRADE	TRANSITION LENGTH
0.5% OR LESS	15'
1.0%	12'
1.5%	12'
2.0%	11'
2.5%	10'
3.0%	9'
3.5%	9'

DOWNHILL TRANSITION LENGTH	
NORMAL PATHWAY GRADE	TRANSITION LENGTH
0.5% OR LESS	16'
1.0%	18'
1.5%	21'
2.0%	24'
2.5%	29'
3.0%	36'
3.5%	50'



DITCH LINEAR GRADING - FLAT BOTTOM

BEAVER LOOP ROAD



DITCH LINEAR GRADING - "V" DITCH

BEAVER LOOP ROAD

DITCH LINEAR GRADING NOTES:

1. SEE SUMMARY TABLE FOR DITCH TYPE.
2. PROTECT EXISTING VEGETATION TO MINIMIZE EROSION.

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BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY

DITCH LINEAR GRADING & PATHWAY TRANSITION DETAILS

DESIGNED BY: BCL
CHECKED BY: JP
DRAFTED BY: SH/BB

XREFS

SCALE: N/A

LAYOUT: E3

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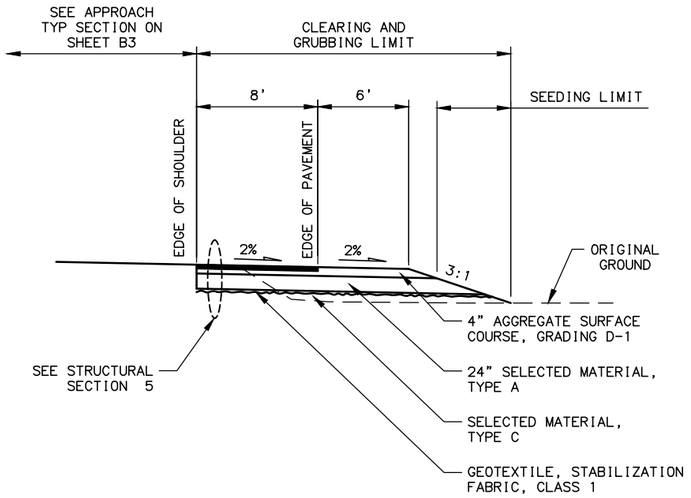
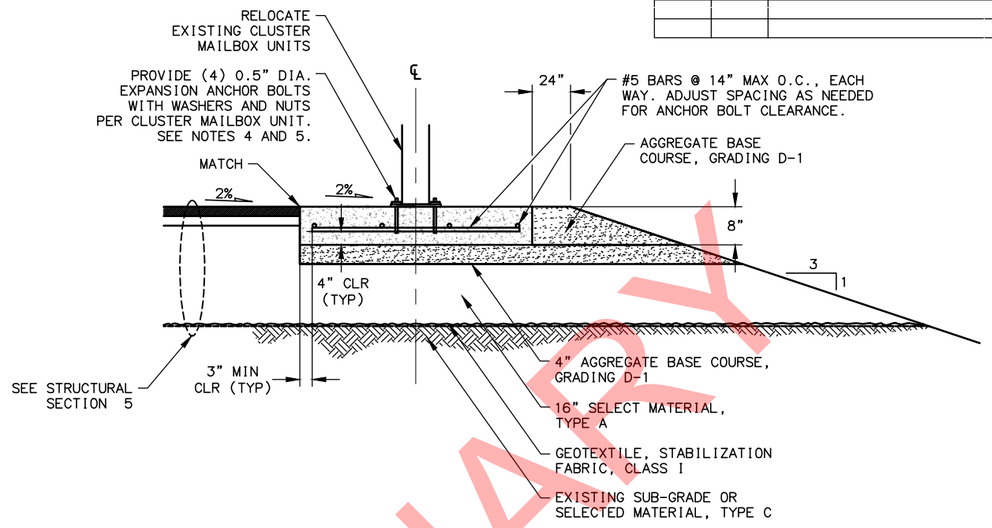
ALASKA	0001453/Z534560000	2018	E4	E14



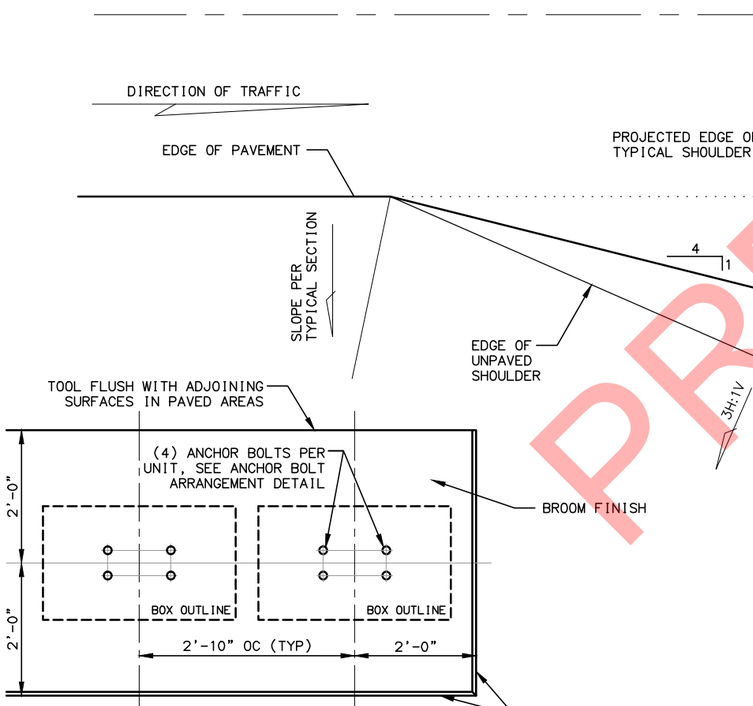
MAILBOX TURNOUT - SECTION A-A



MAILBOX TURNOUT - SECTION B-B

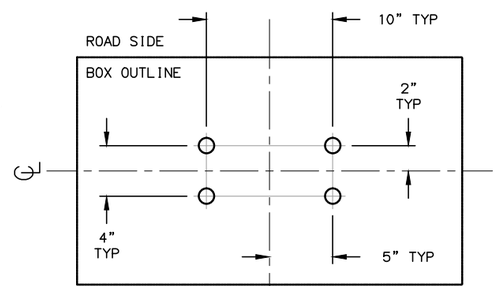
CLUSTER MAILBOX NOTES:

1. CONCRETE FOUNDATION IS SUBSIDIARY TO 202(12A) RELOCATE CLUSTER MAILBOX.
2. USE CLASS A CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI. BROOM FINISH EXPOSED SURFACE AND TOOL EDGES FLUSH WITH ADJOINING PAVED SURFACE.
3. REINFORCING STEEL BARS SHALL CONFORM TO AASHTO M 31-86, GRADE 60.
4. EXPANSION ANCHOR BOLTS SHALL BE:
   A. HILTI KWIK BOLT III, 0.5" DIA. x 5.5" OVERALL LENGTH; 316 STAINLESS STEEL, 3.5" MIN. EMBEDMENT; OR
   B. ITW REDHEAD TRUBOLT, 0.5" DIA. x 5.5" OVERALL LENGTH, 316 STAINLESS STEEL, 4-1/8" MIN. EMBEDMENT; OR
   C. CONFAST, 0.5" DIA. x 5.5" OVERALL LENGTH, 316 STAINLESS STEEL, 4" MIN. EMBEDMENT.
5. PROVIDE A 1/8" RESILIENT OR NEOPRENE PAD OVER ANCHOR BOLTS AND ONTO CONCRETE PAD. PLACE CLUSTER MAILBOX PEDESTAL BASE OVER PAD AND CHECK FOR LEVEL. IF LEVELING IS REQUIRED, SHIM PEDESTAL WITH UP TO (3) WASHERS ON A GIVEN BOLT. WASHERS, IF REQUIRED, SHOULD BE PLACED BETWEEN PAD AND PEDESTAL BASE. TRIM AWAY EXCESS PAD THAT EXTENDS BEYOND THE BASE PLATE.



CLUSTER MAILBOX ARRANGEMENT DETAIL

ANGLER DRIVE MAILBOX TURNOUT



ANCHOR BOLT ARRANGEMENT DETAIL

NOTE: CONTRACTOR SHALL FIELD VERIFY EXISTING CLUSTER MAILBOX UNIT ANCHOR BOLT ARRANGEMENT AND ADJUST AS NEEDED.

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STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

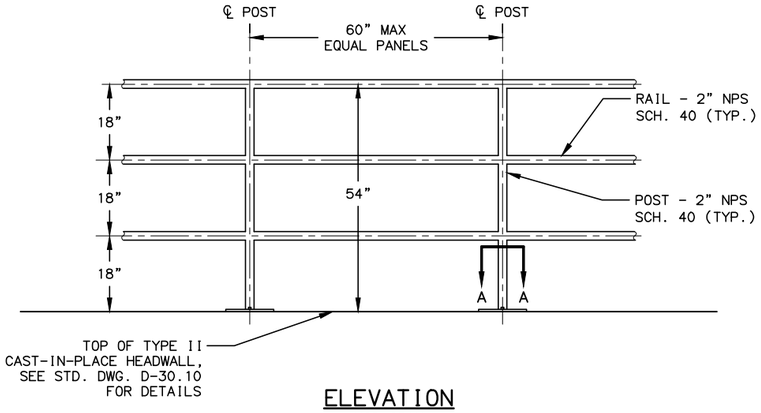
BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY

MAILBOX TURNOUT DETAILS

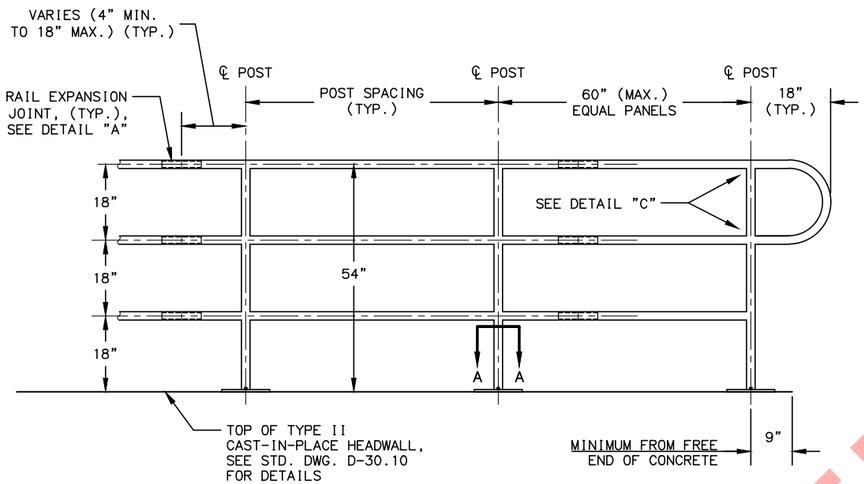
DESIGNED BY: BCL
CHECKED BY: JP
DRAFTED BY: SH/BB
XREFS
SCALE: N/A
LAYOUT: E4
DATE TIME: 4/14/2017 2:56 PM
DRAWING LOCATION: Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\E1-EX_Details.DWG

REVISIONS		
NO.	DATE	DESCRIPTION

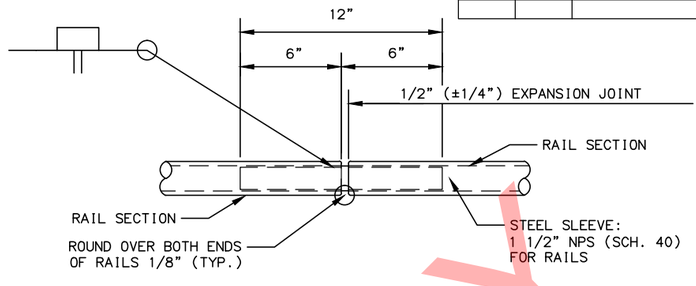
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0001453/Z534560000	2018	E5	E14



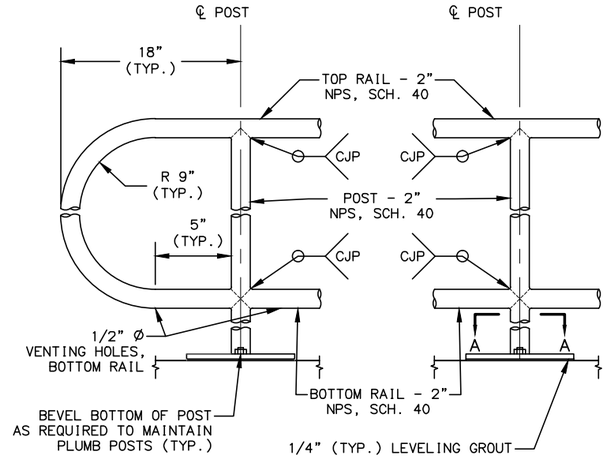
ELEVATION
MID-SPAN



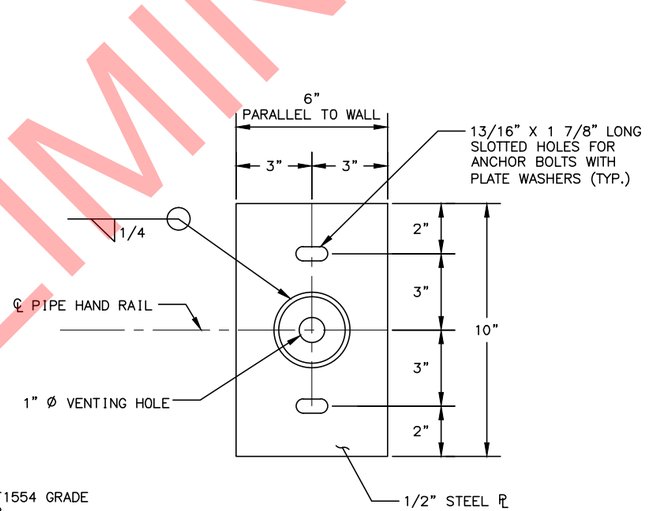
ELEVATION
HANDRAIL TERMINATION



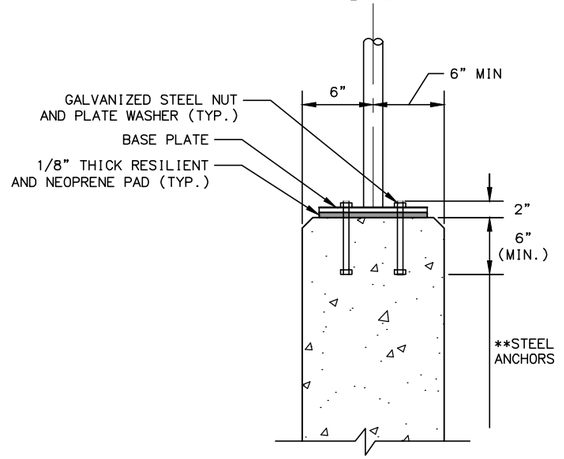
DETAIL "A" - EXPANSION JOINT



DETAIL "C" - RAIL CONNECTIONS



SECTION A-A
BASE PLATE DETAIL
N.T.S.



**2- 3/4" Ø X 8" GALVANIZED STEEL HEADED ANCHOR BOLTS PER POST (CAST-IN-PLACE).

CONNECTION DETAIL
N.T.S.

NOTES:

1. DIMENSIONS ON TYPICAL SECTION AND END SECTION ARE SHOWN TO CENTER OF PIPE.
2. PIPE RAILS AND POSTS SHALL BE IN ACCORDANCE WITH ASTM A53 GRADE B FOR STANDARD WEIGHT PIPE AND ASTM A500 GRADE B, C, OR D. POSTS AND END RAILS SHALL BE FABRICATED AND INSTALLED PLUMB, +/- 1" TOLERANCE WHEN MEASURED FROM THE TOP RAIL TO THE TOP OF FOUNDATION.
3. BASE PLATES SHALL BE IN ACCORDANCE WITH ASTM A36.
4. THE RAILING SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION. ALL NUTS, BOLTS AND WASHERS SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A123.
5. ANCHOR BOLTS SHALL BE IN ACCORDANCE WITH ASTM F1554 GRADE 36. SET BOLTS USING A TEMPLATE TO INSURE PROPER ALIGNMENT. ALL NUTS SHALL BE IN ACCORDANCE WITH ASTM A563 OR ASTM A194. FLAT WASHERS SHALL BE IN ACCORDANCE WITH ASTM F436 AND PLATE WASHERS (FOR LONG SLOTTED HOLES ONLY), SHALL BE IN ACCORDANCE WITH ASTM A36 OR ASTM A709 GRADE 36.
6. ALL WELDING SHALL BE IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE (STEEL) ANSI/AWS D1.1 (CURRENT EDITION). WELD METAL SHALL BE E60XX OR E70XX. NONDESTRUCTIVE TESTING OF WELDS IS NOT REQUIRED.
7. RESILIENT AND NEOPRENE PADS SHALL BE IN ACCORDANCE WITH AASHTO M-251 AND ASTM D2137. TESTING OF THE FINISHED PADS SHALL NOT BE REQUIRED. NEOPRENE PADS SHALL BE DURAMETER HARDNESS 60 OR 70.

RAILING MEMBER DIMENSIONS TABLE

MEMBER	DESIGNATION	OUTSIDE DIMENSION	WALL THICKNESS
POSTS	2" NPS (SCH. 40)	2.375"	0.154"
RAILS	2" NPS (SCH. 40)	2.375"	0.154"
RAIL JOINT/SPLICE SLEEVES	1 1/2" NPS (SCH. 40)	1.900"	0.145"

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STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY

PIPE HAND RAIL DETAIL

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XREFS
SCALE: N/A
LAYOUT: E5
DATE TIME: 4/14/2017 2:56 PM
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ALASKA	0001453/Z534560000	2018	E6	E14

DESIGNED BY JD
CHECKED BY BGL
DRAFTED BY BAM

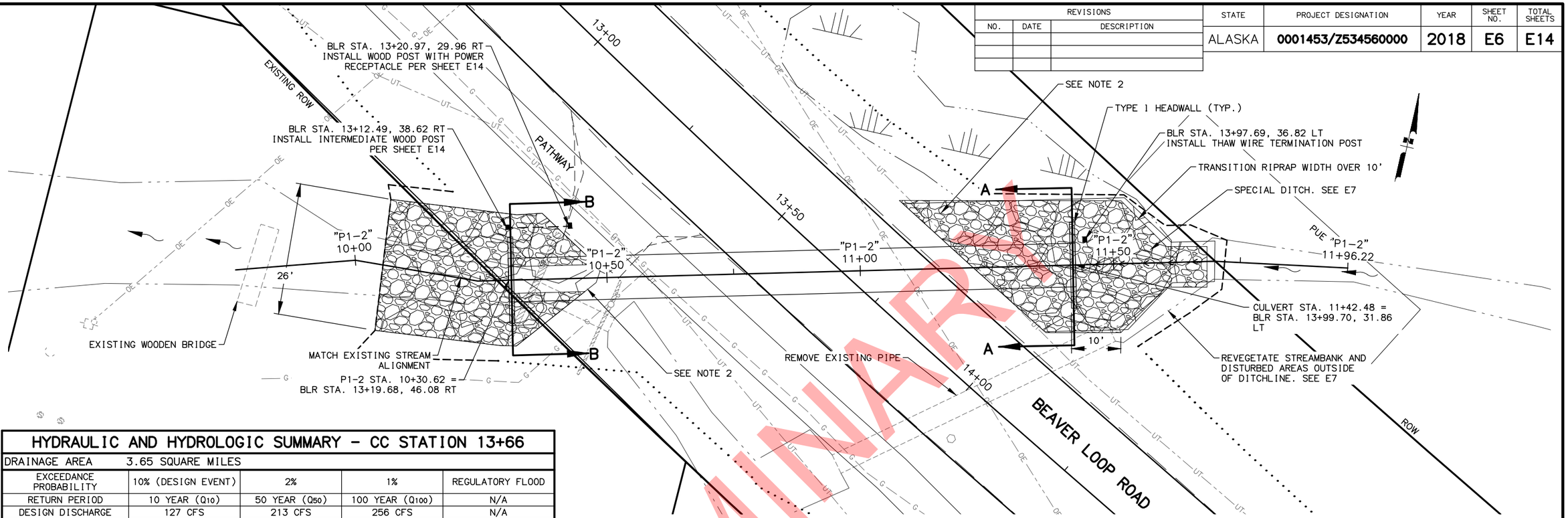
XREFS

SCALE N/A

LAYOUT E6

DATE TIME 4/14/2017 11:11 AM

DRAWING LOCATION Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\E6-EX_Culvert Details.dwg



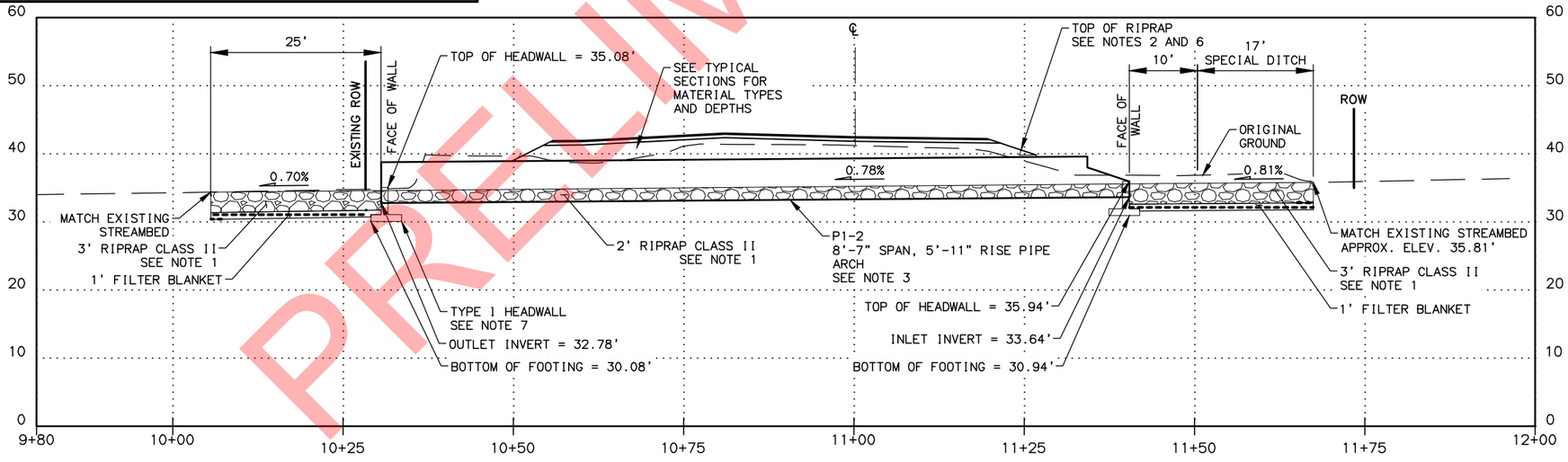
P1-2 PLAN STA: BLR 13+66

HYDRAULIC AND HYDROLOGIC SUMMARY - CC STATION 13+66

DRAINAGE AREA 3.65 SQUARE MILES

EXCEEDANCE PROBABILITY	10% (DESIGN EVENT)	2%	1%	REGULATORY FLOOD
RETURN PERIOD	10 YEAR (Q_{10})	50 YEAR (Q_{50})	100 YEAR (Q_{100})	N/A
DESIGN DISCHARGE	127 CFS	213 CFS	256 CFS	N/A
DESIGN HIGH WATER ELEVATION	39.1 FT	40.8 FT	41.9 FT	N/A

ANTICIPATED ADDITIONAL BACKWATER AT Q_{100} = 0.1 FEET



P1-2 PROFILE STA: BLR 13+66

CULVERT NOTES:

1. AFTER PLACEMENT OF RIPRAP, FILL VOIDS IN RIPRAP WITHIN STREAM CHANNEL WITH A UNIFORM MIXTURE OF SAND, GRAVEL, AND COBBLES. BLEND MATERIAL PRIOR TO PLACING IN RIPRAP.
   MATERIAL USED TO FILL VOIDS IS SUBSIDIARY TO RIPRAP.
2. SEE RIPRAP TIE IN DETAIL E7, FOR CONNECTION BETWEEN RIPRAP AND ROAD/DRIVEWAY STRUCTURAL SECTIONS.
3. PIPE ARCH SHALL BE 12 GAGE MAXIMUM WITH 6" BY 2" CORRUGATIONS. USE 3:1 BEVEL ON INLET END PER STD. DWG. D-07.00. DO NOT BEVEL OUTLET. PIPE MAY BE SPP TO FACILITATE RIPRAP PLACEMENT.
4. SEE E7 FOR SECTIONS AND DETAILS.
5. SEE STD. DWG. D-30.11 AND D-31.01 FOR HEADWALL DETAILS.
6. RIPRAP THICKNESS IS MEASURED PERPENDICULAR TO FINISHED GROUND SURFACE.
7. WARP SLOPE TO ACCOMMODATE HEADWALL SKEW, MAINTAIN 2:1 OR FLATTER SLOPES.
8. SPECIAL DITCH AND STREAMBANK REVEGETATION ARE SUBSIDIARY TO THE CULVERT.

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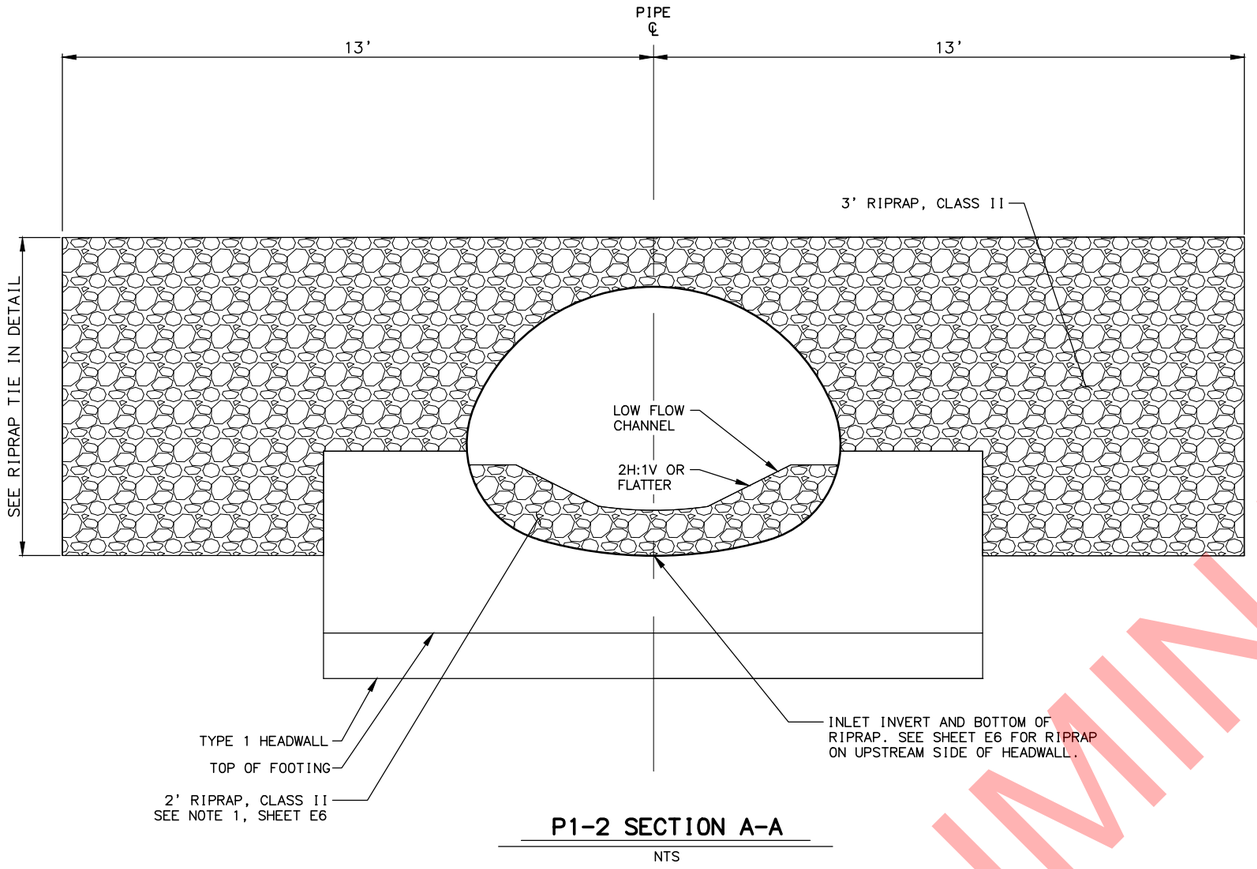
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY

FISH PASSAGE CULVERT DETAIL STA 13+66

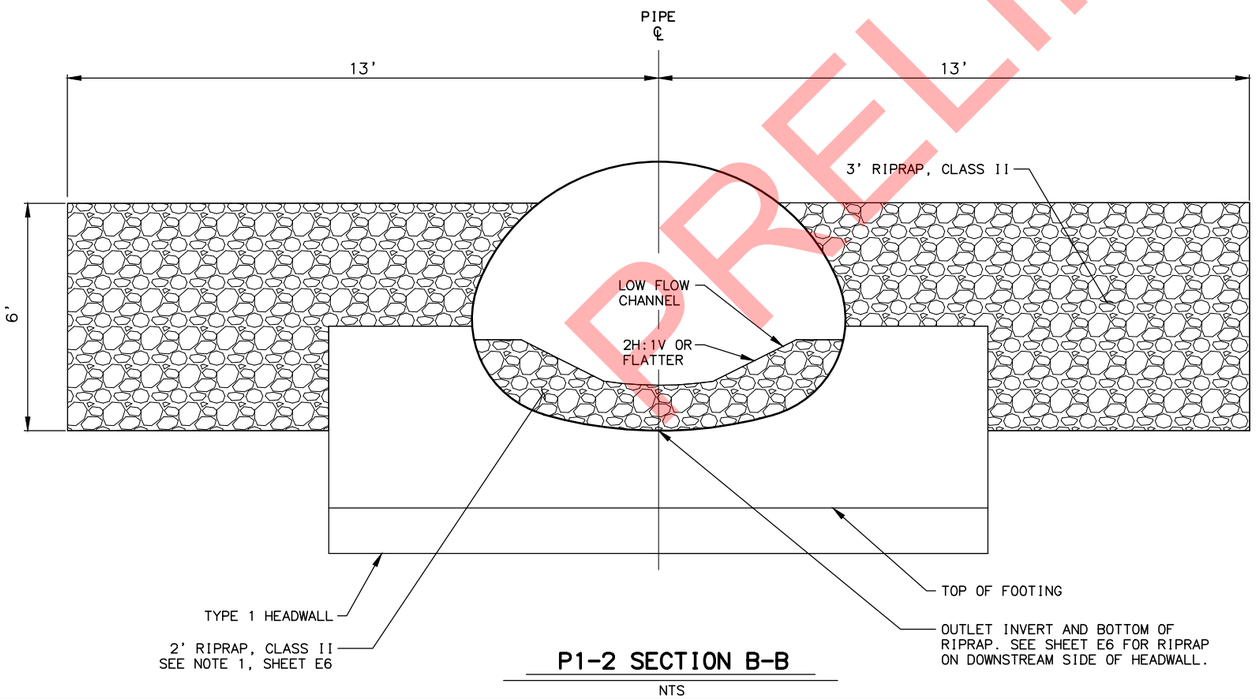
REVISIONS		
NO.	DATE	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0001453/Z534560000	2018	E7	E14



P1-2 SECTION A-A

NTS

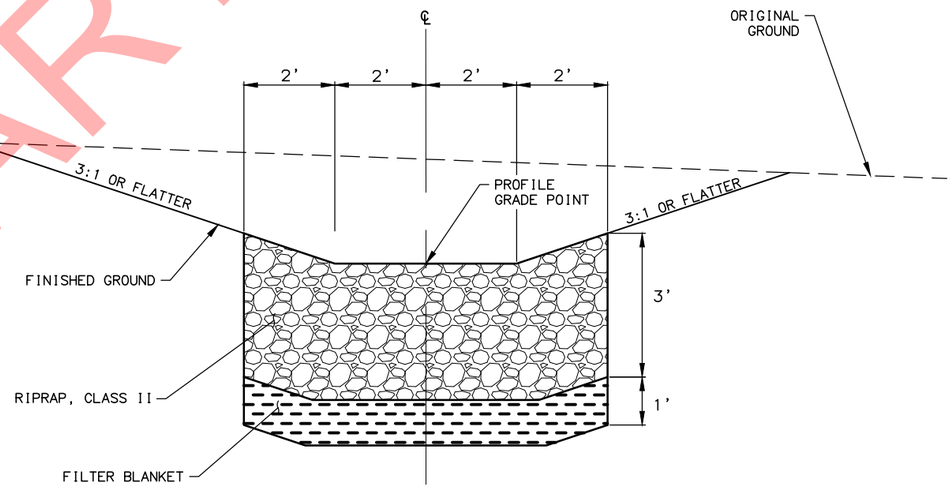


P1-2 SECTION B-B

NTS

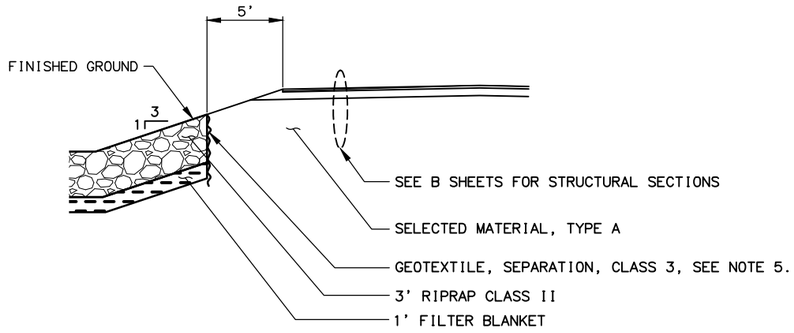
SPECIAL DITCH NOTES:

1. SHAPE A LOW-FLOW CHANNEL IN THE RIPRAP AS DIRECTED BY THE ENGINEER. AFTER PLACEMENT OF RIPRAP, FILL VOIDS IN RIPRAP WITHIN STREAM CHANNEL WITH A UNIFORM MIXTURE OF SAND, GRAVEL, AND COBBLES. BLEND MATERIAL PRIOR TO PLACING IN RIPRAP. MATERIAL USED TO FILL VOIDS IS SUBSIDIARY TO RIPRAP.
2. PLACE SALVAGED VEGETATIVE MAT OR VEGETATIVE MAT ACQUIRED OFFSITE ALONG RECONSTRUCTED STREAM BANK OUTSIDE OF RIPRAP AREAS. PLANT NATIVE WOODY VEGETATION AS DIRECTED BY THE ENGINEER.
3. FOR DISTURBED AREAS OUTSIDE OF THE DITCH LINE, PLACE NATIVE SOIL OR TOPSOIL AND SEED WITH NATURAL SEED MIX.
4. RIPRAP THICKNESS IS MEASURED PERPENDICULAR TO FINISHED GROUND.
5. GEOTEXTILE SEPARATION, CLASS 3 IS SUBSIDIARY TO RIPRAP.



SPECIAL DITCH DETAIL

NTS



RIPRAP TIE IN

NTS

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STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY

CULVERT SECTION DETAIL STA 13+66

DESIGNED BY: JD
CHECKED BY: BGL
DRAFTED BY: BAM

XREFS

SCALE: N/A

LAYOUT: E7

DATE TIME: 4/14/2017 11:11 AM

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REVISIONS		
NO.	DATE	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
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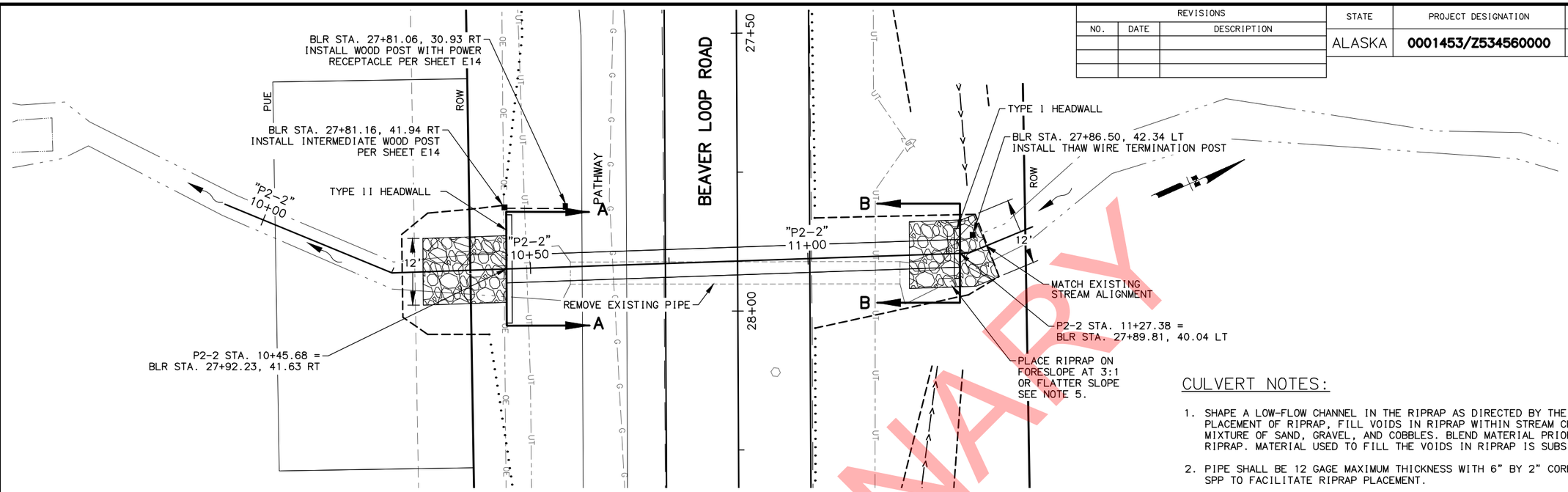
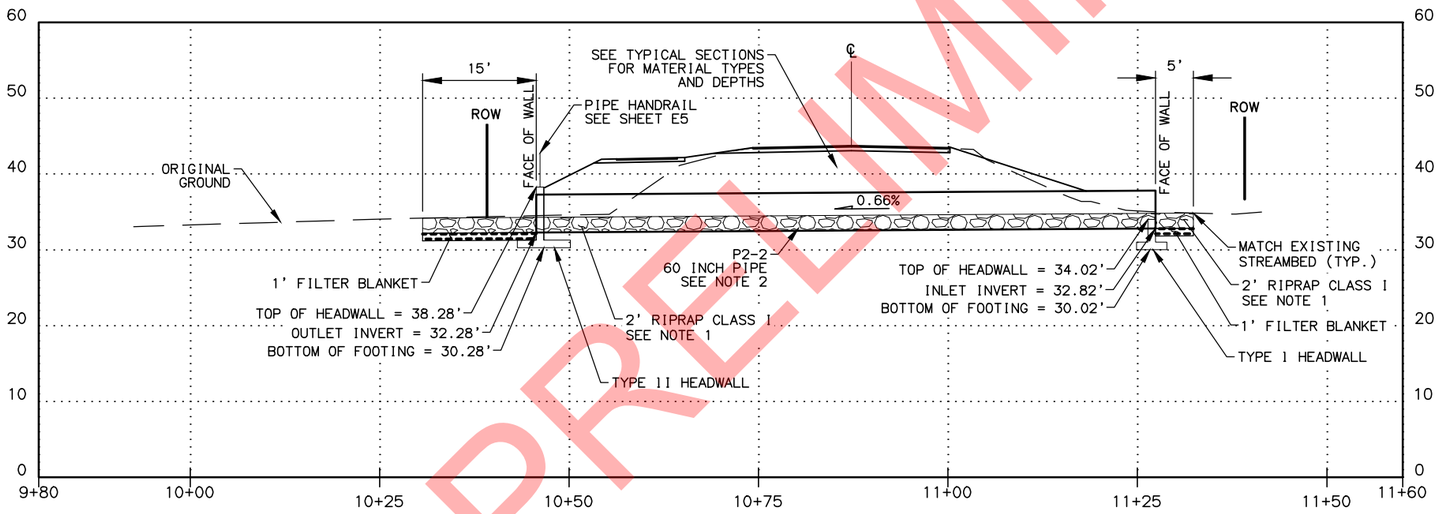


P2-2 PLAN STA: BLR 27+93



P2-2 PROFILE STA: BLR 27+93

CULVERT NOTES:

1. SHAPE A LOW-FLOW CHANNEL IN THE RIPRAP AS DIRECTED BY THE ENGINEER. AFTER PLACEMENT OF RIPRAP, FILL VOIDS IN RIPRAP WITHIN STREAM CHANNEL WITH A UNIFORM MIXTURE OF SAND, GRAVEL, AND COBBLES. BLEND MATERIAL PRIOR TO PLACING IN RIPRAP. MATERIAL USED TO FILL THE VOIDS IN RIPRAP IS SUBSIDIARY TO RIPRAP.
2. PIPE SHALL BE 12 GAGE MAXIMUM THICKNESS WITH 6" BY 2" CORRUGATIONS. PIPE MAY BE SPP TO FACILITATE RIPRAP PLACEMENT.
3. SEE SHEET E10 FOR SECTIONS AND DETAILS.
4. SEE STD. DWG. D-30.11 AND D-31.01 FOR HEADWALL DETAILS.
5. RIPRAP IS MEASURED PERPENDICULAR TO THE FINISHED GROUND SURFACE.

HYDRAULIC AND HYDROLOGIC SUMMARY - CC STATION 27+93

DRAINAGE AREA 0.31 SQUARE MILES

EXCEEDANCE PROBABILITY	10% (DESIGN EVENT)	2%	1%	REGULATORY FLOOD
RETURN PERIOD	10 YEAR (Q_{10})	50 YEAR (Q_{50})	100 YEAR (Q_{100})	N/A
DESIGN DISCHARGE	22.6 CFS	41.0 CFS	50.3 CFS	N/A
DESIGN HIGH WATER ELEVATION	36.5 FT	37.4 FT	37.9 FT	N/A

ANTICIPATED ADDITIONAL BACKWATER AT Q_{100} = 0.0 FEET

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STATE OF ALASKA
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BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY

FISH PASSAGE CULVERT DETAIL STA 27+93

DESIGNED BY JD
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XREFS
SCALE
LAYOUT E8
DATE TIME 4/14/2017 11:11 AM
DRAWING LOCATION Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\E6-EX_Culvert Details.dwg

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STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
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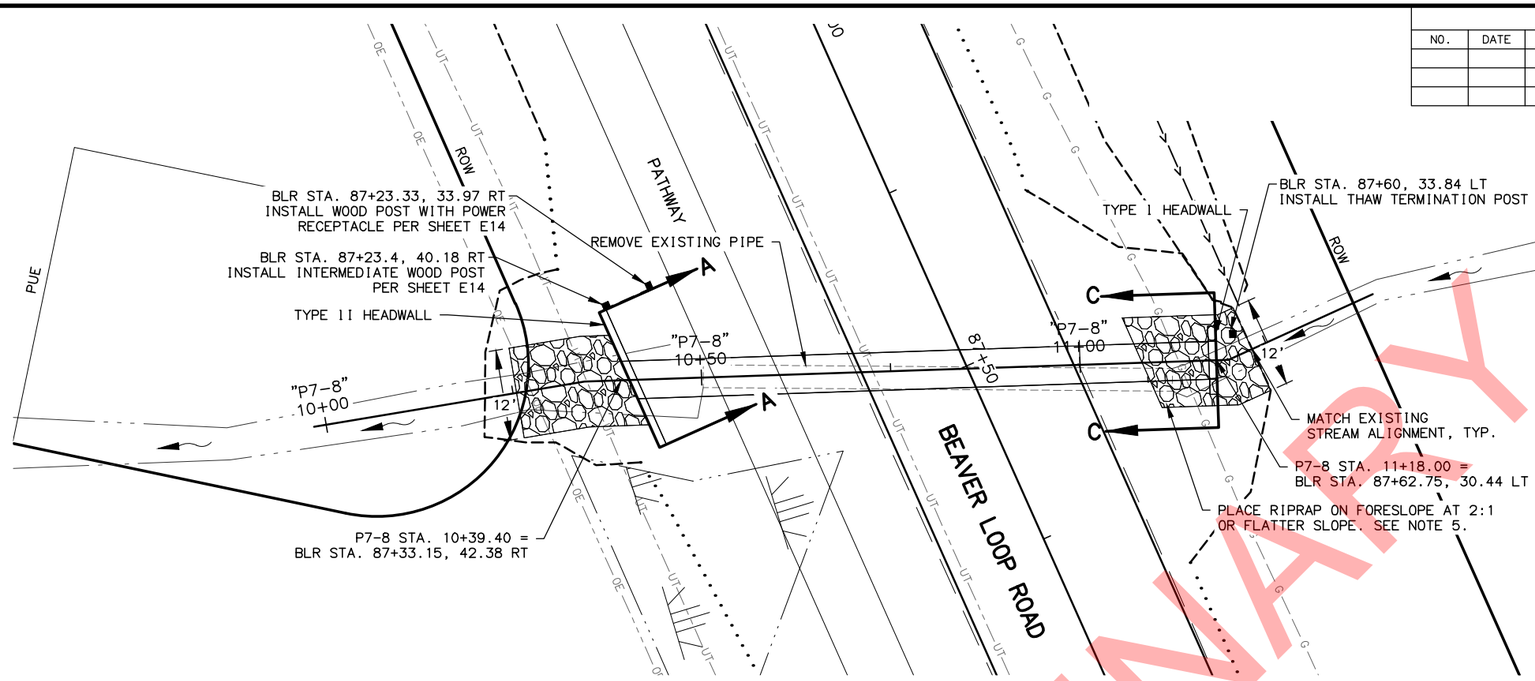
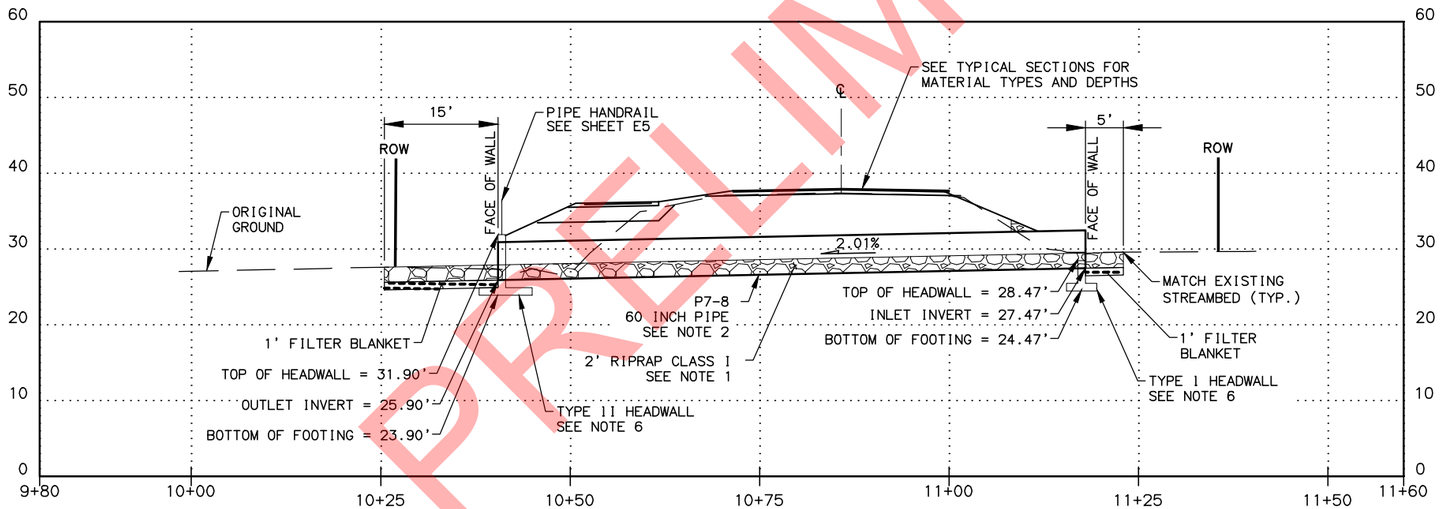


P7-8 PLAN STA: BLR 87+52



P7-8 PROFILE STA: BLR 87+52

CULVERT NOTES:

1. SHAPE A LOW-FLOW CHANNEL IN THE RIPRAP AS DIRECTED BY THE ENGINEER. AFTER PLACEMENT OF RIPRAP, FILL VOIDS IN RIPRAP WITHIN STREAM CHANNEL WITH A UNIFORM MIXTURE OF SAND, GRAVEL, AND COBBLES. BLEND MATERIAL PRIOR TO PLACING IN RIPRAP. MATERIAL USED TO FILL THE VOIDS IN RIPRAP IS SUBSIDIARY TO RIPRAP.
2. PIPE SHALL BE MAXIMUM 12 GAGE THICKNESS WITH 6" BY 2" CORRUGATIONS. PIPE MAY BE SPP TO FACILITATE RIPRAP PLACEMENT.
3. SEE SHEET E10 FOR SECTIONS AND DETAILS.
4. SEE STD. DWG. D-30.11 AND D-31.01 FOR HEADWALL DETAILS.
5. RIPRAP THICKNESS IS MEASURED PERPENDICULAR TO FINISHED GROUND.
6. ALIGN INLET HEADWALL PERPENDICULAR TO CULVERT. ALIGN OUTLET HEADWALL PARALLEL TO ROADWAY CENTERLINE.

HYDRAULIC AND HYDROLOGIC SUMMARY - CC STATION 87+52				
DRAINAGE AREA 0.77 SQUARE MILES				
EXCEEDANCE PROBABILITY	10% (DESIGN EVENT)	2%	1%	REGULATORY FLOOD
RETURN PERIOD	10 YEAR (Q_{10})	50 YEAR (Q_{50})	100 YEAR (Q_{100})	N/A
DESIGN DISCHARGE	37.6 CFS	66.7 CFS	81.3 CFS	N/A
DESIGN HIGH WATER ELEVATION	31.9 FT	33.0 FT	33.6 FT	N/A
ANTICIPATED ADDITIONAL BACKWATER AT Q_{100} = 0.0 FEET				

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STATE OF ALASKA
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AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY

FISH PASSAGE CULVERT DETAIL STA 87+52

DESIGNED BY JD
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XREFS
SCALE N/A
LAYOUT E9
DATE TIME 4/14/2017 11:11 AM
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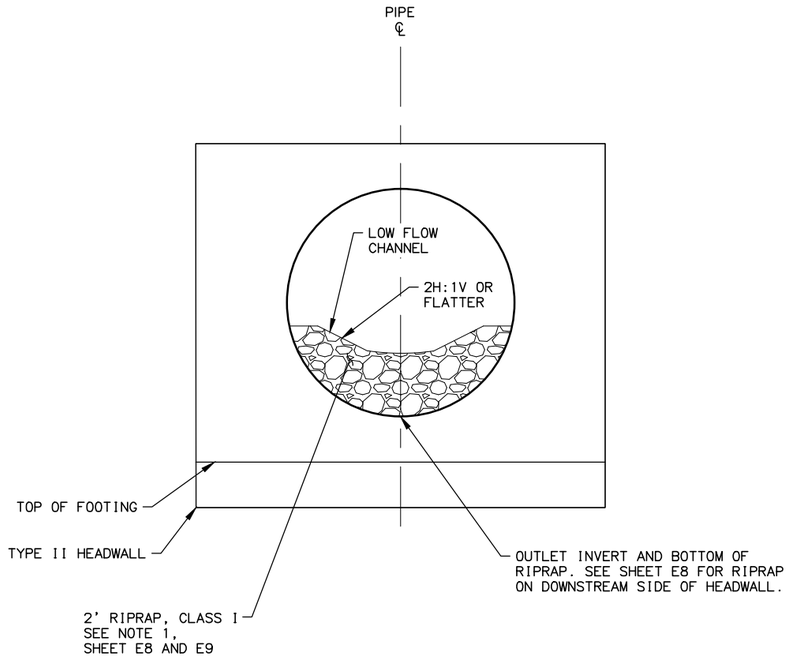
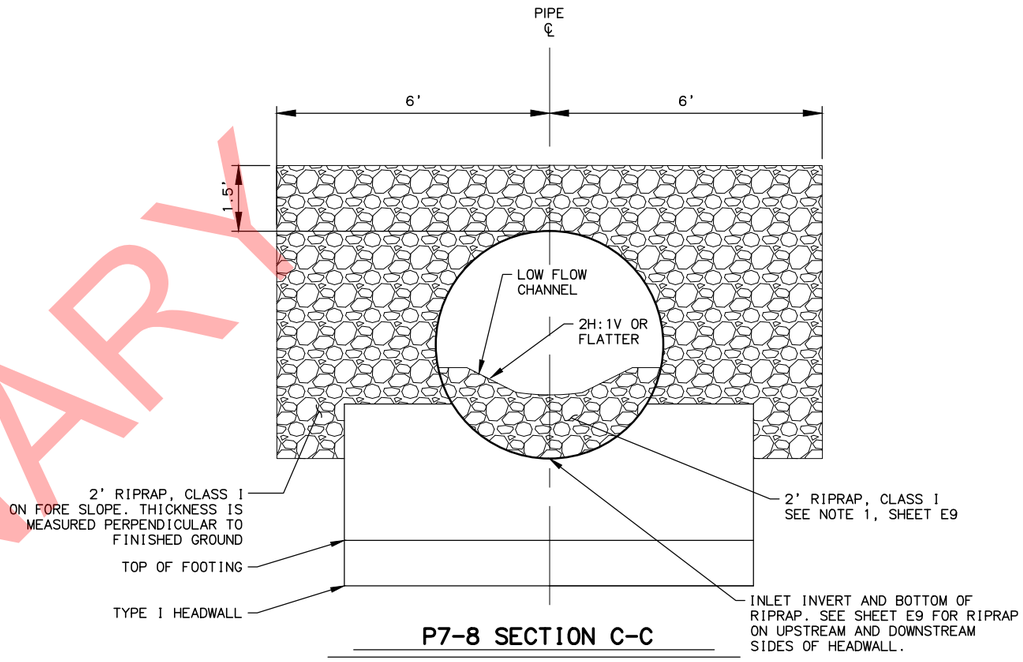
NO.	DATE	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0001453/Z534560000	2018	E10	E14

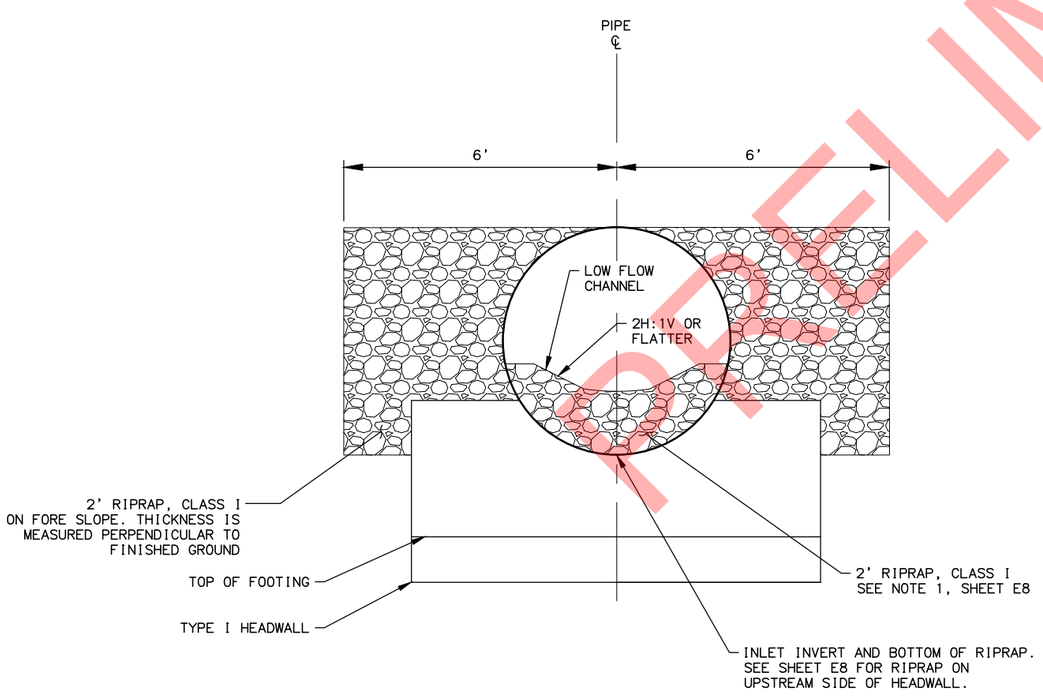


P2-2 & P7-8 SECTION A-A

NTS



P7-8 SECTION C-C



P2-2 SECTION B-B

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STATE OF ALASKA
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BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY

CULVERT SECTION DETAIL STA 27+93 AND STA 87+52

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XREFS

SCALE N/A

LAYOUT E10

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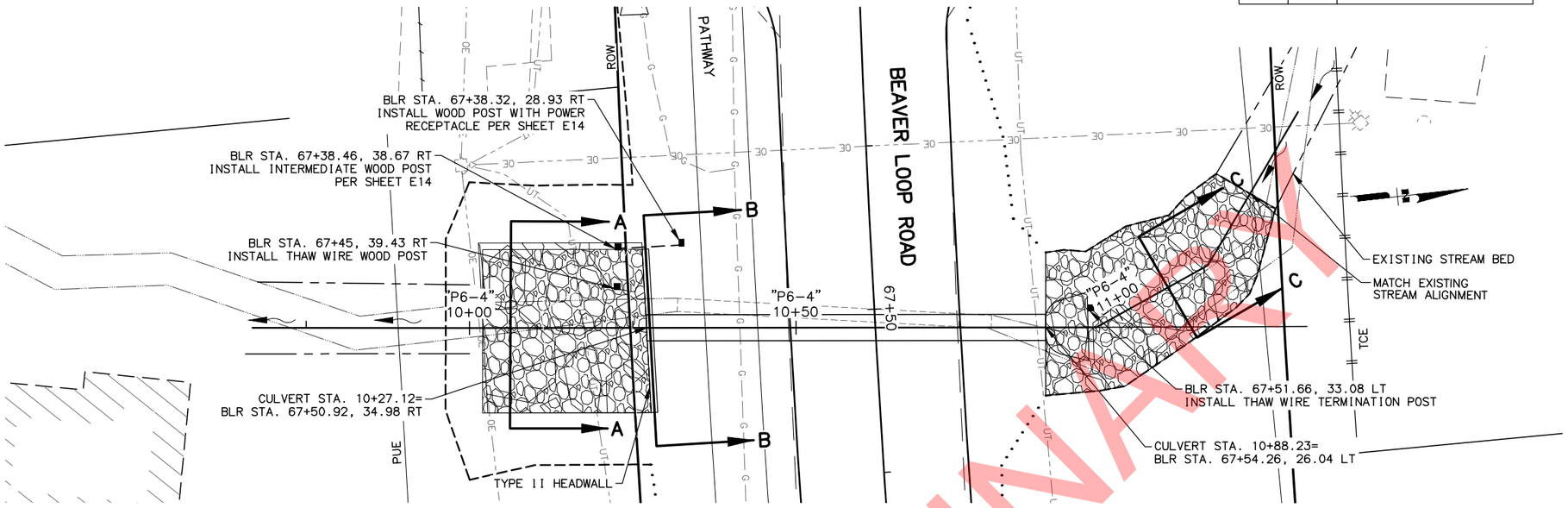
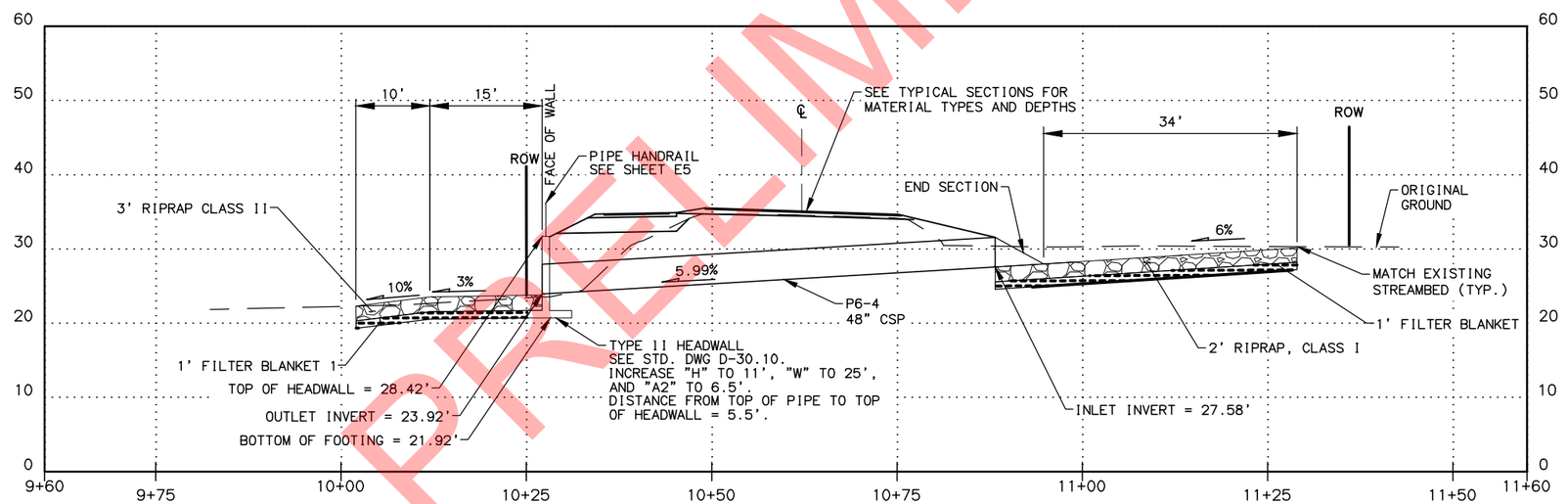
ALASKA	0001453/Z534560000	2018	E11	E14



P6-4 PLAN STA: BLR 67+50



P6-4 PROFILE STA: BLR 67+50

CULVERT NOTES:

1. SEE SHEET E12 FOR SECTIONS AND DETAILS.
2. SEE STD. DWG. D-30.11 AND D-31.01 FOR HEADWALL DETAILS.
3. PIPE SHALL BE MAXIMUM 12 GAGE.

HYDRAULIC AND HYDROLOGIC SUMMARY - CC STATION 87+52				
DRAINAGE AREA 0.12 SQUARE MILES				
EXCEEDANCE PROBABILITY	10% (DESIGN EVENT)	2%	1%	REGULATORY FLOOD
RETURN PERIOD	10 YEAR (Q_{10})	50 YEAR (Q_{50})	100 YEAR (Q_{100})	N/A
DESIGN DISCHARGE	18.4 CFS	25.2 CFS	28.1 CFS	N/A
DESIGN HIGH WATER ELEVATION	29.4 FT	29.7 FT	29.8 FT	N/A
ANTICIPATED ADDITIONAL BACKWATER AT Q_{100} = 0.0 FEET				

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CERT. OF AUTH. NO. 1130

AND

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STATE OF ALASKA
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BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY

CULVERT DETAILS STA 67+50

DESIGNED BY JD
CHECKED BY BGL
DRAFTED BY BAM

XREFS

SCALE N/A

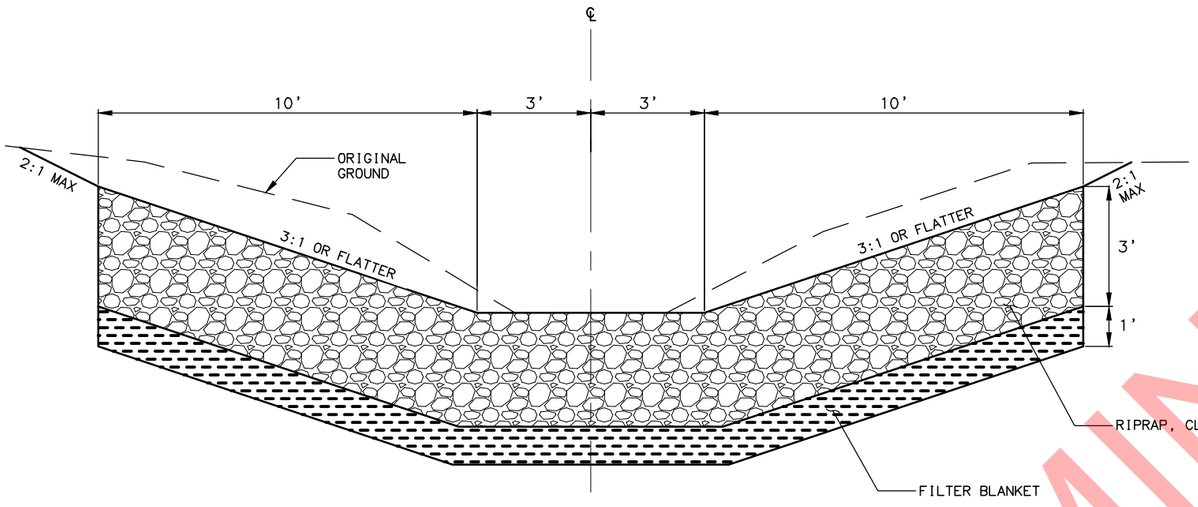
LAYOUT E11

DATE TIME 4/14/2017 11:11 AM

DRAWING LOCATION Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\E6-EX_Culvert Details.dwg

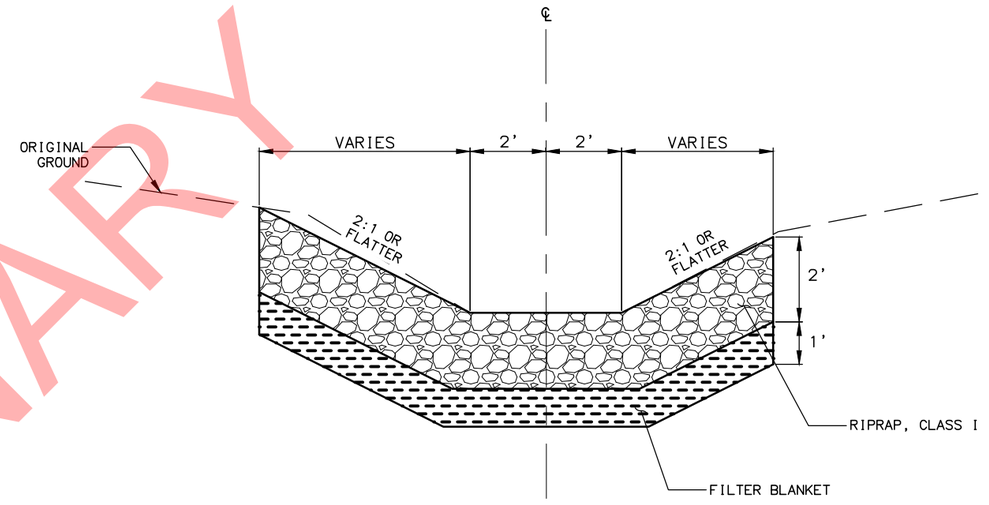
REVISIONS		
NO.	DATE	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0001453/Z534560000	2018	E12	E14



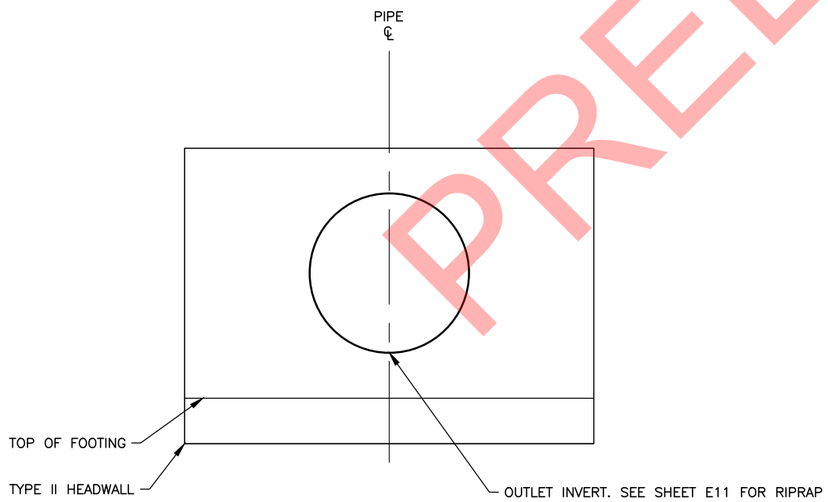
P6-4 SECTION A-A

NTS



P6-4 SECTION C-C

NTS



P6-4 SECTION B-B

NTS

PLANS DEVELOPED BY:
AWR ENGINEERING, LLC
Physical: 1351 W. 70th Ave.
Mailing: PO BOX 190684
Anchorage, Alaska 99519
(907) 441-2973
CERT. OF AUTH. NO. 1130

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY

CULVERT DETAILS STA 67+50

DESIGNED BY JD
CHECKED BY BGL
DRAFTED BY BAM

XREFS

SCALE N/A

LAYOUT E12

DATE TIME 4/14/2017 11:11 AM

DRAWING LOCATION Z:\PROJECTS\60332_Beaver Lp Rd\DWGS\c\Sheets\E6-EX_Culvert Details.dwg

REVISIONS		
NO.	DATE	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0001453/Z534560000	2018	E13	E14

DESIGNED BY BCL
CHECKED BY JP
DRAFTED BY SH/BB

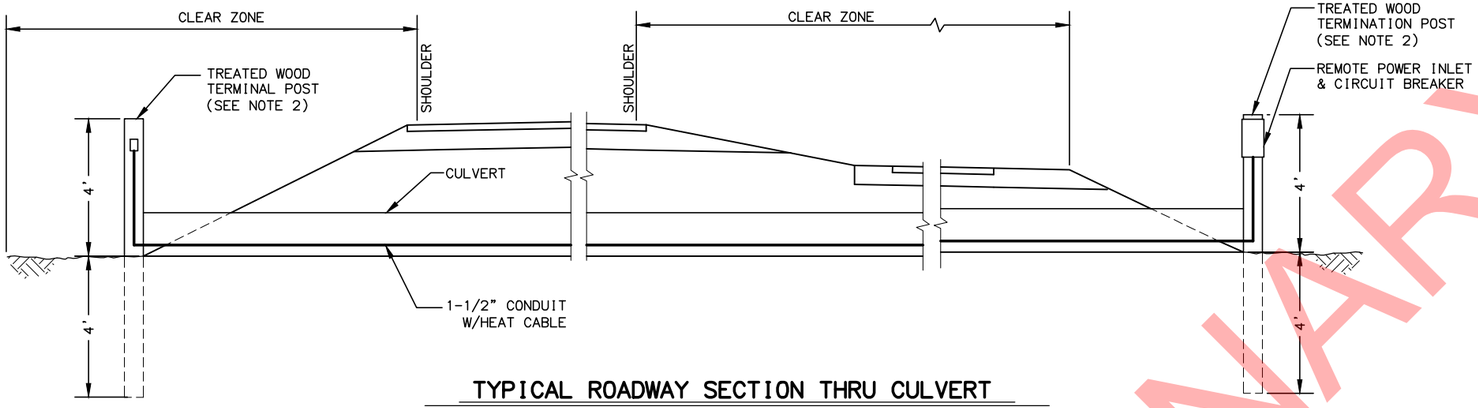
XREFS

SCALE N/A

LAYOUT E13

DATE TIME 3/29/2017 2:07 PM

DRAWING LOCATION Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\E13_THAW WIRE.dwg

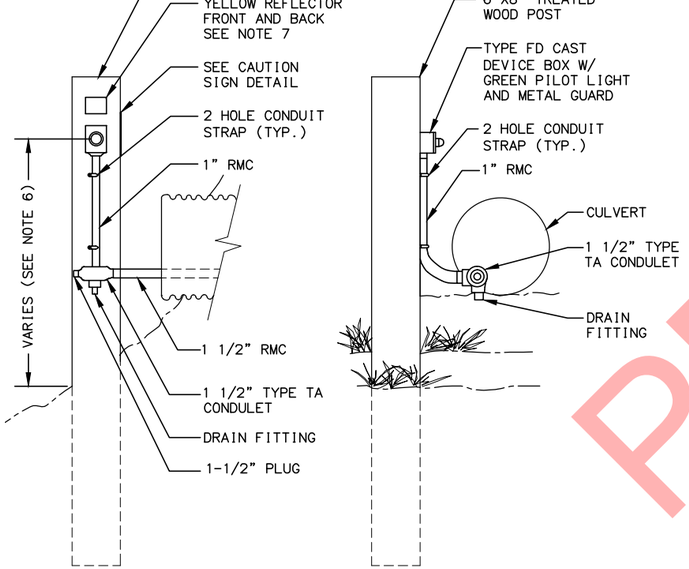


TYPICAL ROADWAY SECTION THRU CULVERT

(LOW FILL)

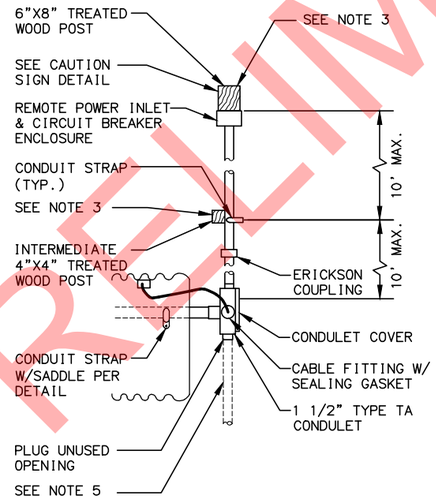
NOTES:

1. THAW WIRE INSTALLATION SHALL CONFORM TO STANDARD SPEC. SECTION 616 AND SPECIAL PROVISIONS.
2. TERMINATION POSTS WITHIN CLEAR ZONE SHALL ALSO COMPLY WITH BREAKAWAY AND SPACING REQUIREMENTS FOR WOOD POSTS PER DRAWING S-30.03.
3. PROVIDE TERMINATION POSTS AT LOCATIONS AS INDICATED ON PLANS, OUT OF NORMAL DRAINAGE PATH AND NEAR AS POSSIBLE TO CULVERT. INTERMEDIATE PROVIDE 4" X 4" CONDUIT SUPPORT POSTS ONLY WHERE THE TERMINATION POST CANNOT BE LOCATED WITHIN 10 FEET OF CULVERT, OR AS INDICATED BY PLAN.
4. IN CULVERTS WITH RIP-RAP ROCK, INSTALL THAW WIRES ABOVE TOP OF RIP-RAP.
5. WHERE PLANS INDICATE DUAL THAW WIRES, EXTEND POWER AND #6 GROUND WIRE IN 1-INCH CONDUIT FROM UNUSED HUB IN 1-1/2" CONDULET TO A SECOND 1-1/2" CONDULET WITH AN IDENTICAL THAW WIRE, SPLICE AND GROUNDING ASSEMBLY ON OPPOSITE SIDE OF CULVERT. ROUTE THE 1-INCH CONDUIT EXTENSION ACROSS CULVERT AT MAXIMUM HEIGHT AND SECURE INSIDE CULVERT WITH CONDUIT STRAP AND SADDLE.
6. TYPE FD CAST DEVICE BOX WITH GUARDED GREEN LED PILOT LIGHT ON TERMINATION POST SHALL BE LOCATED AT LEAST 6 INCHES ABOVE HIGH WATER.
7. REFLECTORS SHALL HAVE A MINIMUM AREA OF 4.5 SQ. INCH. USE YELLOW ACRYLIC PRISMATIC TYPE SHEETING MEETING AASHTO M290 OR RETROREFLECTICE SHEETING MEETING ASTM D4956, TYPE III, IV, OR V.

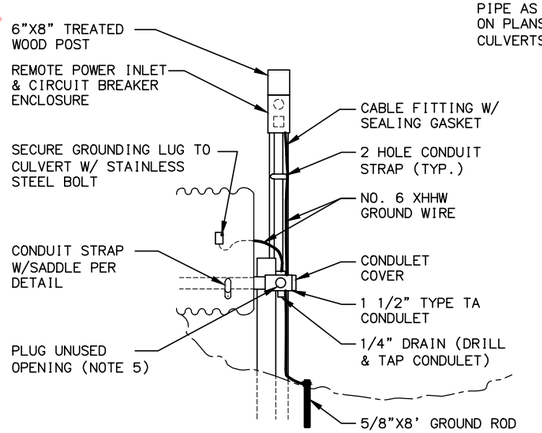


FRONT VIEW PROFILE VIEW

CULVERT THAW WIRE EXIT DETAIL

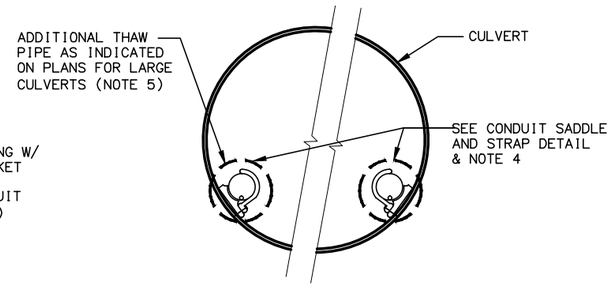


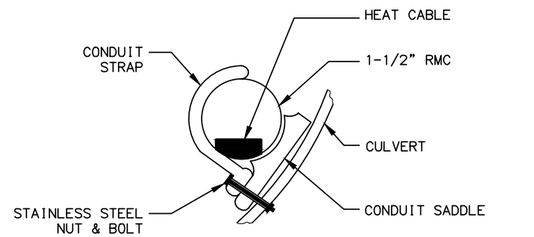
PLAN VIEW



ELEVATION

REMOTE POWER TERMINATION & CULVERT THAW WIRE ENTRY DETAIL





CONDUIT SADDLE & STRAP DETAIL

PLANS DEVELOPED BY:
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(907) 346-2373
CERT. OF AUTH. NO. AECL 1102

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY

CULVERT THAW WIRE DETAIL (1 OF 2)

REVISIONS		
NO.	DATE	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0001453/Z534560000	2018	E14	E14

DESIGNED BY BCL
CHECKED BY JP
DRAFTED BY SH/BB

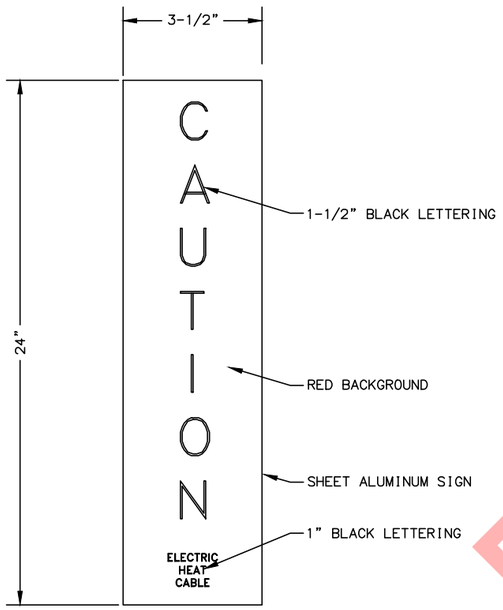
XREFS

SCALE N/A

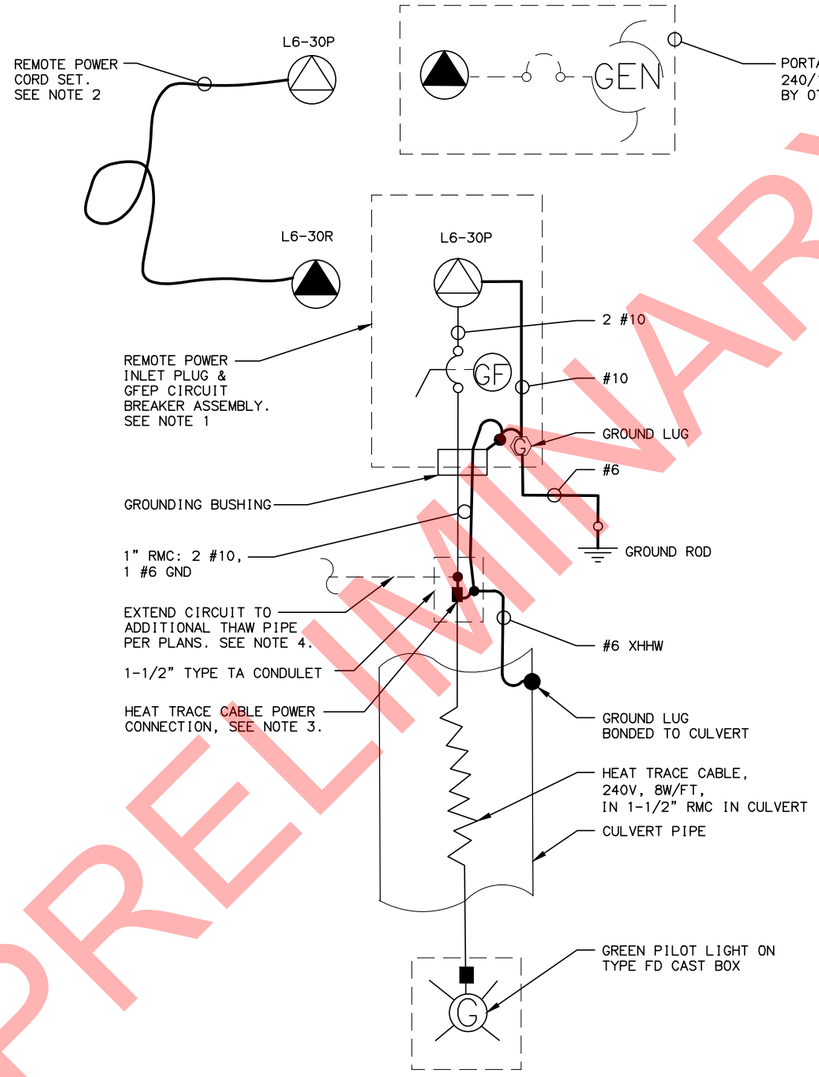
LAYOUT E14

DATE TIME 3/29/2017 2:07 PM

DRAWING LOCATION Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\E13_THAW WIRE.dwg



CAUTION SIGN DETAIL



SINGLE-LINE/GROUNDING DIAGRAM

NOTES:

1. PROVIDE A LISTED ASSEMBLY FOR THE FLANGED INLET PLUG AND GROUND FAULT EQUIPMENT PROTECTION (GFEP) CIRCUIT BREAKER MOUNTED ON DEAD FRONT PANEL WITH OUTER HINGED DOOR, IN A NEMA TYPE 3R ENCLOSURE WITH PAD-LOCK HASP. CIRCUIT BREAKER SHALL INCLUDE LOCK-OPEN (OFF) DEVICE ACCESSORY. SIZE CIRCUIT BREAKER FOR TOTAL LENGTH OF 240V HEAT TRACE CABLE AT +20F STARTUP TEMPERATURE AS FOLLOWS:
   - 15A/2P FOR 175 FT. CABLE MAX LENGTH.
   - 20A/2P FOR 240 FT. CABLE MAX LENGTH.
   - 30A/2P FOR 320 FT. CABLE MAX LENGTH.
2. PROVIDE TWO (2) EACH 50 FT. X 10 AWG SOOW, 2-POLE/3-WIRE, NEMA L6-30, 250V ACCESSORY CORDSETS WITH L6-30R TO L14-30P ADAPTERS FOR PROJECT.
   CORDSET: MOLEX/WOODHEAD #130143-0312 OR EQUAL;
   ADAPTER: STAY-ONLINE #PFL-1430-10L-63012-SOOW-NBR-NOT-UL, OR EQUAL.
3. POWER TERMINATION KIT SHALL BE THE HEAT TRACE CABLE MANUFACTURER'S STANDARD KIT WITH END SEAL SUITABLE FOR INSTALLATION IN CONDULET FITTING, SUCH AS RAYCHEM # FTC-XC FOR USE WITH TYPE XL CABLE, OR EQUAL.
4. WHERE PLANS INDICATE DUAL THAW WIRES, EXTEND POWER AND #6 GROUND WIRE IN 1-INCH CONDUIT FROM UNUSED HUB IN 1-1/2" CONDULET TO A SECOND 1-1/2" CONDULET WITH AN IDENTICAL THAW WIRE, SPLICE AND GROUNDING ASSEMBLY ON OPPOSITE SIDE OF CULVERT. ROUTE THE 1-INCH CONDUIT EXTENSION ACROSS CULVERT AT MAXIMUM HEIGHT AND SECURE INSIDE CULVERT WITH CONDUIT STRAP AND SADDLE.

DETAIL NOTES:

1. MOUNT SIGN TO SIDE OF TREATED POST FACING HIGHWAY AT CULVERT ENTRY AND EXIT.
2. SIGN SHALL CONFORM TO SSHC SECTION 615-STANDARD SIGN.

PLANS DEVELOPED BY:
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CERT. OF AUTH. NO. AECL 1102

STATE OF ALASKA - 49 - DRAFT FINAL 4/14/2017 - REGISTERED PROFESSIONAL ENGINEER

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY

CULVERT THAW WIRE DETAIL (2 OF 2)

C1
P.I. STA. 6+94.62
N = 96810.7130
E = 109781.9212
Δ = 66°29'53.2"
T = 98.34'
L = 174.09'
R = 150.00'
S = 3.3%

MATCH EXISTING CROSS SLOPE AT BRIDGE ACCESS ROAD
RUNOUT = 31'
RUNOFF = 74'
% RUNOFF = 60.00%

BEGIN TAPER STA.=7+70, 28.00 LT

P.T. STA. 7+70.37

P.C. STA. 9+33.69

END TAPER STA.=9+95, 13.00 LT

C2
P.I. STA. 11+79.38
N = 96483.8717
E = 110169.9711
Δ = 11°47'33.3"
T = 245.69'
L = 489.64'
R = 2379.00'
S = 4.30%
RUNOUT = 48'
RUNOFF = 103'
% RUNOFF = 60.00%

SEE SHEET E6 FOR CULVERT PLAN AND PROFILE.

P.C. STA. 5+96.28

N63°36'29.47"E

BEGINNING OF PROJECT STA. 5+96

S49°53'37.34"E

S61°41'10.61"E

BEGIN PAVEMENT REMOVAL STA.=10+95

BEGIN DIG-OUT TRANSITION STA.=11+00

END DIG-OUT TRANSITION
BEGIN FULL DEPTH DIG-OUT STA.=11+50

P.T. STA. 14+23.34

MATCH LINE STATION 17+00
SEE SHEET F2

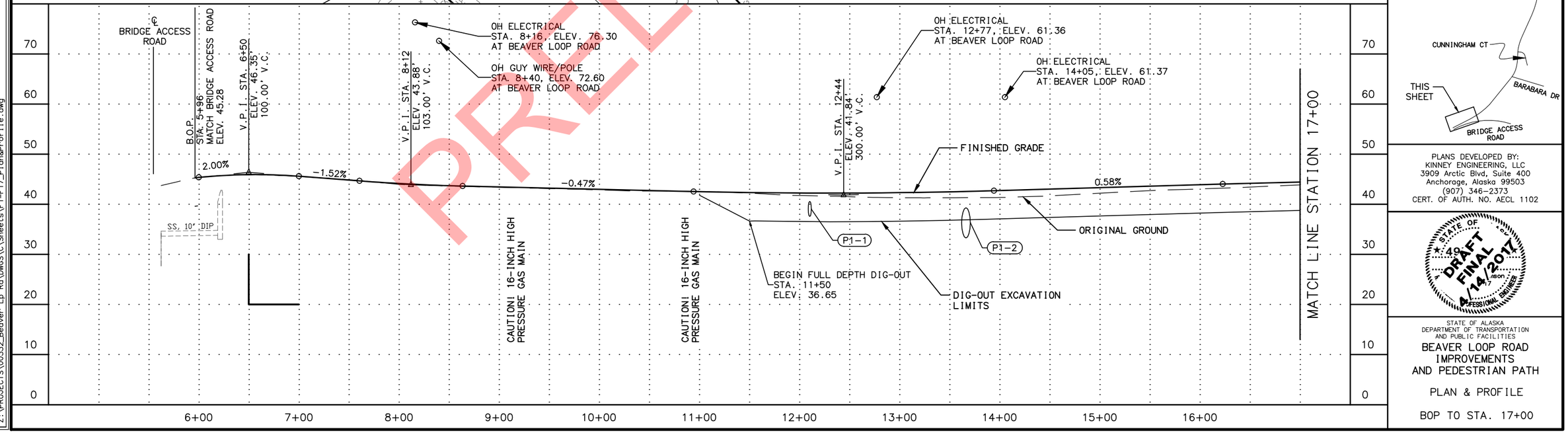
PLAT NO. 2005-122

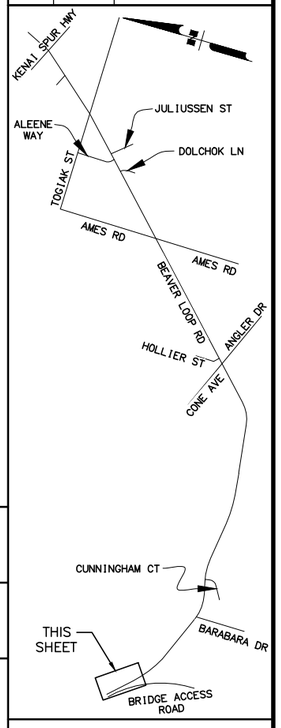
RETURN RADIUS POINT SUMMARY

POINT	STATION	OFFSET	RADIUS	REMARKS
①	6+62.49	53.00 RT	40.00'	
②	6+22.26	68.00 LT	40.00'	

SEE APPROACH SUMMARY/PLAN & PROFILE SHEETS FOR APPROACH RETURN RADII.

0 50 100
SCALE IN FEET





SHEET NO.	TOTAL SHEETS
F1	F25
STATE	YEAR
ALASKA	2018

PROJECT DESIGNATION
0001453/Z534560000

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

NO.	DATE	DESCRIPTION

PLANS DEVELOPED BY:
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CERT. OF AUTH. NO. AECL 1102

STATE OF ALASKA
49
DRAFT FINAL 4/14/2017
PROFESSIONAL ENGINEER

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATH

PLAN & PROFILE

BOP TO STA. 17+00

DESIGNED BY BCL
CHECKED BY JP/AJ
DRAFTED BY SH/BP/BB

XREFS

SCALE N/A

LAYOUT F1

DATE TIME 4/14/2017 1:43 PM

DRAWING LOCATION
Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\F1-F17_Plan&Profile.dwg

DESIGNED BY: BCL
CHECKED BY: JP/AJ
DRAFTED BY: SH/BP/BB

XREFS

SCALE

LAYOUT: F2

DATE TIME: 4/14/2017 1:43 PM

DRAWING LOCATION: Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\F1-F17_Plan&Profile.dwg

DOC# 2004-006834

C3
P.I. STA. 21+33.70
N = 96030.4167
E = 111011.6456
Δ = 4°48'09.6"
T = 298.29'
L = 596.23'
R = 7113.00'
S = 2.00%
RUNOUT = 48'
RUNOFF = 48'
% RUNOFF = 70.00%

MATCH LINE STATION 17+00
SEE SHEET F1

P.C. STA. 18+35.41

ROW

33' SECTION LINE EASEMENT

P.T. STA. 24+31.64

P2-1

END DITCH LINEAR GRADING
STA.=23+83, 34 LT

BEGIN DITCH LINEAR GRADING
STA.=23+62, 29 LT

18+00 20+00 BEAVER LOOP RD. 22+00 24+00

C3

END PAVEMENT REMOVAL
STA.=20+05

END DIG-OUT TRANSITION
STA.=20+00

END FULL DEPTH DIG-OUT
BEGIN DIG-OUT TRANSITION
STA.=19+50

BEGIN PAVEMENT REMOVAL
STA.=23+95

BEGIN DIG-OUT TRANSITION
STA.=24+00

END DIG-OUT TRANSITION
BEGIN FULL DEPTH DIG-OUT
STA.=24+50

DITCH LINEAR GRADING
P.I. STA.=28+58, 29 LT

BEGIN DITCH LINEAR GRADING
STA.=28+10, 36 LT

BEGIN DITCH LINEAR GRADING
STA.=24+45, 30 LT

END DITCH LINEAR GRADING
STA.=27+78, 41 LT

END FULL DEPTH DIG-OUT
BEGIN DIG-OUT TRANSITION
STA.=25+50

END DIG-OUT TRANSITION
STA.=26+00

END PAVEMENT REMOVAL
STA.=26+05

P.C. STA. 28+66.88

26+00 28+00

S66°29'20.25"E

PATHWAY

P2-2

PUE

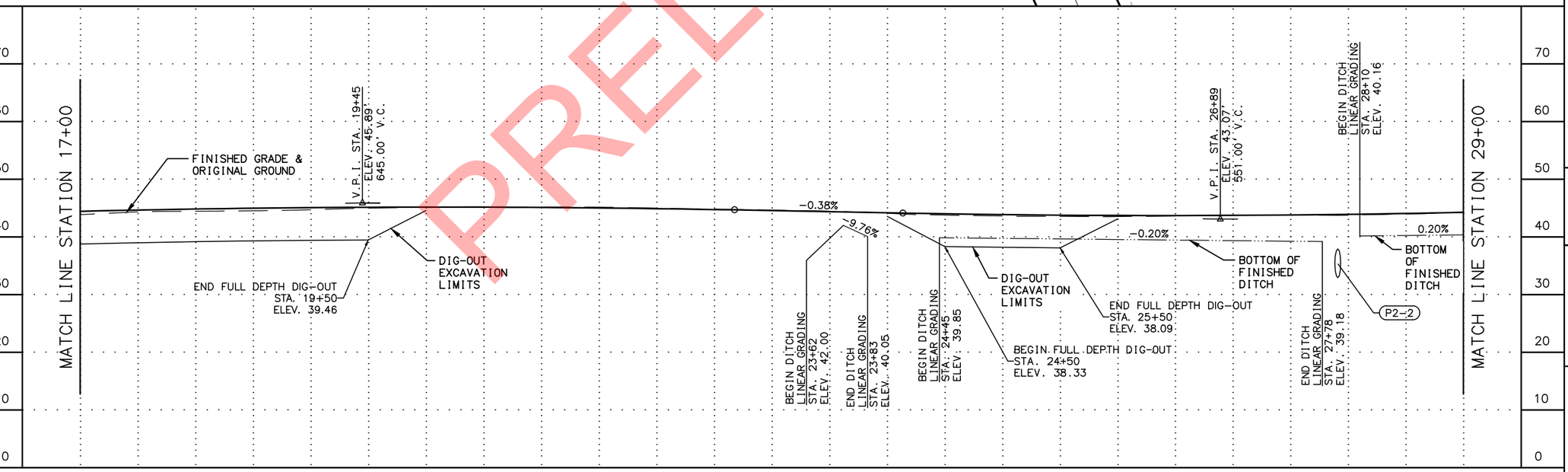
10' UTILITY EASEMENT

LOT 1

MATCH LINE STATION 29+00
SEE SHEET F3

0 50 100
SCALE IN FEET

DOC# 2004-006834



PRELIMINARY

SHEET NO.	TOTAL SHEETS
F2	F25
STATE	YEAR
ALASKA	2018

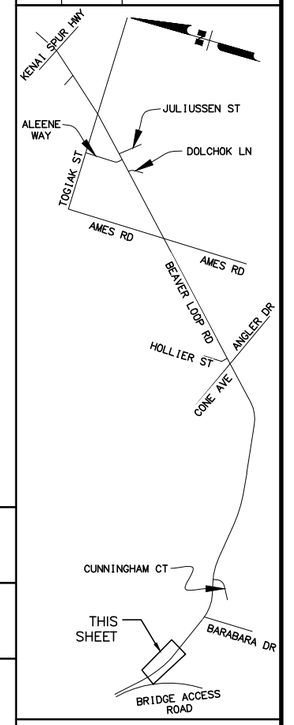
PROJECT DESIGNATION
0001453/Z534560000

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

NO.	DATE	DESCRIPTION



PLANS DEVELOPED BY:
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(907) 346-2373
CERT. OF AUTH. NO. AECL 1102

STATE OF ALASKA
★ 49 ★
DRAFT FINAL
4/14/2017
PROFESSIONAL ENGINEER

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATH

PLAN & PROFILE
STA. 17+00 TO
STA. 29+00

DESIGNED BY: BCL
CHECKED BY: JP/AJ
DRAFTED BY: SH/BP/BB

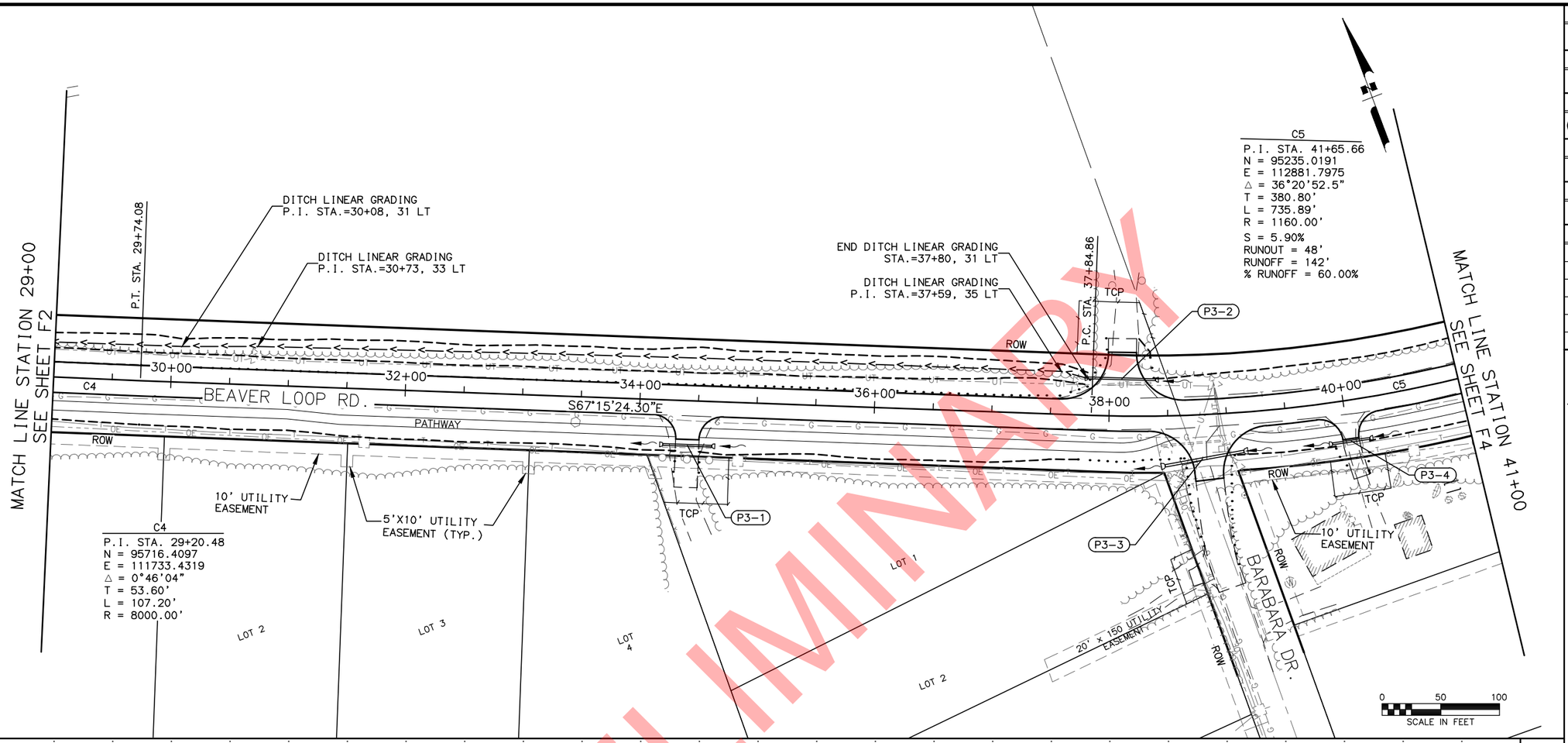
XREFS

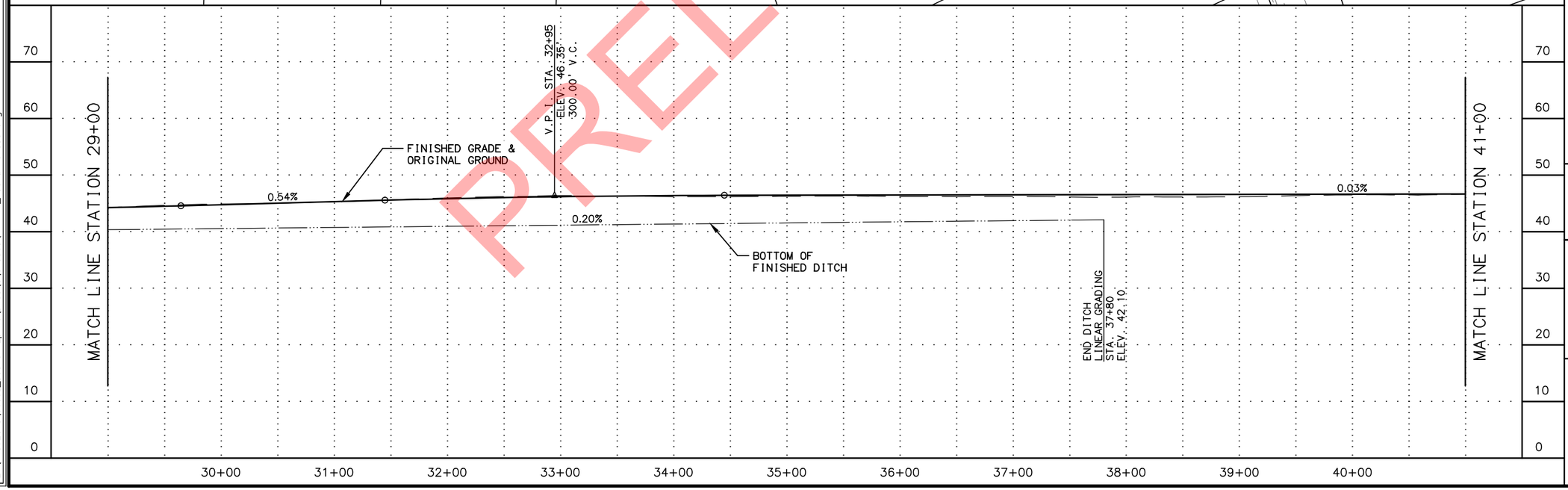
SCALE

LAYOUT: F3

DATE TIME: 4/14/2017 1:43 PM

DRAWING LOCATION: Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\F1-F17_Plan&Profile.dwg





SHEET NO.	TOTAL SHEETS
F3	F25
STATE	YEAR
ALASKA	2018

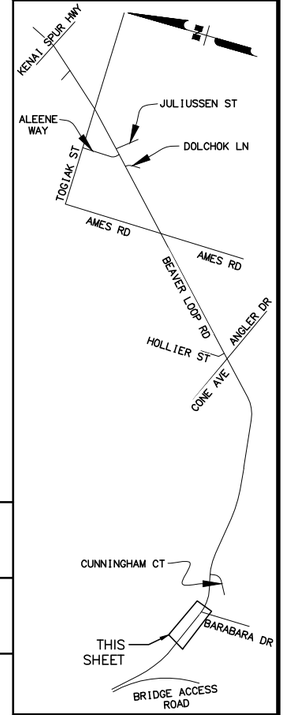
PROJECT DESIGNATION
0001453/Z534560000

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

NO.	DATE	DESCRIPTION



PLANS DEVELOPED BY:
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STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATH

PLAN & PROFILE
STA. 29+00 TO
STA. 41+00

DESIGNED BY: BCL
CHECKED BY: JP/AJ
DRAFTED BY: SH/BP/BB

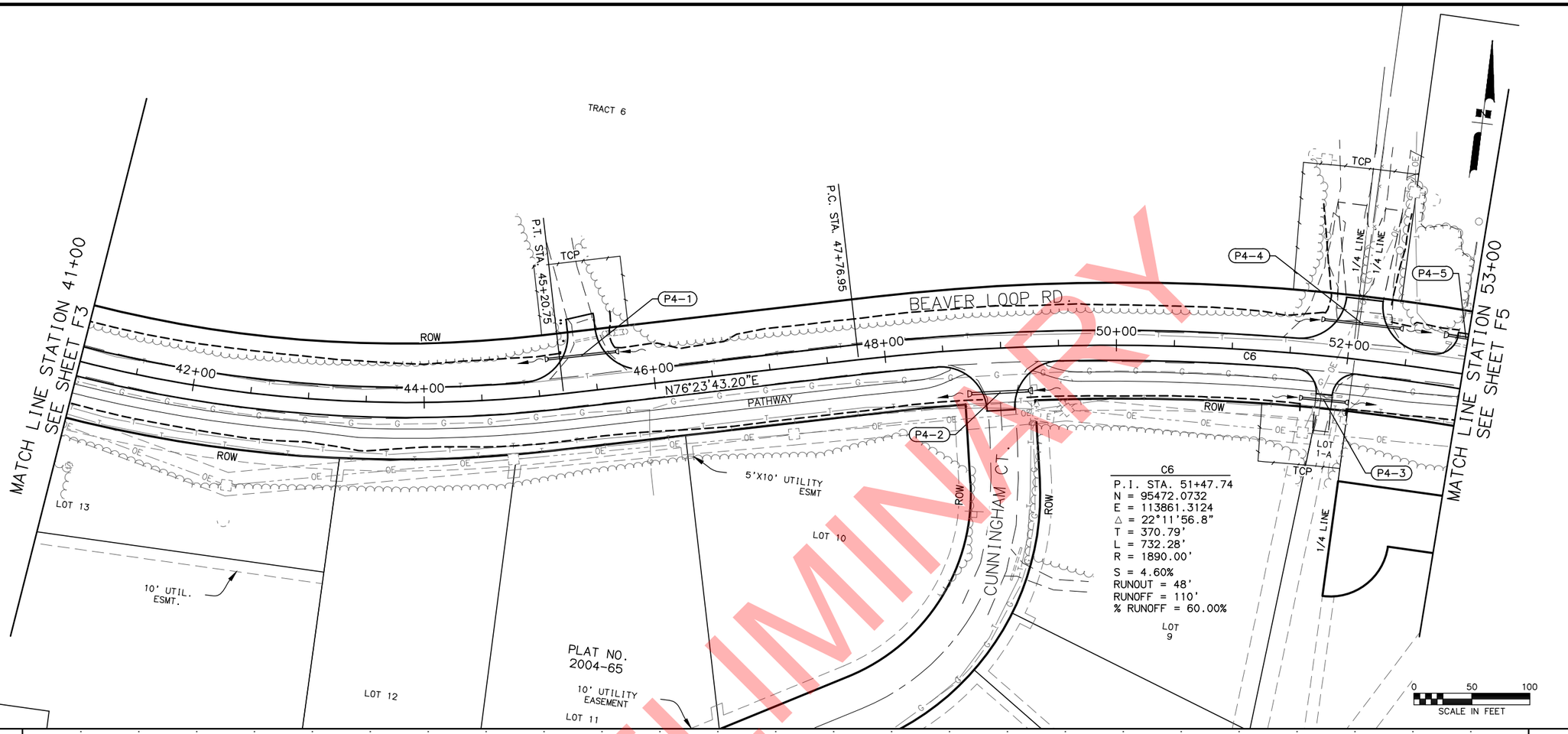
XREFS

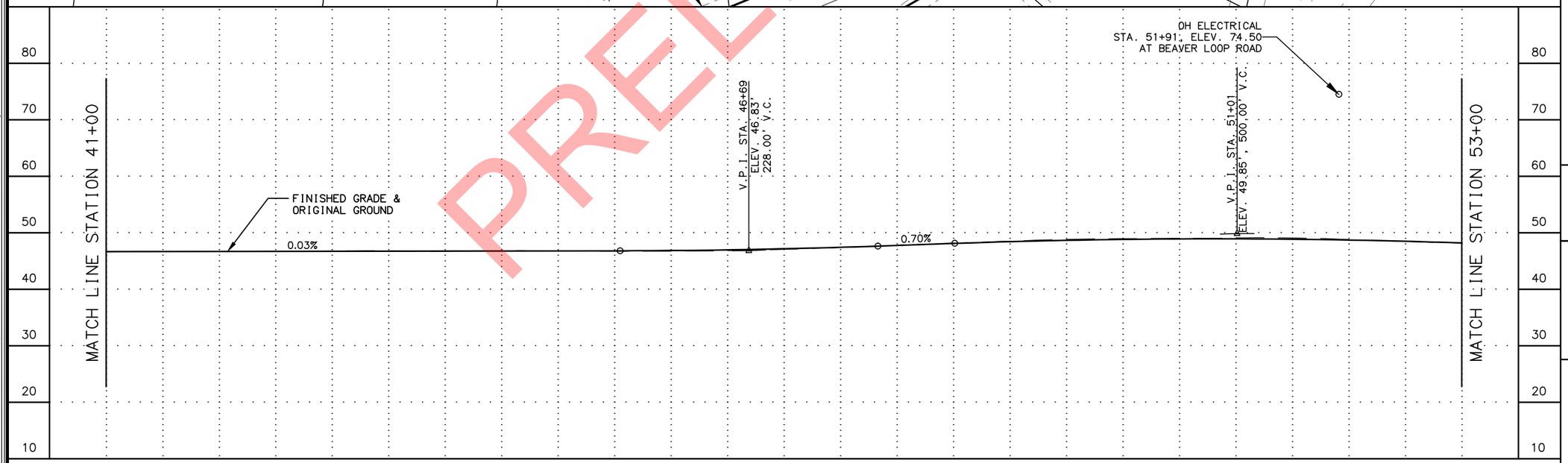
SCALE

LAYOUT: F4

DATE TIME: 4/14/2017 1:43 PM

DRAWING LOCATION: Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\F1-F17_Plan&Profile.dwg





SHEET NO.	TOTAL SHEETS
F4	F25
STATE	YEAR
ALASKA	2018

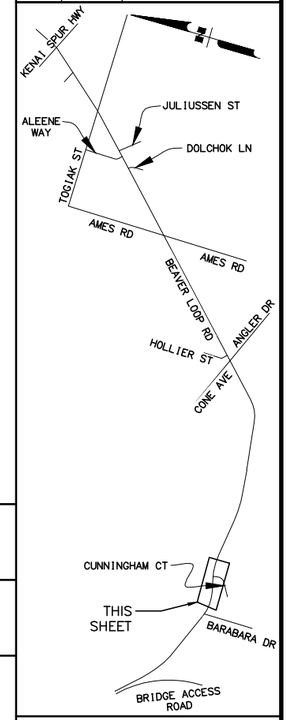
PROJECT DESIGNATION
0001453/Z534560000

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

NO.	DATE	DESCRIPTION



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STATE OF ALASKA
49
DRAFT FINAL
4/14/2017
PROFESSIONAL ENGINEER

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATH

PLAN & PROFILE
STA. 41+00 TO
STA. 53+00

DESIGNED BY: BCL
CHECKED BY: JP/AJ
DRAFTED BY: SH/BP/BB

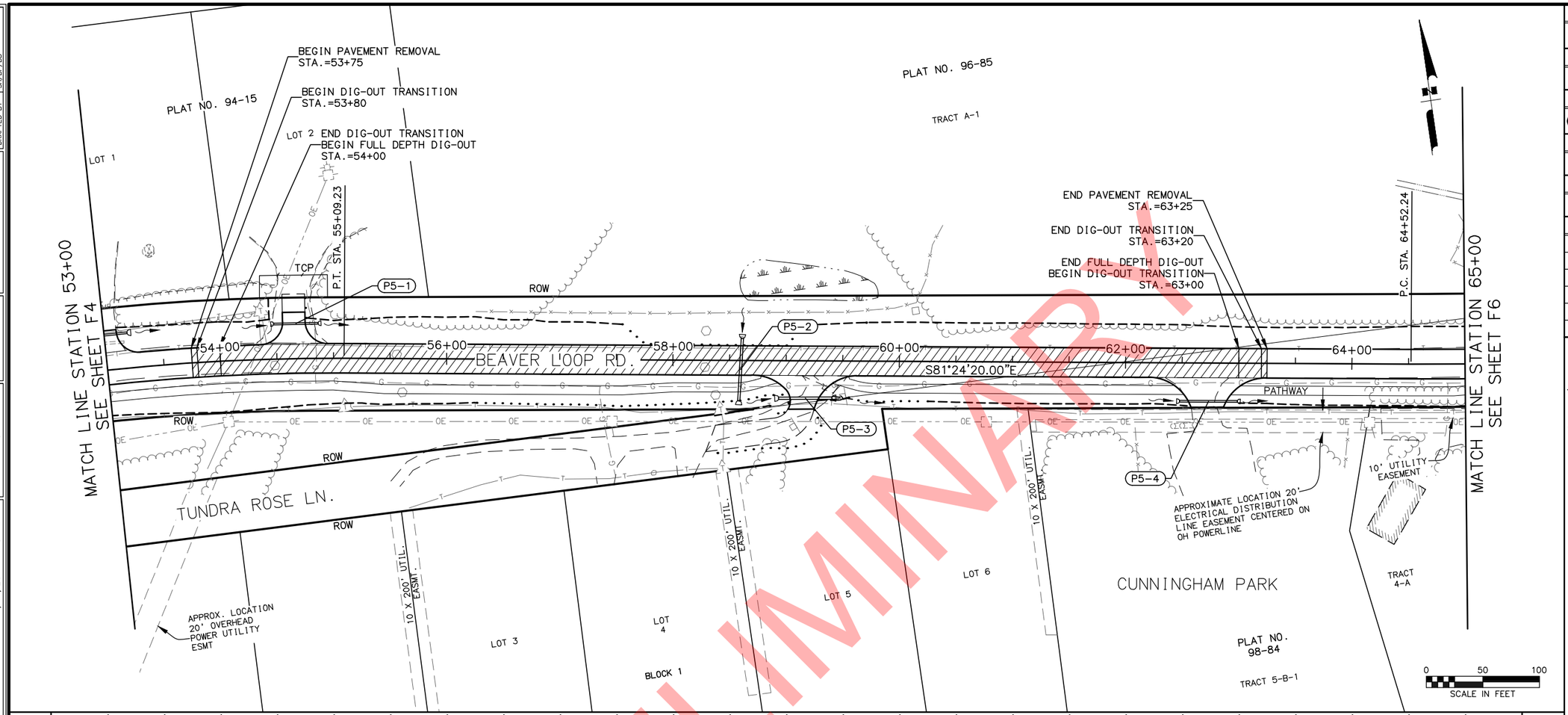
XREFS

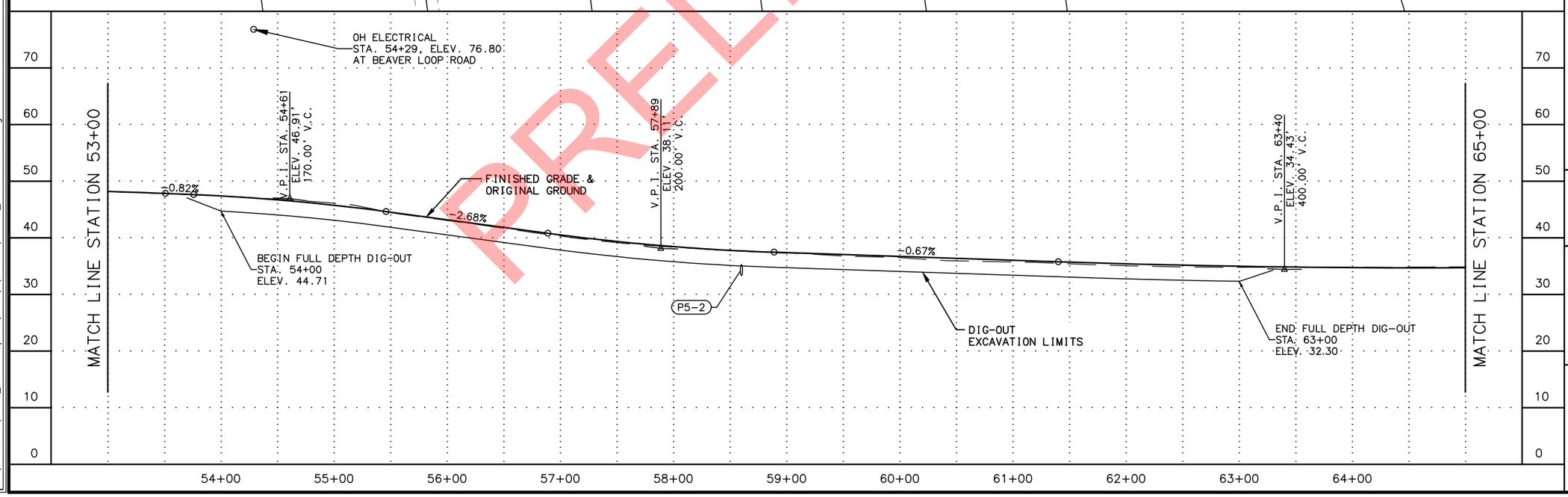
SCALE

LAYOUT: F5

DATE TIME: 4/14/2017 1:43 PM

DRAWING LOCATION: Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\F1-F17_Plan&Profile.dwg





SHEET NO.	TOTAL SHEETS
F5	F25
STATE	YEAR
ALASKA	2018

PROJECT DESIGNATION
0001453/Z534560000

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

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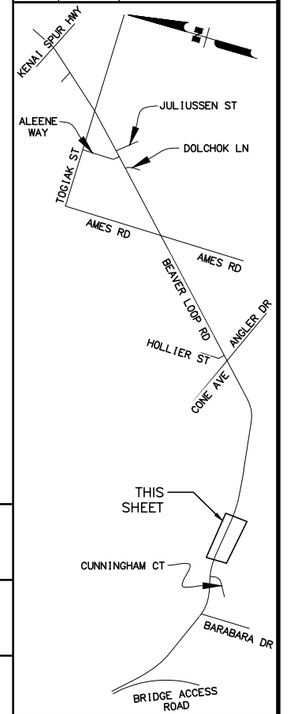

PLANS DEVELOPED BY:
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(907) 346-2373
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STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATH

PLAN & PROFILE
STA. 53+00 TO
STA. 65+00

DESIGNED BY: BCL
CHECKED BY: JP/AJ
DRAFTED BY: SH/BP/BB

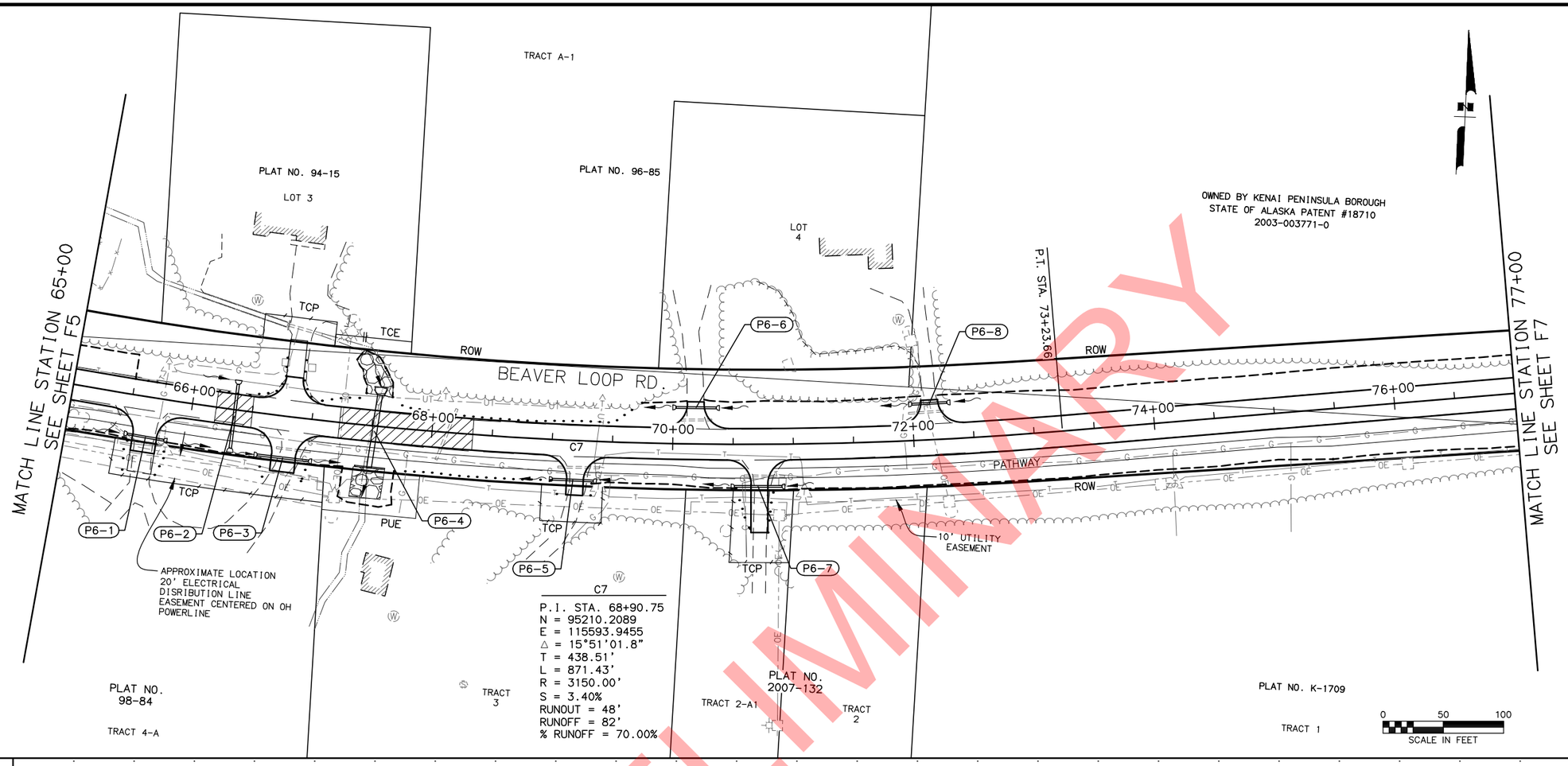
XREFS

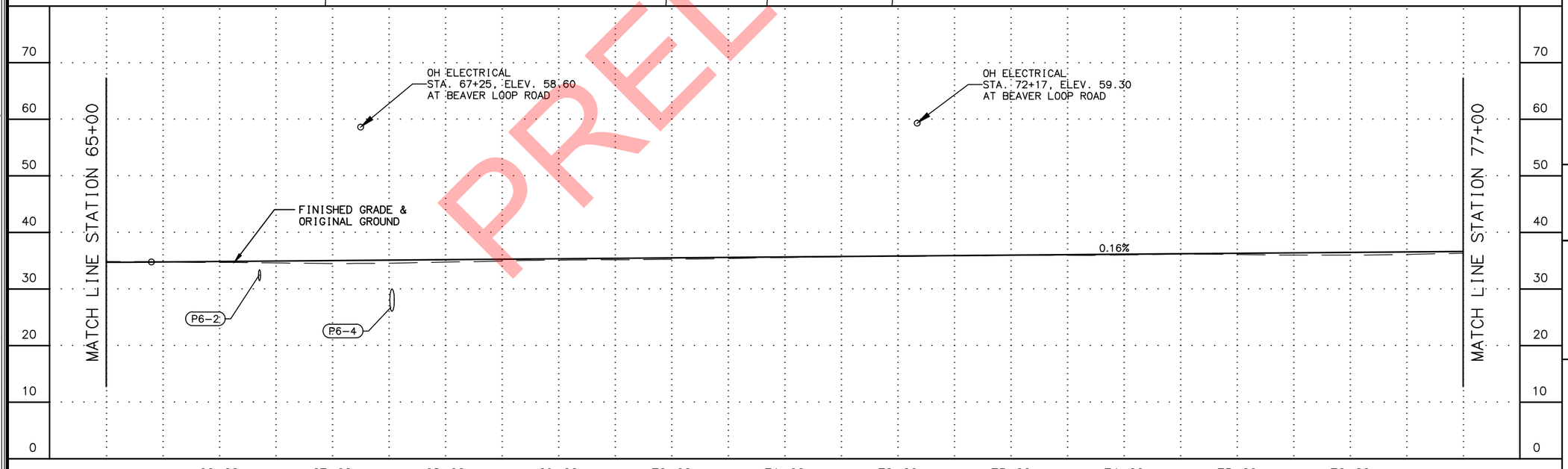
SCALE

LAYOUT: F6

DATE TIME: 4/14/2017 1:43 PM

DRAWING LOCATION: Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\F1-F17_Plan&Profile.dwg





SHEET NO.	TOTAL SHEETS
F6	F25
STATE	YEAR
ALASKA	2018

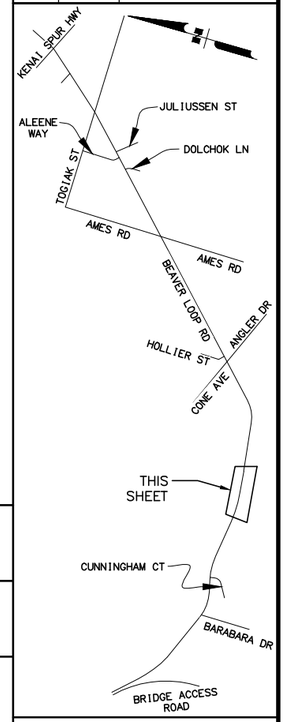
PROJECT DESIGNATION
0001453/Z534560000

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

NO.	DATE	DESCRIPTION



PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC
3909 Arctic Blvd, Suite 400
Anchorage, Alaska 99503
(907) 346-2373
CERT. OF AUTH. NO. AECL 1102

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATH

PLAN & PROFILE
STA. 65+00 TO
STA. 77+00

DRAWING LOCATION
Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\F1-F17_Plan&Profile.dwg

DESIGNED BY	BCL
CHECKED BY	JP/AJ
DRAFTED BY	SH/BP/BB

XREFS

SCALE

LAYOUT F7

DATE TIME 4/14/2017 1:43 PM

MATCH LINE STATION 77+00
SEE SHEET F6

MATCH LINE STATION 89+00
SEE SHEET F8

BEAVER LOOP RD. N82°44'38.19"E

50' SECTION LINE EASEMENT

33' SECTION LINE EASEMENT

ROW

PLAT NO. 84-19

TRACT 1

TRACT 2

END DITCH LINEAR GRADING STA.=79+02, 37 LT

BEGIN DITCH LINEAR GRADING STA.=78+59, 21 LT

BEGIN DITCH LINEAR GRADING STA.=79+40, 36 LT

END DITCH LINEAR GRADING STA.=81+06, 37 LT

BEGIN DITCH LINEAR GRADING STA.=81+40, 37 LT

END DITCH LINEAR GRADING STA.=83+67, 35 LT

BEGIN DITCH LINEAR GRADING STA.=84+22, 36 LT

BEGIN PAVEMENT REMOVAL STA.=85+75

BEGIN DIG-OUT TRANSITION STA.=85+80

END DIG-OUT TRANSITION
BEGIN FULL DEPTH DIG-OUT STA.=86+00

END DITCH LINEAR GRADING STA.=87+57, 36 LT

P7-1 P7-2 P7-3 P7-4 P7-5 P7-6 P7-7 P7-8

TCP

78+00 80+00 82+00 84+00 86+00 88+00

PATHWAY

PUE

10' SEWER & WATER EASEMENT

LOT 4 LOT 3 LOT 2 LOT 1

PLAT NO. K-1639

TRACT A-1A

0 50 100
SCALE IN FEET

PRELIMINARY

OH ELECTRICAL
STA. 78+42, ELEV. 62.10
AT BEAVER LOOP ROAD

V.P.I. STA. 83+58
ELEV. 37.68'
230.00' V.C.

V.P.I. STA. 87+38
ELEV. 37.79'
200.00' V.C.

FINISHED GRADE & ORIGINAL GROUND

0.16% -4.00% -0.15% -0.04% 0.03% -0.04%

BOTTOM OF FINISHED DITCH

BEGIN DITCH LINEAR GRADING STA. 78+59 ELEV. 35.00

END DITCH LINEAR GRADING STA. 79+02 ELEV. 33.14

BEGIN DITCH LINEAR GRADING STA. 79+40 ELEV. 32.76

END DITCH LINEAR GRADING STA. 81+06 ELEV. 32.50

BEGIN DITCH LINEAR GRADING STA. 81+40 ELEV. 32.48

END DITCH LINEAR GRADING STA. 83+67 ELEV. 32.39

BEGIN DITCH LINEAR GRADING STA. 84+22 ELEV. 32.36

BEGIN FULL DEPTH DIG-OUT STA. 86+00 ELEV. 35.08

P7-8

DIG-OUT EXCAVATION LIMITS

END DITCH LINEAR GRADING STA. 87+57 ELEV. 32.22

70 60 50 40 30 20 10 0

78+00 79+00 80+00 81+00 82+00 83+00 84+00 85+00 86+00 87+00 88+00

SHEET NO.	TOTAL SHEETS
F7	F25
STATE	YEAR
ALASKA	2018

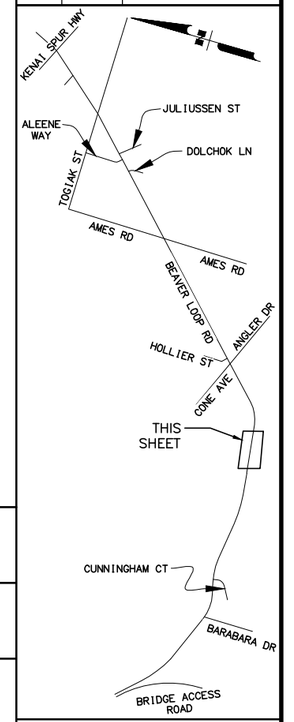
PROJECT DESIGNATION
0001453/Z534560000

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

NO.	DATE	DESCRIPTION



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STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATH

PLAN & PROFILE
STA. 77+00 TO
STA. 89+00

DESIGNED BY BCL
CHECKED BY JP/AJ
DRAFTED BY SH/BP/BB

XREFS

SCALE

LAYOUT F8

DATE TIME 4/14/2017 1:43 PM

DRAWING LOCATION Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\F1-F17_Plan&Profile.dwg

C8

P.I. STA. 94+63.15
N = 95535.8210
E = 118151.3057
△ = 36°37'33.4"
T = 287.94'
L = 556.14'
R = 870.00'
S = 6.00%
RUNOUT = 48'
RUNOFF = 144'
% RUNOFF = 70.00%

MATCH LINE STATION 89+00
SEE SHEET F7

END PAVEMENT REMOVAL
STA.=91+25

END DIG-OUT TRANSITION
STA.=91+20

END FULL DEPTH DIG-OUT
BEGIN DIG-OUT TRANSITION
STA.=91+00

DITCH LINEAR GRADING
P.I. STA.=94+34, 37 LT

DITCH LINEAR GRADING
P.I. STA.=93+58, 42 LT

DITCH LINEAR GRADING
P.I. STA.=93+26, 45 LT

BEGIN DITCH LINEAR GRADING
STA.=93+03, 44 LT

P.C. STA. 91+75.21

TCP

P8-1

ROW

PATHWAY

90+00

92+00

94+00

96+00

98+00

100+00

C8

OWNED BY STATE OF ALASKA
BK 487 PG 845
SUBJECT TO A CONSERVATION
EASEMENT GRANTED TO USA
BK 487 PG 839

BEGIN PAVEMENT REMOVAL
STA.=92+75

BEGIN DIG-OUT TRANSITION
STA.=92+80

END DIG-OUT TRANSITION
BEGIN FULL DEPTH DIG-OUT
STA.=93+00

END PAVEMENT REMOVAL
STA.=94+25

END DIG-OUT TRANSITION
STA.=94+20

END FULL DEPTH DIG-OUT
BEGIN DIG-OUT TRANSITION
STA.=94+00

P.T. STA. 97+31.35

END DITCH LINEAR GRADING
STA.=95+35, 32 LT

BEGIN DITCH LINEAR GRADING
STA.=96+02, 28 LT

DITCH LINEAR GRADING
P.I. STA.=96+99, 33 LT

DITCH LINEAR GRADING
P.I. STA.=99+21, 35 LT

DITCH LINEAR GRADING
P.I. STA.=100+98, 32 LT

MATCH LINE STATION 101+00
SEE SHEET F9

BEAVER LOOP RD.

0 50 100
SCALE IN FEET

MATCH LINE STATION 89+00

FINISHED GRADE &
ORIGINAL GROUND

0.61%

V.P.I. STA. 91+67
ELEV. 40.41'
302.00' V.C.

V.P.I. STA. 94+92
ELEV. 52.45'
310.00' V.C.

3.70%

3.20%

0.16%

0.00%

DIG-OUT
EXCAVATION
LIMITS

END FULL DEPTH DIG-OUT
STA. 91+00
ELEV. 37.70

BEGIN FULL DEPTH DIG-OUT
STA. 93+00
ELEV. 42.69

BEGIN DITCH
LINEAR GRADING
STA. 93+03
ELEV. 40.10

DIG-OUT
EXCAVATION
LIMITS

BOTTOM OF
FINISHED
DITCH

END FULL DEPTH DIG-OUT
STA. 94+00
ELEV. 46.14

END DITCH
LINEAR GRADING
STA. 95+35
ELEV. 47.26

BEGIN DITCH
LINEAR GRADING
STA. 96+02
ELEV. 49.40

BOTTOM OF
FINISHED DITCH

MATCH LINE STATION 101+00

80 70 60 50 40 30 20 10

90+00 91+00 92+00 93+00 94+00 95+00 96+00 97+00 98+00 99+00 100+00

SHEET NO.	TOTAL SHEETS
F8	F25
STATE	YEAR
ALASKA	2018

PROJECT DESIGNATION
0001453/Z534560000

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

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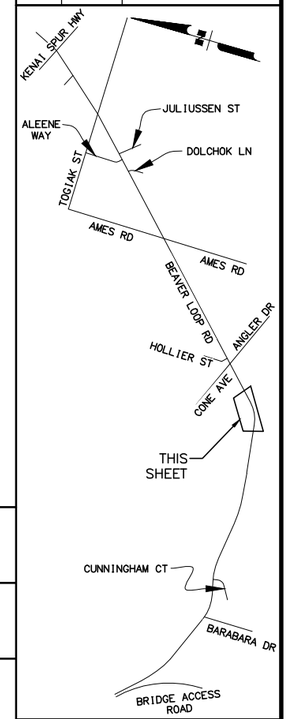

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STATE OF ALASKA
PROFESSIONAL ENGINEER
49
DRAFT
FINAL
4/14/2017
Alison

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATH

PLAN & PROFILE
STA. 89+00 TO
STA. 101+00

DRAWING LOCATION: Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\F1-F17_Plan&Profile.dwg
DATE TIME: 4/14/2017 1:43 PM
LAYOUT: F9
SCALE:
XREFS:
DESIGNED BY: BCL
CHECKED BY: JP/AJ
DRAFTED BY: SH/BP/BB

SHEET NO.	TOTAL SHEETS
F9	F25
STATE	YEAR
ALASKA	2018

PROJECT DESIGNATION
0001453/Z534560000

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

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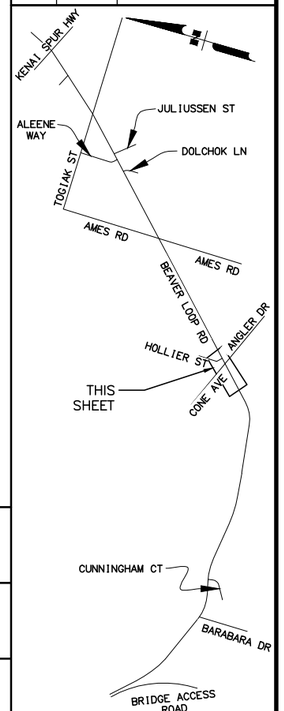

PLAT NO. 92-85
TR D-2
PLAT K-914
TR A
BEAVER LOOP RD.
CONE AVE.
HOLLIER ST.
ANGLER DR.
PATHWAY
N46°07'04.78"E
33' SECTION LINE EASEMENT
50' SECTION LINE EASEMENT
10' UTILITY EASEMENT
ROW
OE
P9-1
P9-2
P9-3
P9-4
P9-5
C9

MATCH LINE STATION 101+00
SEE SHEET F8

MATCH LINE STATION 113+00
SEE SHEET F10

DITCH LINEAR GRADING
P.I. STA.=104+07, 38 LT

END DITCH LINEAR GRADING
STA.=108+28, 36 LT

BEGIN DITCH LINEAR GRADING
STA.=108+81, 38 LT

END DITCH LINEAR GRADING
STA.=109+38, 38 LT

BEGIN DITCH LINEAR GRADING
STA.=109+72, 38 LT

END DITCH LINEAR GRADING
STA.=110+64, 38 LT

BEGIN DITCH LINEAR GRADING
STA.=111+16, 38 LT

P.C. STA. 112+85.68

BEGIN PAVEMENT REMOVAL
STA.=102+95

BEGIN DIG-OUT TRANSITION
STA.=103+00

END DIG-OUT TRANSITION
BEGIN FULL DEPTH DIG-OUT
STA.=103+50

END FULL DEPTH DIG-OUT
BEGIN DIG-OUT TRANSITION
STA.=107+00

END DIG-OUT TRANSITION
STA.=107+50

END PAVEMENT REMOVAL
STA.=107+55

BEGIN PAVEMENT REMOVAL
STA.=109+94

BEGIN DIG-OUT TRANSITION
STA.=110+00

END DIG-OUT TRANSITION
BEGIN FULL DEPTH DIG-OUT
STA.=110+50

END FULL DEPTH DIG-OUT
BEGIN DIG-OUT TRANSITION
STA.=112+00

END DIG-OUT TRANSITION
STA.=112+50

END PAVEMENT REMOVAL
STA.=112+55

C9
P.I. STA. 113+02.47
N = 96824.4789
E = 119491.2615
△ = 0°05'46.3"
T = 16.79'
L = 33.58'
R = 20000.00'

0 50 100
SCALE IN FEET

OWNED BY CITY OF KENAI

MATCH LINE STATION 101+00

V.P.I. STA. 103+08
ELEV. 53.75
200.00' V.C.

FINISHED GRADE &
ORIGINAL GROUND

-0.02%

0.00%

BOTTOM OF
FINISHED DITCH

BEGIN FULL DEPTH DIG-OUT
STA. 103+50
ELEV. 48.06

DIG-OUT
EXCAVATION
LIMITS

END FULL DEPTH DIG-OUT
STA. 107+00
ELEV. 47.99

END DITCH
LINEAR GRADING
STA. 108+28
ELEV. 49.40

BEGIN DITCH
LINEAR GRADING
STA. 108+81
ELEV. 49.55

1.05%

END DITCH
LINEAR GRADING
STA. 109+38
ELEV. 50.15

BEGIN FULL DEPTH DIG-OUT
STA. 110+50
ELEV. 49.13

V.P.I. STA. 109+63
ELEV. 53.60'
393.00' V.C.

OH ELECTRICAL
STA. 109+59, ELEV. 85.20
AT BEAVER LOOP ROAD

0.55%

BEGIN DITCH
LINEAR GRADING
STA. 109+72
ELEV. 50.35

END DITCH
LINEAR GRADING
STA. 110+64
ELEV. 50.85

2.69%

BEGIN DITCH
LINEAR GRADING
STA. 111+16
ELEV. 50.95

END FULL DEPTH DIG-OUT
STA. 112+00
ELEV. 50.70

1.17%

BOTTOM OF FINISHED DITCH

MATCH LINE STATION 113+00

80 70 60 50 40 30 20 10

102+00 103+00 104+00 105+00 106+00 107+00 108+00 109+00 110+00 111+00 112+00

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STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATH

PLAN & PROFILE
STA. 101+00 TO
STA. 113+00

DRAWING LOCATION
Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\F1-F17_Plan&Profile.dwg

DESIGNED BY	BCL
CHECKED BY	JP/AJ
DRAFTED BY	SH/BP/BB

XREFS

SCALE

LAYOUT
F10

DATE TIME
4/14/2017 1:43 PM

DITCH LINEAR GRADING
P.I. STA.=113+06, 37 LT

P.T. STA. 113+19.26

MATCH LINE STATION 113+00
SEE SHEET F9

PARCEL 2

BEGIN DITCH LINEAR GRADING
STA.=118+63, 37 LT

END DITCH LINEAR GRADING
STA.=118+13, 37 LT

DITCH LINEAR GRADING
P.I. STA.=120+13, 37 LT

PLAT WAIVER NO. 93-4W

PARCEL 2

END DITCH LINEAR GRADING
STA.=124+50, 38 LT

P10-4

TCP

ROW

114+00 116+00 118+00 120+00 122+00 124+00

BEAVER LOOP RD.

PATHWAY

ROW

P10-1

TCP

TCP

TCP

P10-2

P10-3

TCP

MATCH LINE STATION 125+00
SEE SHEET F11

PLAT NO. K-906

TR C

LOT 1

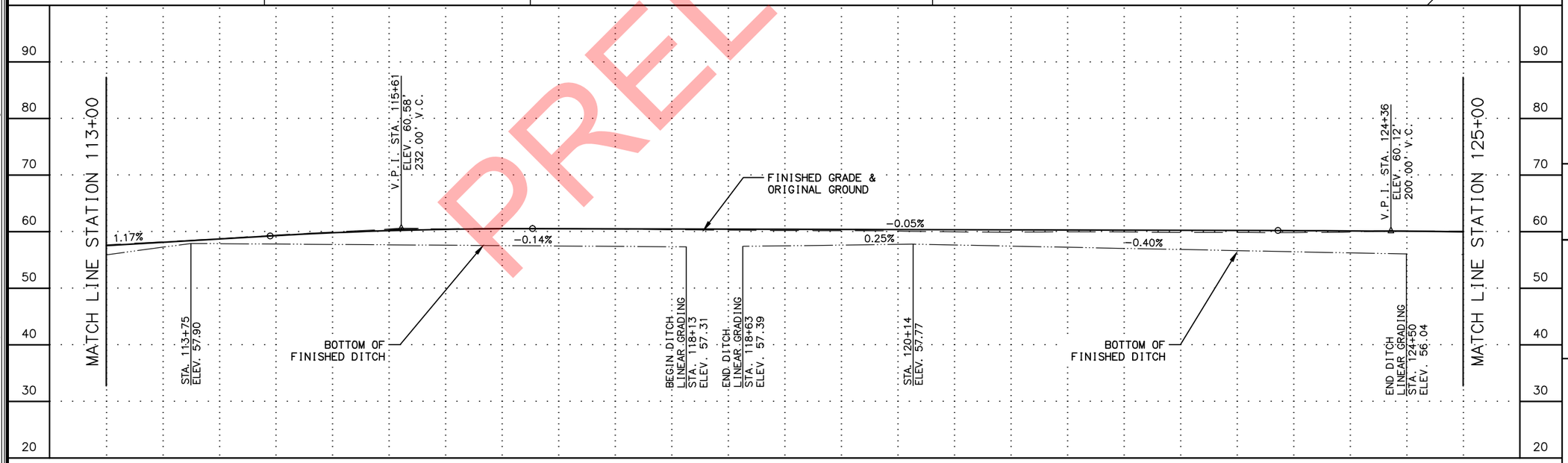
PLAT 2004-105

LOT 3

PLAT 2004-105

LOT 4

0 50 100
SCALE IN FEET



SHEET NO.	TOTAL SHEETS
F10	F25
STATE	YEAR
ALASKA	2018

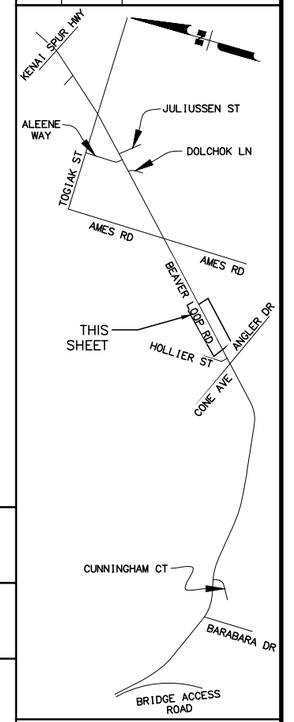
PROJECT DESIGNATION
0001453/Z534560000

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

NO.	DATE	DESCRIPTION



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DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATH

PLAN & PROFILE
STA. 113+00 TO
STA. 125+00

DESIGNED BY: BCL
CHECKED BY: JP/AJ
DRAFTED BY: SH/BP/BB

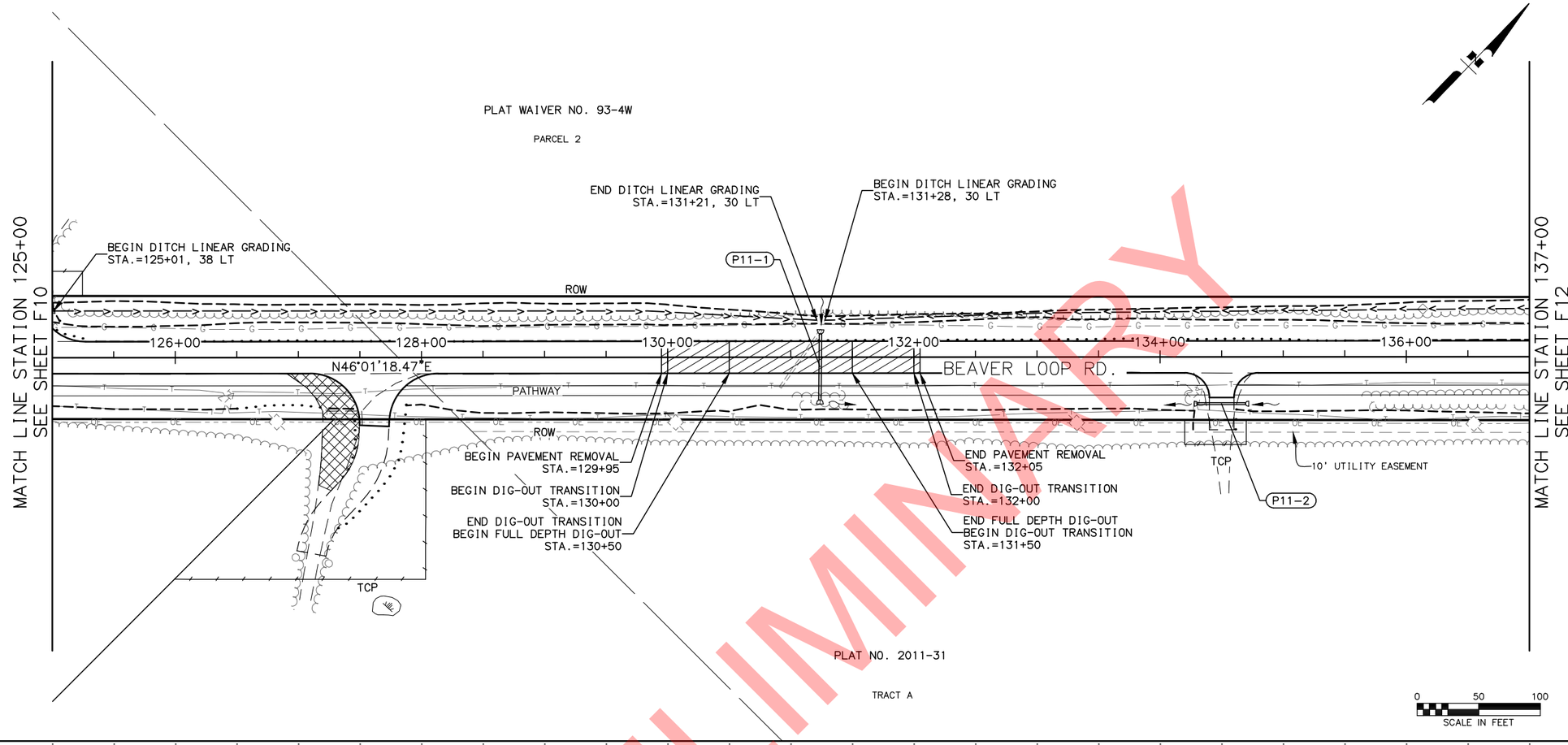
XREFS

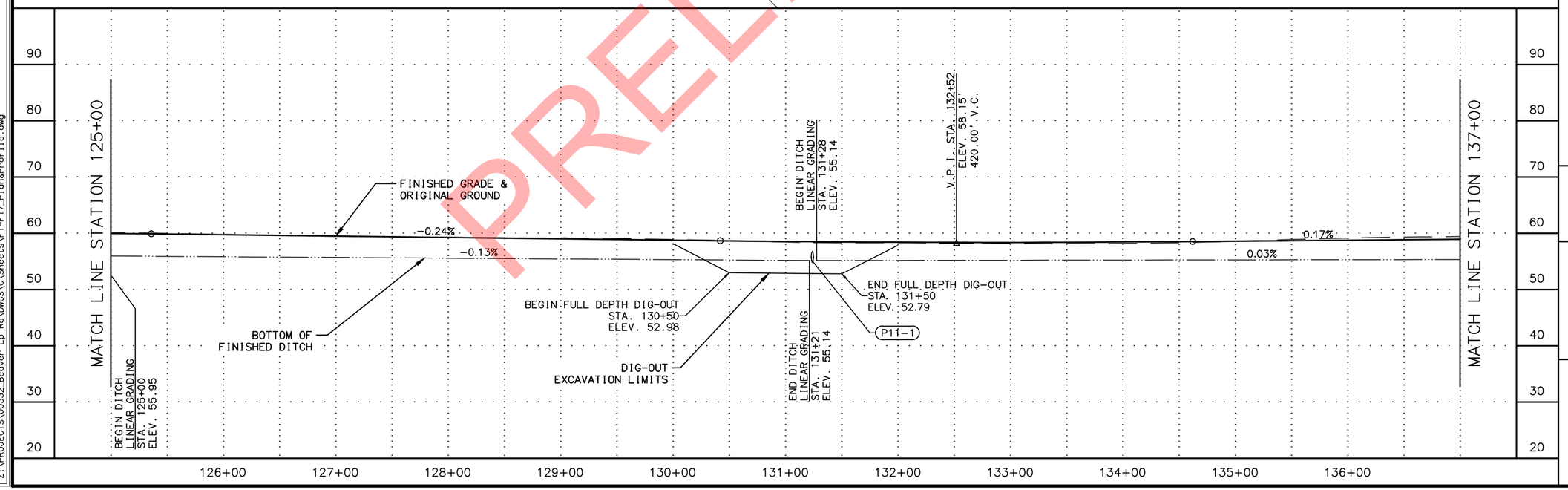
SCALE

LAYOUT: F11

DATE TIME: 4/14/2017 1:43 PM

DRAWING LOCATION: Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\F1-F17_Plan&Profile.dwg





SHEET NO.	TOTAL SHEETS
F11	F25
STATE	YEAR
ALASKA	2018

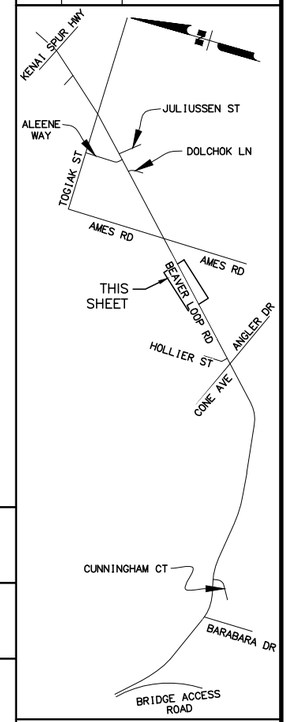
PROJECT DESIGNATION
0001453/Z534560000

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

NO.	DATE	DESCRIPTION



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STATE OF ALASKA
49
DRAFT FINAL
4/14/2017
PROFESSIONAL ENGINEER

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATH

PLAN & PROFILE
STA. 125+00 TO STA. 137+00

DESIGNED BY: BCL
CHECKED BY: JP/AJ
DRAFTED BY: SH/BP/BB

XREFS

SCALE

LAYOUT: F12

DATE TIME: 4/14/2017 1:43 PM

DRAWING LOCATION: Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\F1-F17_Plan&Profile.dwg

C10

P.I. STA. 142+44.96
N = 98867.6928
E = 121608.6829
△ = 0°02'26.1"
T = 28.33'
L = 56.66'
R = 80000.00'

PLAT WAIVER NO. 93-4W

PARCEL 2

MATCH LINE STATION 137+00
SEE SHEET F11

MATCH LINE STATION 149+00
SEE SHEET F13

END DITCH LINEAR GRADING
STA.=138+73, 35 LT

P12-1

TCP

BEGIN DITCH LINEAR GRADING
STA.=139+32, 32 LT

P.C. STA. 142+16.63

P.T. STA. 142+73.29

ROW

138+00

140+00

142+00

C10

144+00

146+00

148+00

BEAVER LOOP RD.

PATHWAY

10' UTILITY EASEMENT

LOT 1

LOT 2

AMES RD.

END DITCH LINEAR GRADING
STA.=148+27, 37 LT

DITCH LINEAR GRADING
P.I. STA.=148+01, 36 LT

BEGIN DITCH LINEAR GRADING
STA.=147+33, 34 LT

END DITCH LINEAR GRADING
STA.=146+55, 39 LT

P12-4

P12-5

P12-6

P12-2

P12-3

33' SECTION LINE EASEMENT

33' DEDICATED BY PLAT NO. 80-18

30' DEDICATED BY PLAT NO. 75-53

END DIG-OUT TRANSITION
BEGIN FULL DEPTH DIG-OUT
STA.=147+50

BEGIN DIG-OUT TRANSITION
STA.=147+00

DEED 2007-003764-0
ORIGINAL DEED BK 44 PG 49

K-1580

BEGIN PAVEMENT REMOVAL
STA.=146+95

0 50 100
SCALE IN FEET

OH TELECOM & ELECTRICAL
STA. 146+84, ELEV. 80.11
AT BEAVER LOOP ROAD

FINISHED GRADE &
ORIGINAL GROUND

DIG-OUT
EXCAVATION LIMITS

0.03%

0.17%

0.03%

4.71%

-9.05%

BOTTOM OF
FINISHED DITCH

END DITCH
LINEAR GRADING
STA. 138+73
ELEV. 55.36

BEGIN DITCH
LINEAR GRADING
STA. 139+32
ELEV. 55.43

BOTTOM OF
FINISHED DITCH

END DITCH
LINEAR GRADING
STA. 146+55
ELEV. 55.65

BEGIN DITCH
LINEAR GRADING
STA. 147+33
ELEV. 56.05

STA. 147+98
ELEV. 59.10

END DITCH
LINEAR GRADING
STA. 148+27
ELEV. 56.50

BEGIN FULL DEPTH DIG-OUT
STA. 147+50
ELEV. 55.08

90 80 70 60 50 40 30 20

138+00 139+00 140+00 141+00 142+00 143+00 144+00 145+00 146+00 147+00 148+00

PRELIMINARY

SHEET NO.	TOTAL SHEETS
F12	F25
STATE	YEAR
ALASKA	2018

PROJECT DESIGNATION
0001453/Z534560000

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

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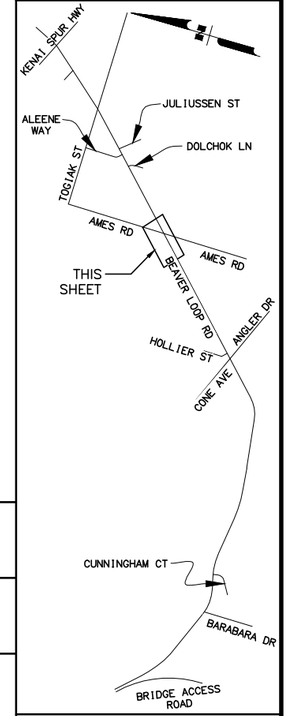

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BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATH

PLAN & PROFILE
STA. 137+00 TO
STA. 149+00

DRAWING LOCATION
Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\F1-F17_Plan&Profile.dwg

DESIGNED BY	BCL
CHECKED BY	JP/AJ
DRAFTED BY	SH/BP/BB

XREFS

SCALE

LAYOUT F13

DATE TIME 4/14/2017 1:43 PM

PRELIMINARY

PLAT NO. 75-53

PLAT NO. 75-53

END DITCH LINEAR GRADING STA.=151+28, 38 LT

BEGIN DITCH LINEAR GRADING STA.=150+99, 28 LT

BEGIN DITCH LINEAR GRADING STA.=151+61, 38 LT

END DITCH LINEAR GRADING STA.=153+08, 32 LT

END DITCH LINEAR GRADING STA.=157+17, 28 LT

DEED BOOK 88 PAGE 430

BEGIN DITCH LINEAR GRADING STA.=156+92, 37 LT

END DITCH LINEAR GRADING STA.=156+58, 39 LT

BEGIN DITCH LINEAR GRADING STA.=154+50, 39 LT

BEGIN DITCH LINEAR GRADING STA.=157+77, 40 LT

END DITCH LINEAR GRADING STA.=158+15, 38 LT

BEGIN DITCH LINEAR GRADING STA.=158+50, 37 LT

END DITCH LINEAR GRADING STA.=158+95, 38 LT

BEGIN DITCH LINEAR GRADING STA.=159+28, 38 LT

DITCH LINEAR GRADING P.I. STA.=160+25, 33 LT

P13-1 P13-2 P13-3 P13-4 P13-5 P13-6 P13-7 P13-8 P13-9 P13-10

TCP ROW

MATCH LINE STATION 149+00
SEE SHEET F12

MATCH LINE STATION 161+00
SEE SHEET F14

150+00 152+00 154+00 156+00 158+00 160+00

BEAVER LOOP RD.

PATHWAY

OE&UT

END PAVEMENT REMOVAL STA.=150+80

END DIG-OUT TRANSITION STA.=150+75

END FULL DEPTH DIG-OUT
BEGIN DIG-OUT TRANSITION
STA.=150+25

K-1580

K-1551

PLAT NO. 79-197

10' UTILITY EASEMENT

PLAT NO. K-1601

PLAT NO. 77-100

LOT 3 BLOCK 1

0 50 100
SCALE IN FEET

OH TELECOM & ELECTRICAL STA. 157+39, ELEV. 83.60 AT BEAVER LOOP ROAD

OH TELECOM & ELECTRICAL STA. 158+91, ELEV. 75.40 AT BEAVER LOOP ROAD

V.P.I. STA. 150+27 ELEV. 61.22' 360.00' V.C.

BEGIN DITCH LINEAR GRADING STA. 150+99 ELEV. 60.53

BEGIN DITCH LINEAR GRADING STA. 151+61 ELEV. 57.40

V.P.I. STA. 154+22 ELEV. 59.17' 200.00' V.C.

FINISHED GRADE & ORIGINAL GROUND

END DITCH LINEAR GRADING STA. 156+58 ELEV. 56.20

V.P.I. STA. 157+17 ELEV. 59.66' 200.00' V.C.

BEGIN DITCH LINEAR GRADING STA. 158+50 ELEV. 55.00

BEGIN DITCH LINEAR GRADING STA. 159+28 ELEV. 54.45

V.P.I. STA. 160+93 ELEV. 56.84' 258.00' V.C.

-10.15% -0.27% -0.52% 0.05% 0.17% 10.01% -9.21% -1.10% -0.75% -0.13%

DIG-OUT EXCAVATION LIMITS

END DITCH LINEAR GRADING STA. 151+28 ELEV. 57.45

BOTTOM OF FINISHED DITCH

END DITCH LINEAR GRADING STA. 153+08 ELEV. 57.00

BEGIN DITCH LINEAR GRADING STA. 154+50 ELEV. 56.10

BOTTOM OF FINISHED DITCH

BEGIN DITCH LINEAR GRADING STA. 156+92 ELEV. 56.30

END DITCH LINEAR GRADING STA. 157+17 ELEV. 58.96

BEGIN DITCH LINEAR GRADING STA. 157+77 ELEV. 59.00

END DITCH LINEAR GRADING STA. 158+15 ELEV. 55.10

END DITCH LINEAR GRADING STA. 158+95 ELEV. 54.50

STA. 160+28 ELEV. 54.32

BOTTOM OF FINISHED DITCH

90 80 70 60 50 40 30 20

150+00 151+00 152+00 153+00 154+00 155+00 156+00 157+00 158+00 159+00 160+00

SHEET NO.	TOTAL SHEETS
F13	F25
STATE	YEAR
ALASKA	2018

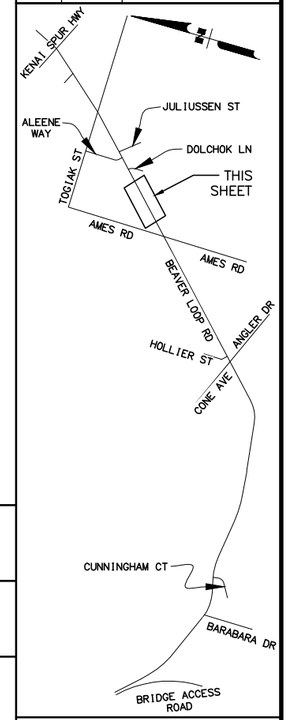
PROJECT DESIGNATION
0001453/Z534560000

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

NO.	DATE	DESCRIPTION



PLANS DEVELOPED BY:
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(907) 346-2373
CERT. OF AUTH. NO. AECL 1102

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATH

PLAN & PROFILE
STA. 149+00 TO
STA. 161+00

DESIGNED BY: BCL
CHECKED BY: JP/AJ
DRAFTED BY: SH/BP/BB

XREFS

SCALE

LAYOUT: F14

DATE TIME: 4/14/2017 1:43 PM

DRAWING LOCATION
Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\F1-F17_Plan&Profile.dwg

MATCH LINE STATION 161+00
SEE SHEET F13

MATCH LINE STATION 173+00
SEE SHEET F15

END DITCH LINEAR GRADING STA.=161+80, 35 LT

BEGIN DITCH LINEAR GRADING STA.=162+15, 35 LT

END DITCH LINEAR GRADING STA.=165+10, 39 LT

BEGIN DITCH LINEAR GRADING STA.=165+42, 38 LT

END DITCH LINEAR GRADING STA.=165+62, 41 LT

BEGIN DITCH LINEAR GRADING STA.=167+53, 29 LT

END DITCH LINEAR GRADING STA.=169+85, 37 LT

BEGIN DITCH LINEAR GRADING STA.=170+37, 39 LT

END DITCH LINEAR GRADING STA.=170+74, 38 LT

BEGIN DITCH LINEAR GRADING STA.=171+08, 37 LT

END DITCH LINEAR GRADING STA.=171+77, 36 LT

BEGIN DITCH LINEAR GRADING STA.=172+11, 36 LT

STA.=172+64, 34 LT

P14-1 P14-2 P14-3 P14-4 P14-5 P14-6 P14-7 P14-8 P14-9

TCP

ROW

10' UTIL. ESMT.

10' UTILITY EASEMENT

BEAVER LOOP RD.

PATHWAY

ALEENE WAY

DOLCHOK LN.

JULIUSSEN ST.

162+00 164+00 166+00 168+00 170+00 172+00

N46°03'44.56"E

PLAT NO. 75-94

DEED BK 54 PG 290

BLOCK 3

PLAT NO. 77-86

TR. A

PARCEL NO. 1

PLAT NO. 83-173

LOT 1

10' UTIL. ESMT.

0 50 100
SCALE IN FEET

PRELIMINARY

OH TELECOM & ELECTRICAL STA. 165+23, ELEV. 77.30 AT BEAVER LOOP ROAD

OH TELECOM STA. 166+85, ELEV. 76.10 AT BEAVER LOOP ROAD

OH TELECOM & ELECTRICAL STA. 169+81, ELEV. 83.80 AT BEAVER LOOP ROAD

OH ELECTRICAL STA. 167+48, ELEV. 78.30 AT BEAVER LOOP ROAD

OH TELECOM & ELECTRICAL STA. 172+90, ELEV. 74.80 AT BEAVER LOOP ROAD

OH TELECOM STA. 172+16, ELEV. 74.80 AT BEAVER LOOP ROAD

V.P.I. STA. 166+66
ELEV. 56.88'
128.00' V.C.

FINISHED GRADE & ORIGINAL GROUND

BOTTOM OF FINISHED DITCH

−0.77% 0.00% 0.01% 12.04% −0.15% −1.23% −0.14% 0.72% 0.00%

END DITCH LINEAR GRADING STA. 161+80 ELEV. 53.14

BEGIN DITCH LINEAR GRADING STA. 162+15 ELEV. 53.00

END DITCH LINEAR GRADING STA. 165+10 ELEV. 53.00

BEGIN DITCH LINEAR GRADING STA. 165+42 ELEV. 53.35

END DITCH LINEAR GRADING STA. 165+62 ELEV. 55.69

BEGIN DITCH LINEAR GRADING STA. 167+53 ELEV. 54.77

END DITCH LINEAR GRADING STA. 169+85 ELEV. 51.90

BEGIN DITCH LINEAR GRADING STA. 170+37 ELEV. 51.85

END DITCH LINEAR GRADING STA. 170+74 ELEV. 51.80

BEGIN DITCH LINEAR GRADING STA. 171+08 ELEV. 51.75

END DITCH LINEAR GRADING STA. 171+77 ELEV. 52.25

BEGIN DITCH LINEAR GRADING STA. 172+11 ELEV. 52.35

80 70 60 50 40 30 20 10

162+00 163+00 164+00 165+00 166+00 167+00 168+00 169+00 170+00 171+00 172+00

SHEET NO.	TOTAL SHEETS
F14	F25
STATE	YEAR
ALASKA	2018

PROJECT DESIGNATION
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ATTACHMENT NO.

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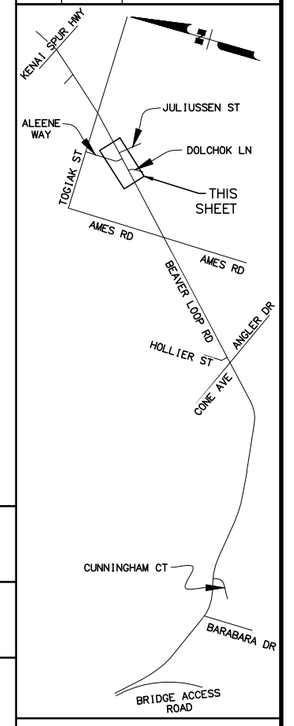

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CERT. OF AUTH. NO. AECL 1102

STATE OF ALASKA
PROFESSIONAL ENGINEER
DRAFT FINAL
4/14/2017

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATH

PLAN & PROFILE
STA. 161+00 TO
STA. 173+00

DESIGNED BY: BCL
CHECKED BY: JP/AJ
DRAFTED BY: SH/BP/BB

XREFS

SCALE

LAYOUT: F15

DATE / TIME: 4/14/2017 1:43 PM

DRAWING LOCATION: Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\F1-F17_Plan&Profile.dwg

END DITCH LINEAR GRADING
STA.=173+07, 38 LT

BEGIN DITCH LINEAR GRADING
STA.=173+42, 37 LT

END DITCH LINEAR GRADING
STA.=174+34, 37 LT

BEGIN DITCH LINEAR GRADING
STA.=174+67, 37 LT

END DITCH LINEAR GRADING
STA.=174+86, 32 LT

MATCH LINE STATION 173+00
SEE SHEET F14

MATCH LINE STATION 185+00
SEE SHEET F16

BEAVER LOOP RD.

TOGIAK ST.

DEED BK 22 PG 244

ROW

TCP

P15-1

P15-2

P15-3

P15-4

P15-5

P15-6

P15-7

P15-8

174+00

176+00

178+00

180+00

182+00

184+00

BEGIN PAVEMENT REMOVAL
STA.=178+45

BEGIN DIG-OUT TRANSITION
STA.=178+50

END DIG-OUT TRANSITION
BEGIN FULL DEPTH DIG-OUT
STA.=179+00

P.C. STA. 181+72.67

C11

P.I. STA. 183+44.83
N = 101712.4895
E = 124560.9816
△ = 5°27'27.3"
T = 172.16'
L = 344.05'
R = 3612.00'
S = 3.00%
RUNOUT = 48'
RUNOFF = 72'
% RUNOFF = 70.00%

PARCEL NO. 2

10' UTIL. ESMT.

PLAT NO. K-1333

PLAT NO. K-1333

OH TELECOM & ELECTRICAL
STA. 175+44, ELEV. 78.70
AT BEAVER LOOP ROAD

OH TELECOM & ELECTRICAL
STA. 178+96, ELEV. 81.30
AT BEAVER LOOP ROAD

OH ELECTRICAL
STA. 184+36, ELEV. 78.90
AT BEAVER LOOP ROAD

OH TELECOM & ELECTRICAL
STA. 181+81, ELEV. 77.00
AT BEAVER LOOP ROAD

END DITCH LINEAR GRADING
STA. 173+07
ELEV. 52.35

V.P.I. STA. 174+20
ELEV. 55.71'
220.00' V.C.

END DITCH LINEAR GRADING
STA. 174+86
ELEV. 55.32

V.P.I. STA. 178+50
ELEV. 64.05'
330.00' V.C.

FINISHED GRADE &
ORIGINAL GROUND

1.94%

0.05%

13.51%

-1.70%

BEGIN FULL DEPTH DIG-OUT
STA. 179+00
ELEV. 56.79

DIG-OUT EXCAVATION
LIMITS

BEGIN DITCH LINEAR GRADING
STA. 173+42
ELEV. 52.55

END DITCH LINEAR GRADING
STA. 174+34
ELEV. 52.60

BEGIN DITCH LINEAR GRADING
STA. 174+67
ELEV. 52.65

BOTTOM OF FINISHED DITCH

MATCH LINE STATION 173+00

MATCH LINE STATION 185+00

80 70 60 50 40 30 20 10

174+00 175+00 176+00 177+00 178+00 179+00 180+00 181+00 182+00 183+00 184+00

PRELIMINARY

SHEET NO.	TOTAL SHEETS
F15	F25
STATE	YEAR
ALASKA	2018

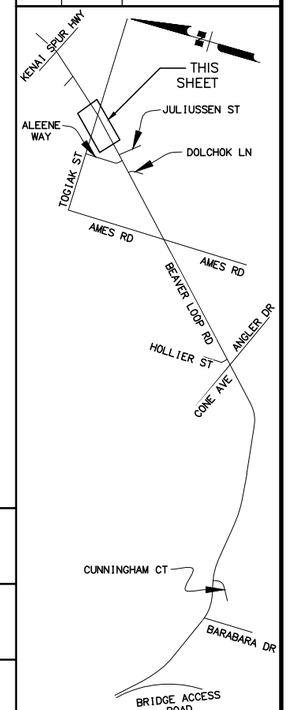
PROJECT DESIGNATION
0001453/Z534560000

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

NO.	DATE	DESCRIPTION



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STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATH

PLAN & PROFILE
STA. 173+00 TO
STA. 185+00

DESIGNED BY: BCL
DRAFTED BY: SH/BP/BB
CHECKED BY: JP/AJ

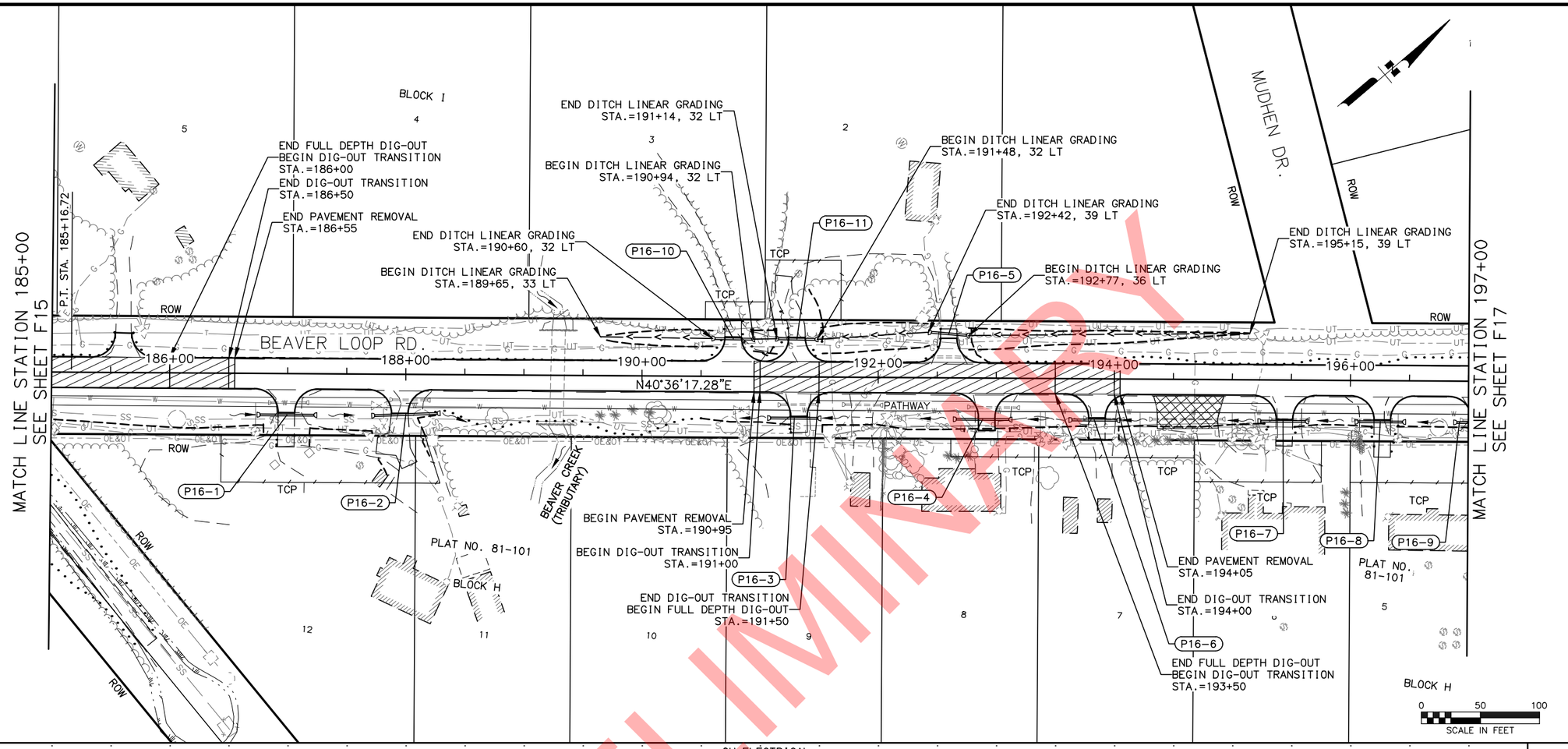
XREFS

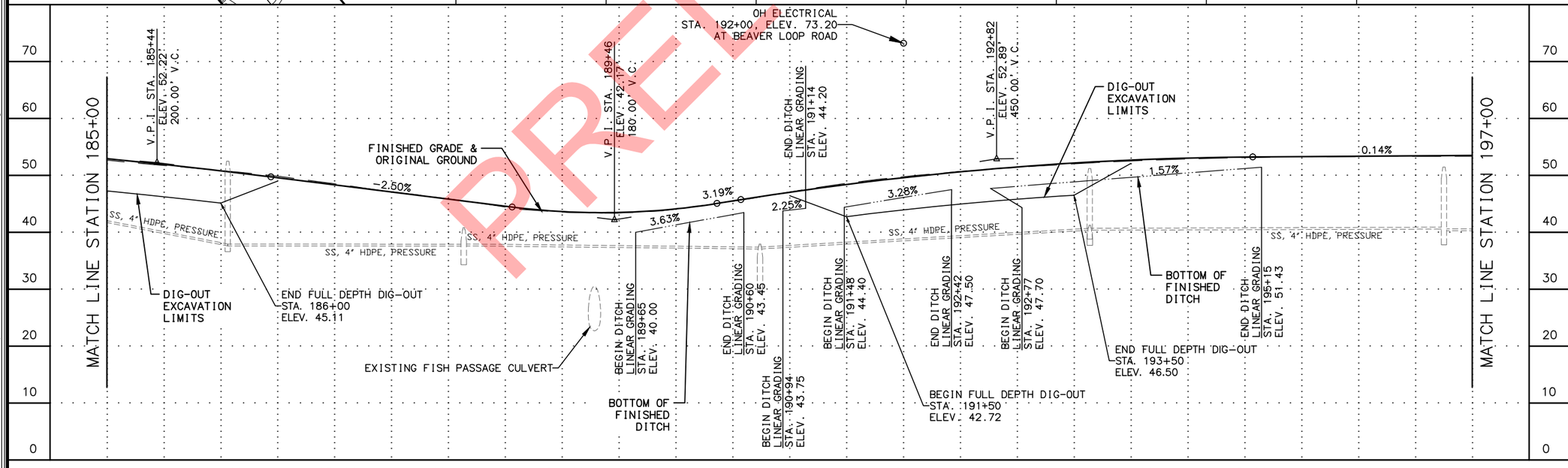
SCALE

LAYOUT
F16

DATE TIME
4/14/2017 1:43 PM

DRAWING LOCATION
Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\F1-F17_Plan&Profile.dwg





SHEET NO.	TOTAL SHEETS
F16	F25
STATE	YEAR
ALASKA	2018

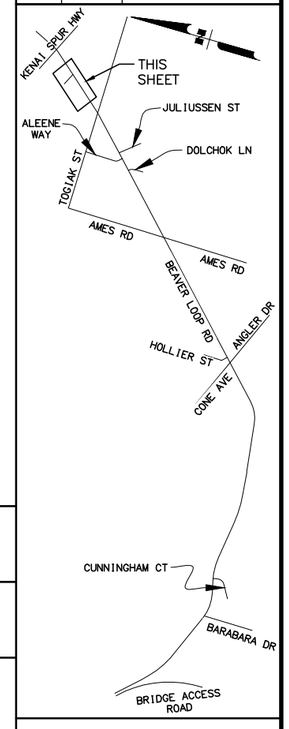
PROJECT DESIGNATION
0001453/Z534560000

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

NO.	DATE	DESCRIPTION



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STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATH

PLAN & PROFILE
STA. 185+00 TO
STA. 197+00

DESIGNED BY: BCL
CHECKED BY: JP/AJ
DRAFTED BY: SH/BP/BB

XREFS

SCALE

LAYOUT: F17

DATE TIME: 4/14/2017 1:43 PM

DRAWING LOCATION: Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\F1-F17_Plan&Profile.dwg

C12
P.I. STA. 198+98.37
N = 102892.1672
E = 125572.2591
△ = 1°37'35.4"
T = 113.56'
L = 227.10'
R = 8000.00'

MATCH LINE STATION 197+00
SEE SHEET F16

BLOCK G
12
P.C. STA. 197+84.
BEGIN DITCH LINEAR GRADING
STA.=199+84, 35 LT
P.T. STA. 200+11.92
END DITCH LINEAR GRADING
STA.=203+01, 27 LT
ROW
198+00
200+00
202+00
C12
BEAVER LOOP RD.
N38°58'41.86"E
PATHWAY
ROW
BEGIN TAPER
STA.=199+62,
13.00 RT
TCP
P17-1
TCP
P17-2
TCP
END TAPER
STA.=201+87,
28.00 RT
TCP
P17-3
4
3
2
1

PATHWAY AND ROAD IMPROVEMENTS TO BE CONSTRUCTED AS PART OF THE KENAI SPUR HIGHWAY REHABILITATION PROJECT, Z545940000

PATHWAY
KENAI SPUR HWY
OE&OT
ROW
P17-4
END OF PROJECT
STA. 203+72
PLAT NO. 81-101
BLOCK B
14
1
ROW
ROW
PLAT 79-169
KENAI SPUR HWY
PATHWAY
ROW

RETURN RADIUS POINT SUMMARY				
POINT	STATION	OFFSET	RADIUS	REMARKS
①	202+79.92	53.00 LT	40.00'	
②	203+08.25	68.00 RT	40.00'	
③	203+31.38	48.00 RT	5.00'	CONNECT PATHWAYS

SEE APPROACH SUMMARY/PLAN & PROFILE SHEETS FOR APPROACH RETURN RADII. THIS TABLE ASSUMES THAT THE KENAI SPUR HIGHWAY PROJECT IS CONSTRUCTED FIRST.

0 50 100
SCALE IN FEET

MATCH LINE STATION 197+00

80 70 60 50 40 30 20 10

V.P.I. STA. 199+00
ELEV. 53.77
350.00' V.C.

OH TELECOM & ELECTRICAL
STA. 202+43, ELEV. 76.10
AT BEAVER LOOP ROAD

FINISHED GRADE &
ORIGINAL GROUND

V.P.I. STA. 202+90
ELEV. 52.45'
90.00' V.C.
SEE V.P.I. NOTE

MATCH KENAI SPUR HWY
STA. 203+36

(STA. 203+55, ELEV. 52.90
IF BEAVER LOOP ROAD IS
CONSTRUCTED PRIOR TO KENAI
SPUR HIGHWAY PROJECT)

-0.34%
-0.67%
1.00%

P17-4

SS, 4" HDPE, PRESSURE
SS, 4" HDPE, PRESSURE
SS, 4" HDPE, PRESSURE

DIG-OUT
EXCAVATION
LIMITS

BOTTOM OF
FINISHED DITCH

BEGIN DITCH
LINEAR GRADING
STA. 199+84
ELEV. 51.51

END DITCH
LINEAR GRADING
STA. 203+01
ELEV. 49.40

198+00 199+00 200+00 201+00 202+00 203+00 204+00 205+00 206+00 207+00 208+00

V.P.I. NOTE:
IF KENAI SPUR HWY EDGE OF PAVEMENT LOCATION OR ELEVATION IS DIFFERENT THAN WHAT IS SHOWN, CHANGES TO THE STA. AND/OR THE GRADE AFTER THE V.P.I. AT STA. 202+90 MAY BE REQUIRED.

SHEET NO.	TOTAL SHEETS
F17	F25
STATE	YEAR
ALASKA	2018

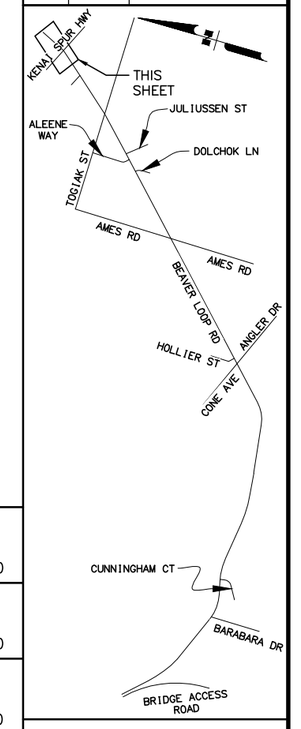
PROJECT DESIGNATION
0001453/Z534560000

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

NO.	DATE	DESCRIPTION



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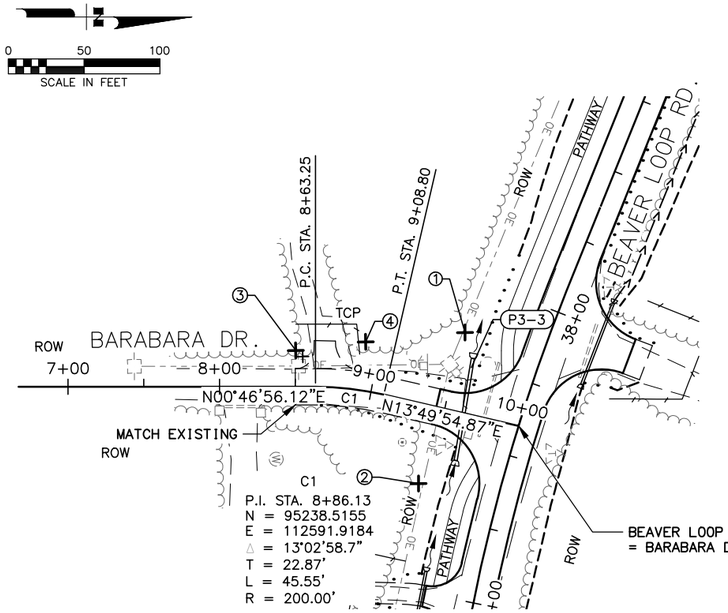
STATE OF ALASKA
DRAFT FINAL
4/14/2017
PROFESSIONAL ENGINEER

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATH

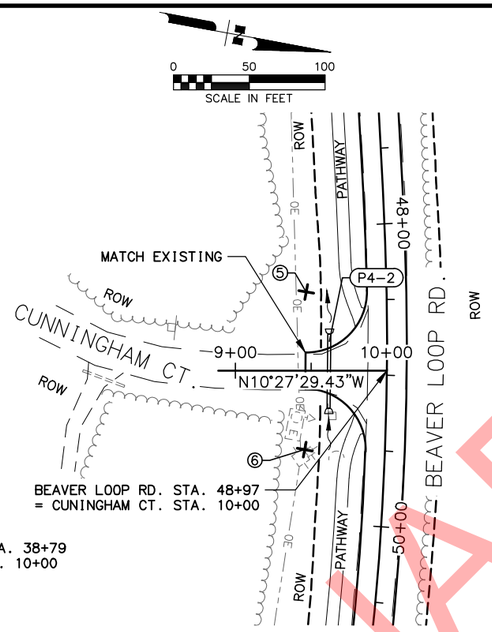
PLAN & PROFILE

STA. 197+00 TO EOP



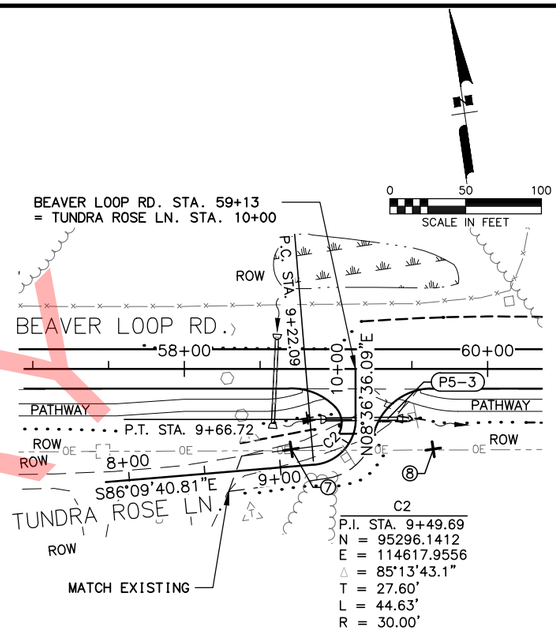
BARABARA DR.

STA. 38+79, RT



CUNNINGHAM CT.

STA. 48+97, RT



TUNDRA ROSE LN.

STA. 59+13, RT

NOTES:

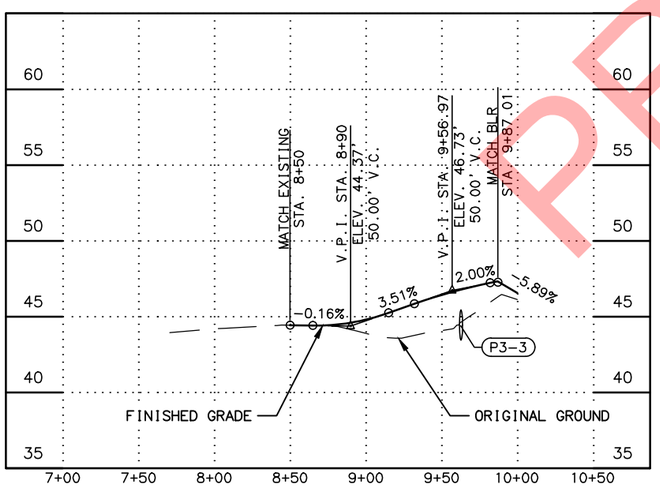
1. UNDERGROUND UTILITIES AND EXISTING PAVEMENT SCHEDULED FOR REMOVAL NOT SHOWN.
2. SEE SHEET B3 FOR TYPICAL SECTION, SEE SHEET D7 FOR DIMENSIONS NOT ON THIS SHEET.

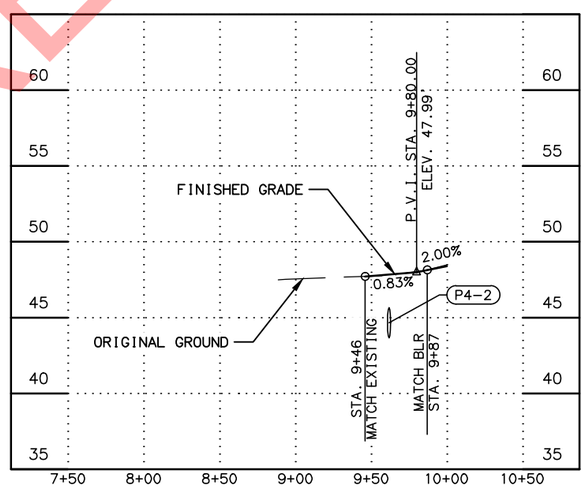
RADIUS POINT SUMMARY

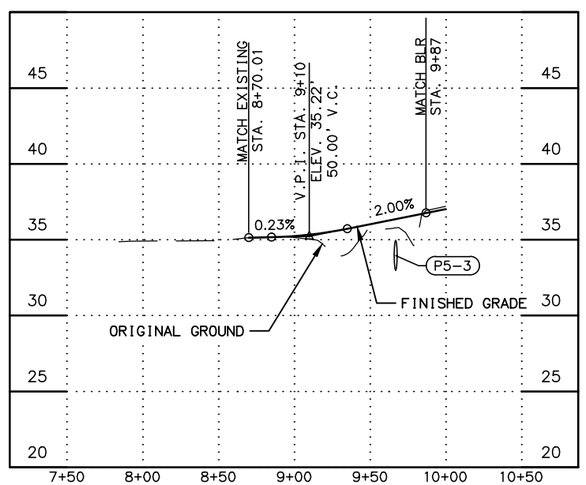
POINT	STATION	OFFSET	RADIUS	REMARKS
①	38+33.22	53.00 RT	40.00'	BARABARA DR.
②	39+32.96	53.00 RT	40.00'	BARABARA DR.
③	8+50.25	24.00 LT	12.00'	DWAY OFF BARABARA DR.
④	8+91.94	32.00 LT	20.00'	DWAY OFF BARABARA DR.

RADIUS POINT SUMMARY

POINT	STATION	OFFSET	RADIUS	REMARKS
⑤	48+43.96	53.00 RT	40.00'	CUNNINGHAM CT.
⑥	49+50.97	53.00 RT	40.00'	CUNNINGHAM CT.
⑦	58+70.55	52.97 RT	40.00'	TUNDRA ROSE LN.
⑧	59+64.18	52.91 RT	40.00'	TUNDRA ROSE LN.







SHEET NO.	TOTAL SHEETS
F18	F25
STATE	YEAR
ALASKA	2018

PROJECT DESIGNATION

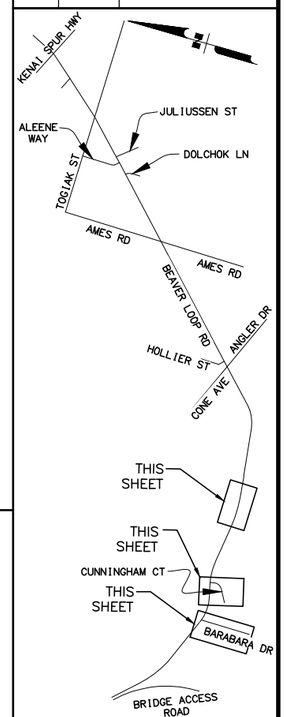
0001453/Z534560000

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

NO.	DATE	DESCRIPTION



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STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATH

APPROACH PLAN AND PROFILE

DESIGNED BY: BCL
CHECKED BY: JP/AJ
DRAFTED BY: SH/BP/BB

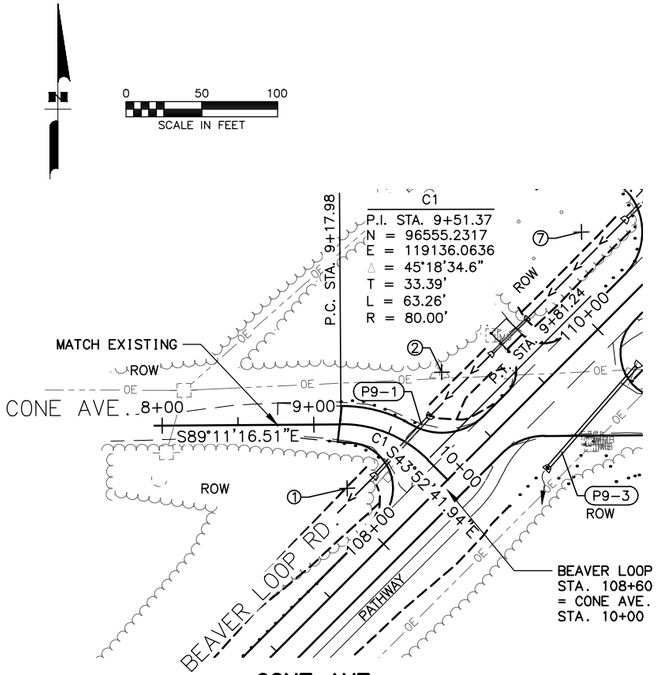
XREFS

SCALE: N/A

LAYOUT: F18

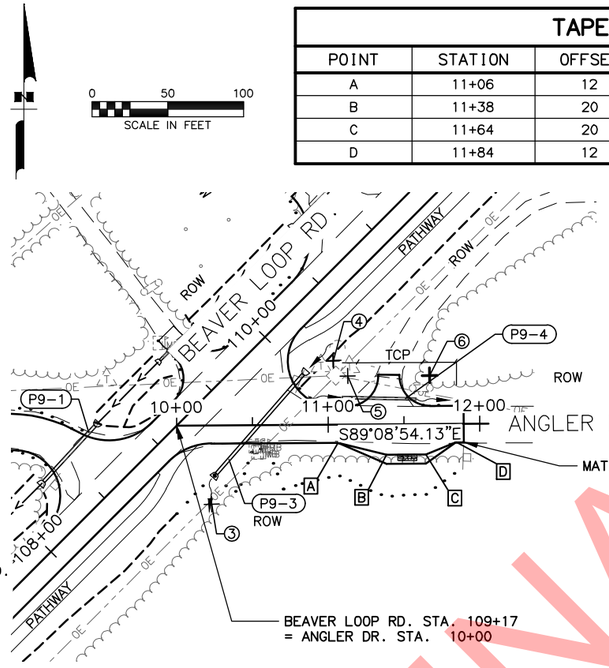
DATE TIME: 4/14/2017 2:34 PM

DRAWING LOCATION: Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\F18-F22_Approach P&P.dwg



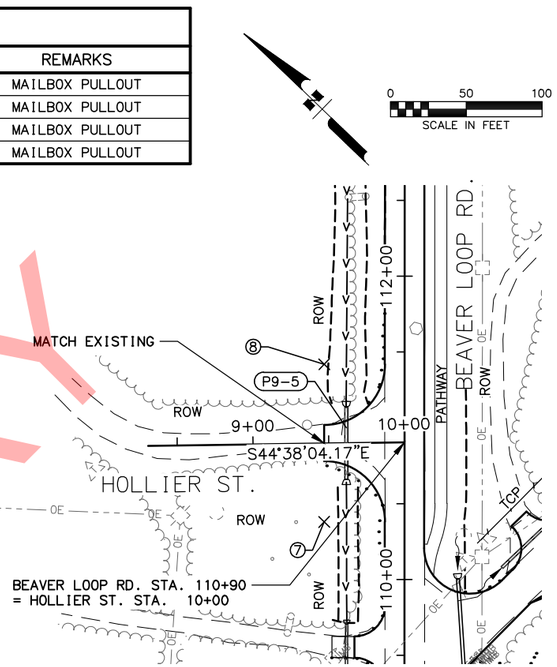
CONE AVE.

STA. 108+60, LT



ANGLER DR.

STA. 109+17, RT



HOLLIER ST.

STA. 110+90, LT

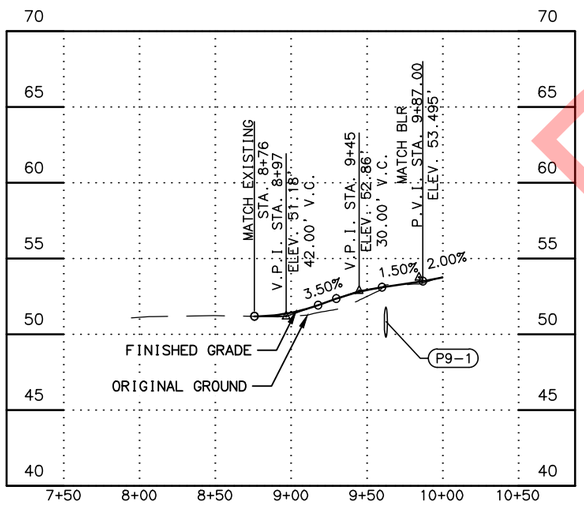
TAPER POINTS				
POINT	STATION	OFFSET	LT/RT	REMARKS
A	11+06	12	RT	MAILBOX PULLOUT
B	11+38	20	RT	MAILBOX PULLOUT
C	11+64	20	RT	MAILBOX PULLOUT
D	11+84	12	RT	MAILBOX PULLOUT

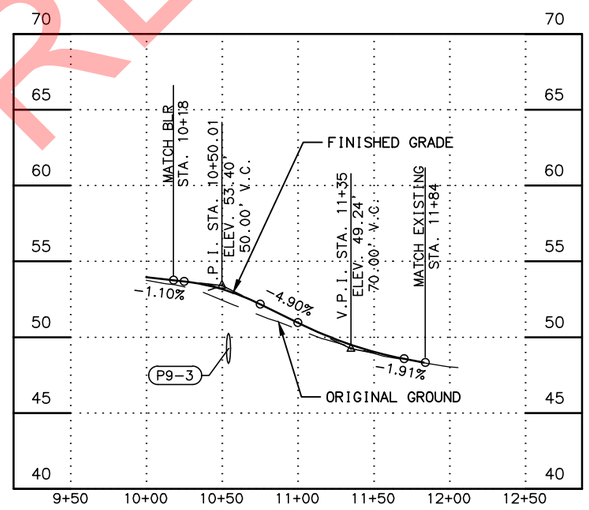
RADIUS POINT SUMMARY				
POINT	STATION	OFFSET	RADIUS	REMARKS
①	108+09.09	43.00 LT	30.00'	CONE AVE.
②	109+07.30	53.00 LT	30.00'	CONE AVE.
③	108+97.09	53.00 RT	30.00'	ANGLER DR.
④	110+20.90	42.94 RT	30.00'	ANGLER DR.

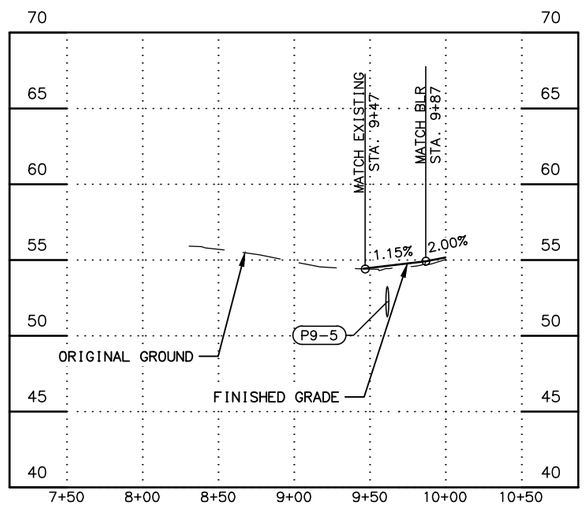
RADIUS POINT SUMMARY				
POINT	STATION	OFFSET	RADIUS	REMARKS
⑤	11+13.07	32.00 LT	20.00'	DWAY OFF ANGLER DR.
⑥	11+67.08	32.00 LT	20.00'	DWAY OFF ANGLER DR.
⑦	110+37.91	53.00 LT	40.00'	HOLLIER ST.
⑧	111+41.91	53.00 LT	40.00'	HOLLIER ST.

NOTES:

1. UNDERGROUND UTILITIES AND EXISTING PAVEMENT SCHEDULED FOR REMOVAL NOT SHOWN.
2. SEE SHEET B3 FOR TYPICAL SECTION, SEE SHEET D7 FOR DIMENSIONS NOT ON THIS SHEET.







SHEET NO.	TOTAL SHEETS
F19	F25
STATE	YEAR
ALASKA	2018

PROJECT DESIGNATION

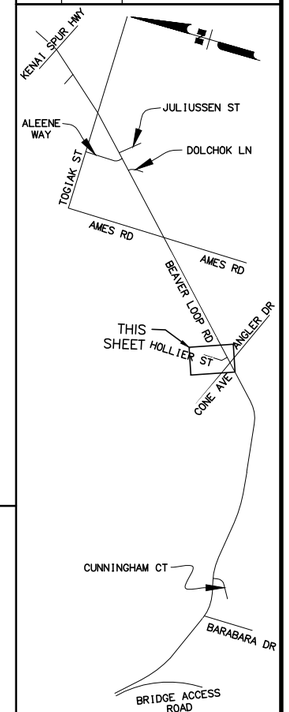
0001453/Z534560000

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

NO.	DATE	DESCRIPTION



PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC
3909 Arctic Blvd, Suite 400
Anchorage, Alaska 99503
(907) 346-2373
CERT. OF AUTH. NO. AECL 1102

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATH

APPROACH PLAN AND PROFILE

DRAWING LOCATION: Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\F18-F22_Approach P&P.dwg
DATE TIME: 4/14/2017 2:34 PM
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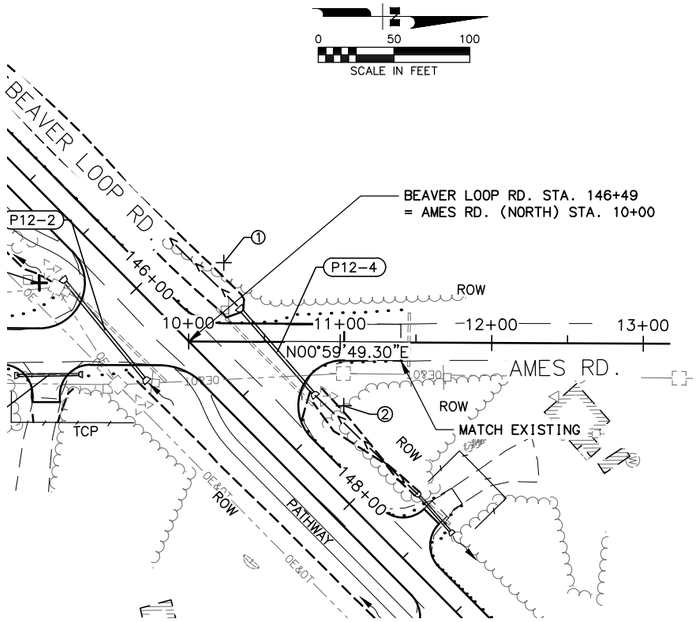
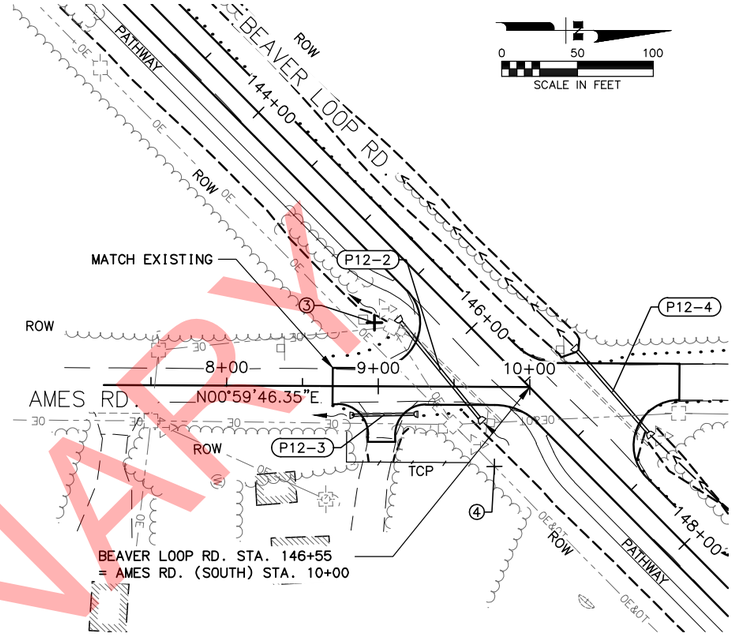
XREFS:
DESIGNED BY: BCL
CHECKED BY: JP/AJ
DRAFTED BY: SH/BP/BB



AMES RD. (NORTH)

STA. 146+49, LT



AMES RD.(SOUTH)

STA. 146+55, RT

RADIUS POINT SUMMARY				
POINT	STATION	OFFSET	RADIUS	REMARKS
①	146+28.49	52.97 LT	40.00'	AMES RD. (NORTH)
②	147+51.29	42.96 LT	30.00'	AMES RD. (NORTH)
③	145+52.37	43.02 RT	30.00'	AMES RD. (SOUTH)
④	146+75.53	53.38 RT	40.00'	AMES RD. (SOUTH)

NOTES:

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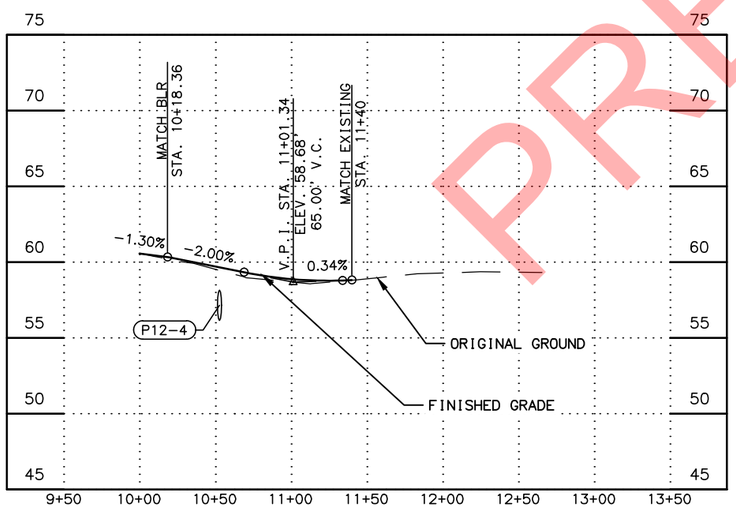

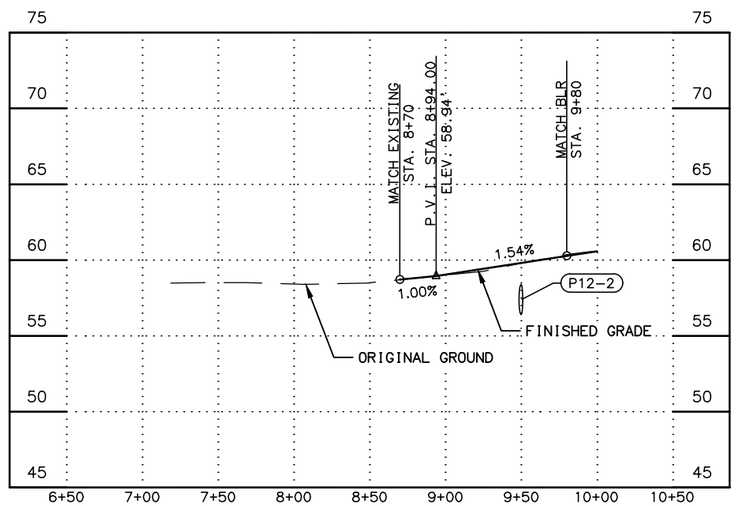

SHEET NO.	TOTAL SHEETS
F20	F25
STATE	YEAR
ALASKA	2018

PROJECT DESIGNATION

0001453/Z534560000

ADDENDUM NO.

ATTACHMENT NO.

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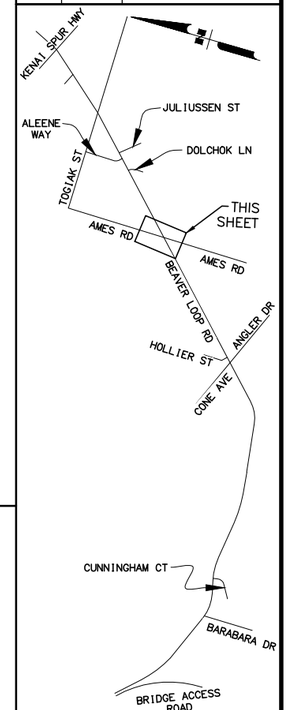

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AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATH

APPROACH PLAN
AND PROFILE

DESIGNED BY: BCL
CHECKED BY: JP/AJ
DRAFTED BY: SH/BP/BB

XREFS

SCALE: N/A

LAYOUT: F20

DATE TIME: 4/14/2017 2:34 PM

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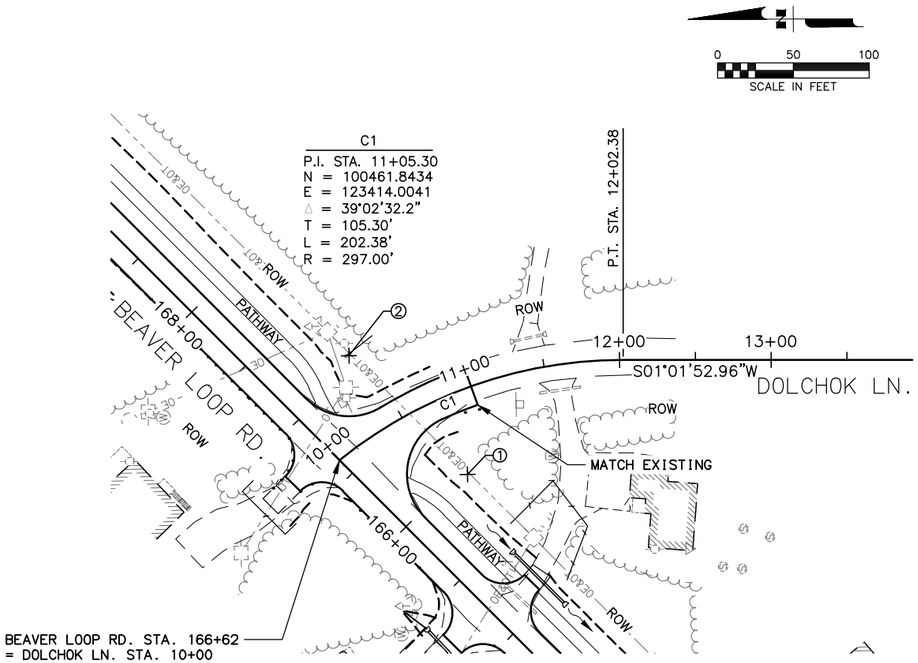
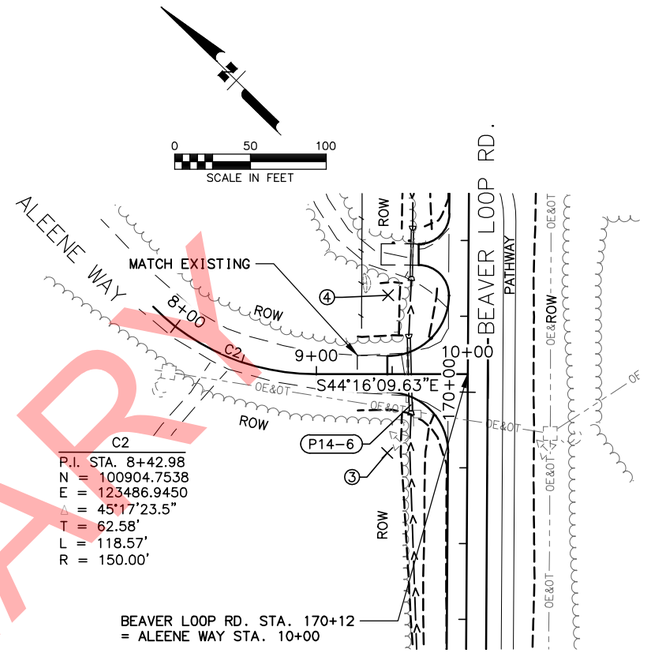


DOLCHOK LN.

STA. 166+62, RT



ALEENE WAY

STA. 170+12, LT

RADIUS POINT SUMMARY

POINT	STATION	OFFSET	RADIUS	REMARKS
①	165+95.72	53.17 RT	40.00'	DOLCHOK LN.
②	167+06.41	53.18 RT	40.00'	DOLCHOK LN.
③	169+59.59	52.85 LT	40.00'	ALEENE WAY
④	170+63.59	52.86 LT	40.00'	ALEENE WAY

NOTES:

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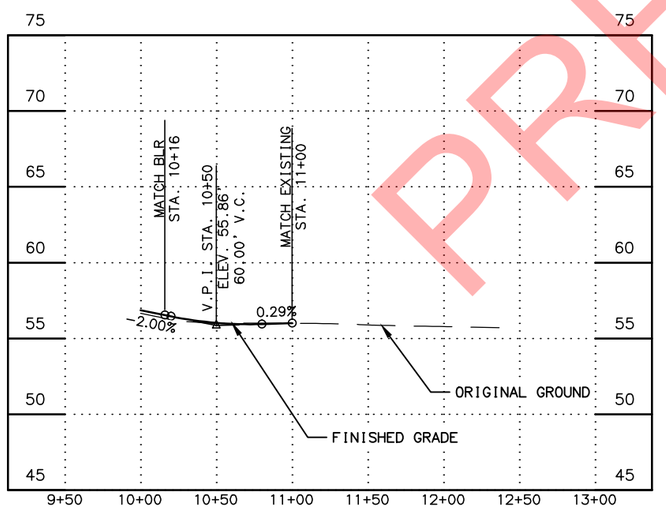
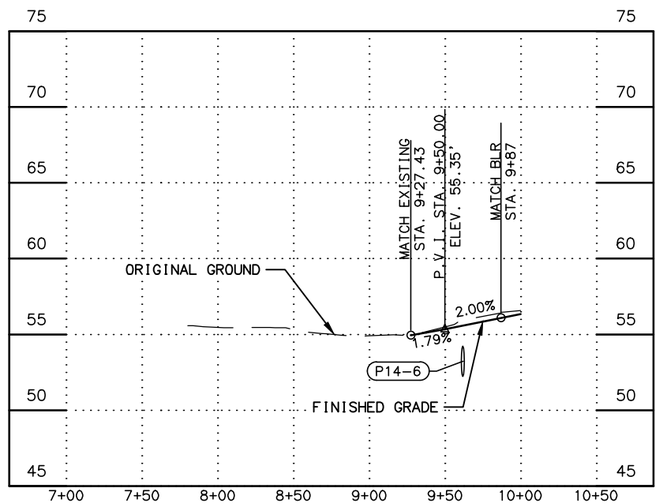




SHEET NO.	TOTAL SHEETS
F21	F25
STATE	YEAR
ALASKA	2018

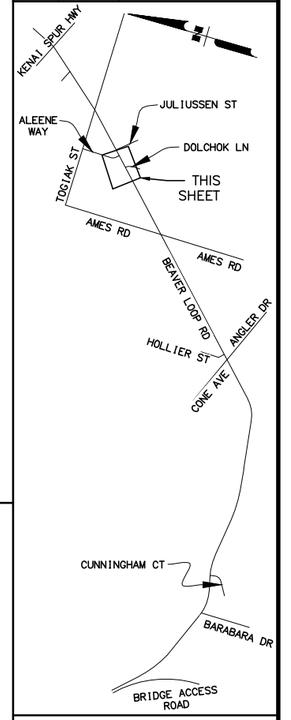
PROJECT DESIGNATION
0001453/Z534560000

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

NO.	DATE	DESCRIPTION



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BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATH

APPROACH PLAN AND PROFILE

DRAWING LOCATION
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DESIGNED BY	BCL
CHECKED BY	JP/AJ
DRAFTED BY	SH/BP/BB

XREFS

SCALE N/A

LAYOUT F21

DATE TIME 4/14/2017 2:34 PM

DESIGNED BY	BCL
CHECKED BY	JP/AJ
DRAFTED BY	SH/BP/BB

XREFS

SCALE N/A

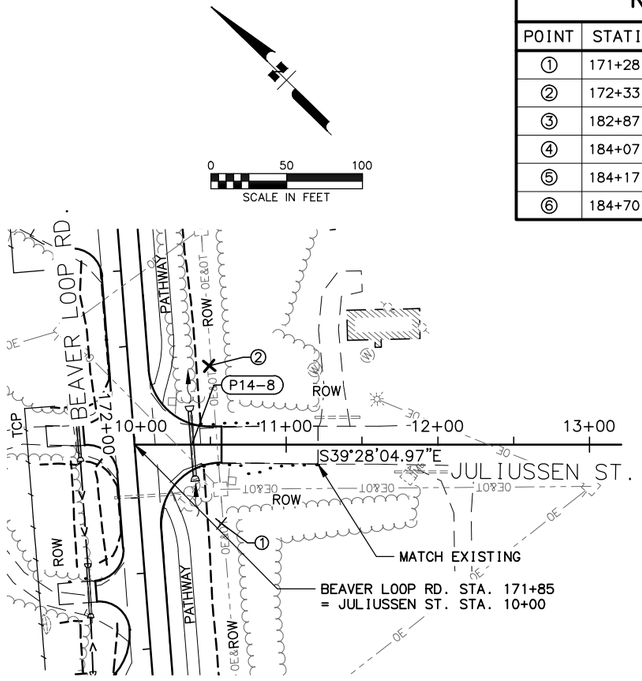
LAYOUT F22

DATE TIME 4/14/2017 2:34 PM

DRAWING LOCATION Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\F18-F22_Approach P&P.dwg

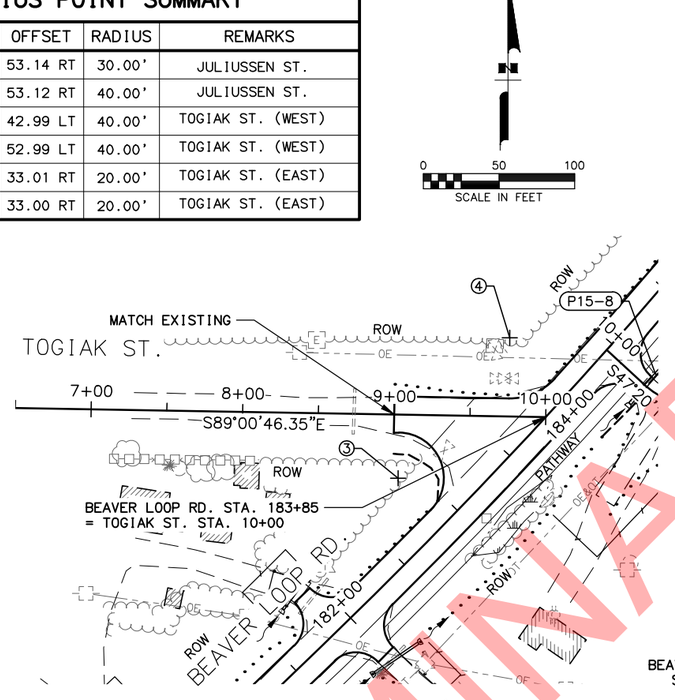
RADIUS POINT SUMMARY

POINT	STATION	OFFSET	RADIUS	REMARKS
①	171+28.75	53.14 RT	30.00'	JULIUSSEN ST.
②	172+33.07	53.12 RT	40.00'	JULIUSSEN ST.
③	182+87.89	42.99 LT	40.00'	TOGIAK ST. (WEST)
④	184+07.47	52.99 LT	40.00'	TOGIAK ST. (WEST)
⑤	184+17.44	33.01 RT	20.00'	TOGIAK ST. (EAST)
⑥	184+70.96	33.00 RT	20.00'	TOGIAK ST. (EAST)



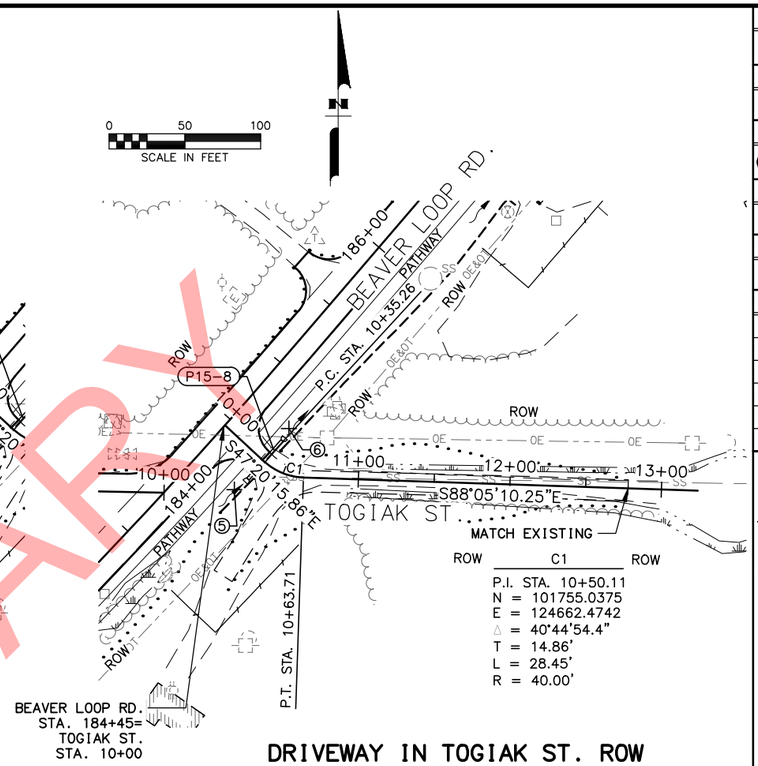
JULIUSSEN ST.

STA. 171+85, RT



TOGIAK ST. (WEST)

STA. 183+85, LT



ROW C1 ROW

P.I. STA. 10+50.11
N = 101755.0375
E = 124662.4742
Δ = 40°44'54.4"
T = 14.86'
L = 28.45'
R = 40.00'

DRIVEWAY IN TOGIAK ST. ROW

STA. 184+45, RT

NOTES:

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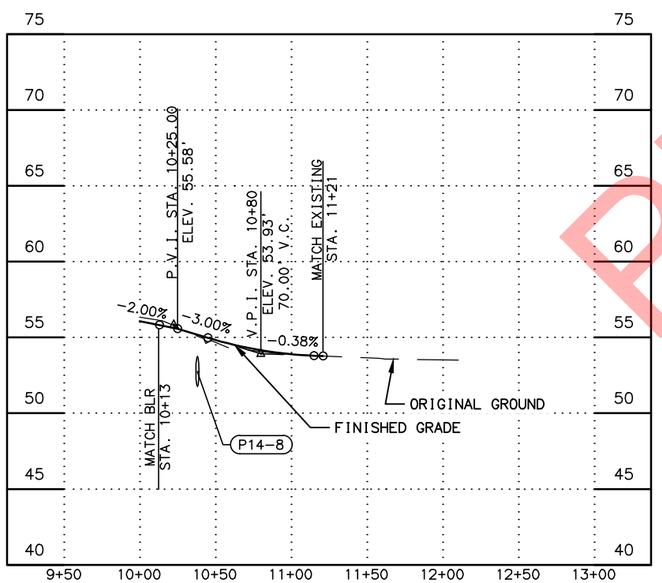

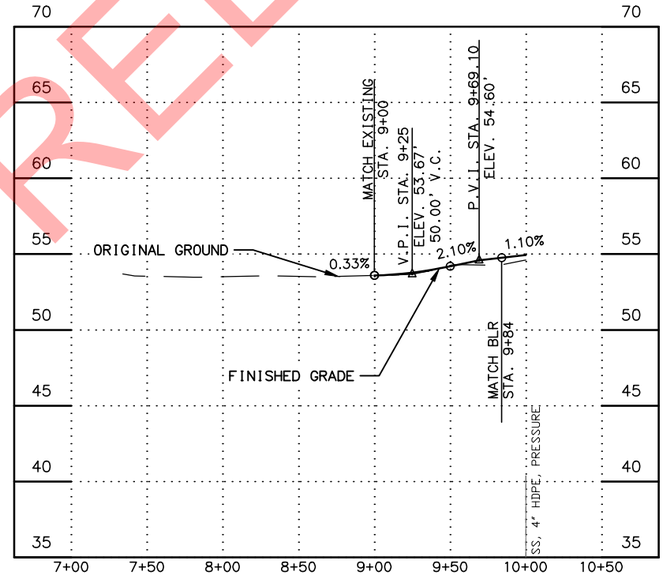

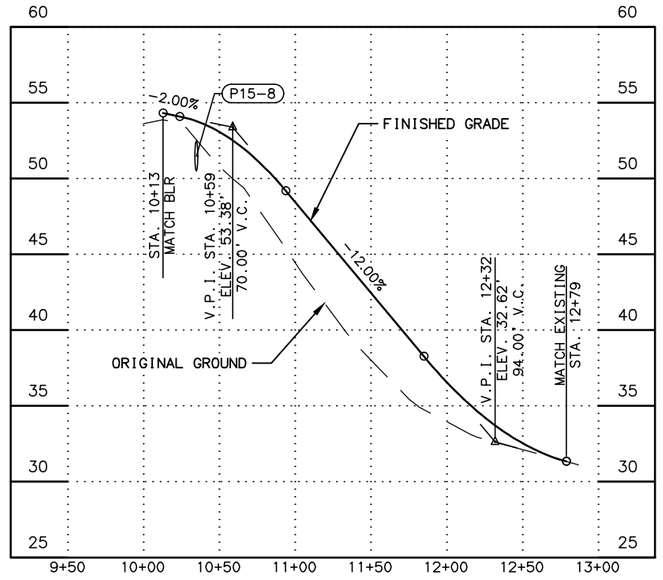

SHEET NO.	TOTAL SHEETS
F22	F25
STATE	YEAR
ALASKA	2018

PROJECT DESIGNATION

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ADDENDUM NO.

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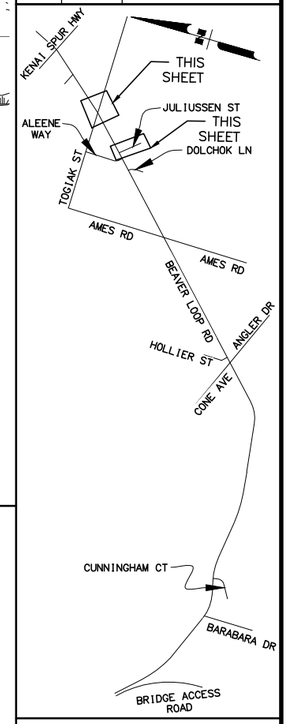

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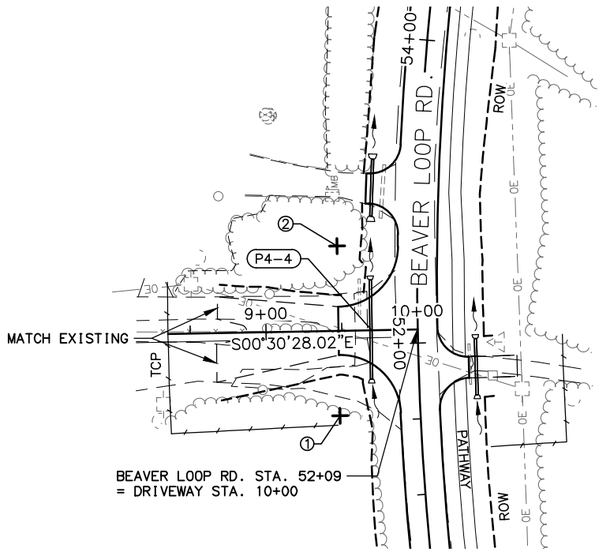
STATE OF ALASKA
★ 49 ★
DRAFT FINAL 4/14/2017
PROFESSIONAL ENGINEER

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

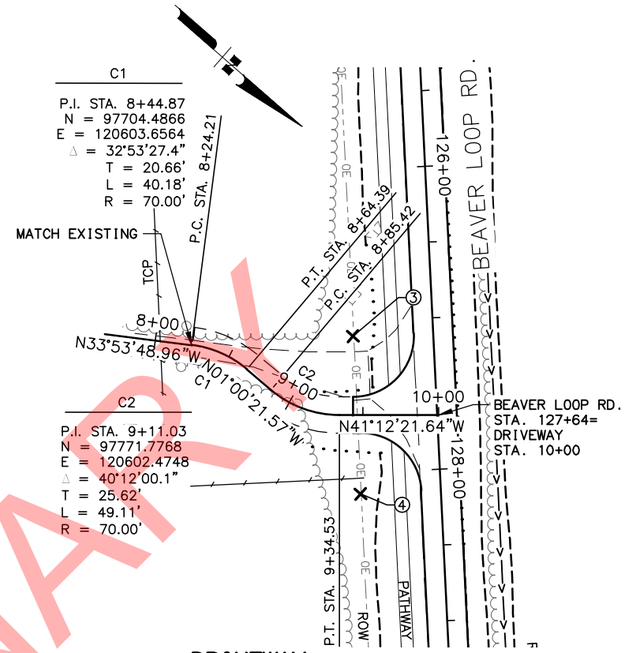
BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATH

APPROACH PLAN AND PROFILE



DRIVEWAY

STA. 52+09, LT



DRIVEWAY

STA. 127+64, RT

RADIUS POINT SUMMARY

POINT	STATION	OFFSET	RADIUS	REMARKS
①	51+54.49	53.00 LT	40.00'	
②	52+63.45	53.00 LT	40.00'	
③	127+09.62	53.00 RT	40.00'	
④	128+13.75	53.00 RT	40.00'	

NOTES:

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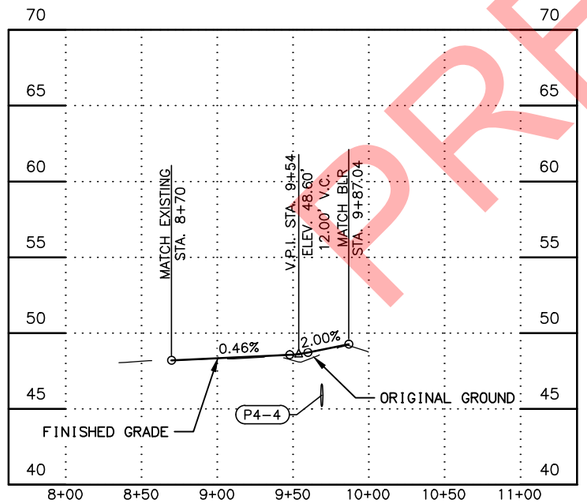

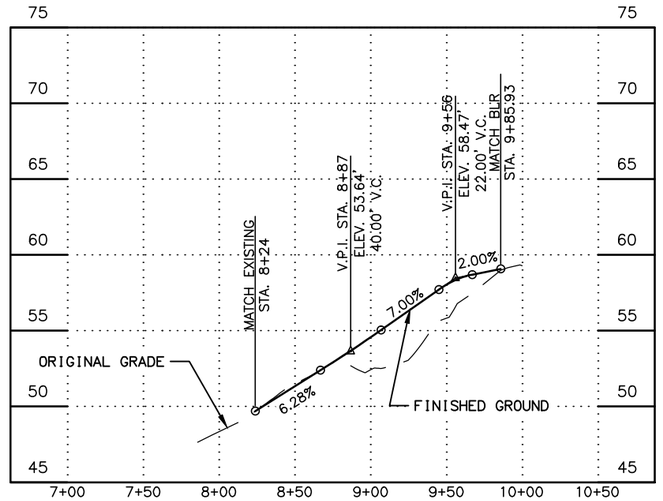

SHEET NO.	TOTAL SHEETS
F23	F25
STATE	YEAR
ALASKA	2018

PROJECT DESIGNATION

0001453/Z534560000

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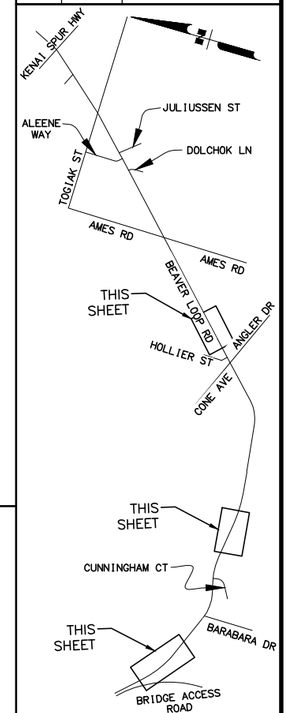

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BEAVER LOOP ROAD
IMPROVEMENTS
AND PEDESTRIAN PATH

APPROACH PLAN
AND PROFILE

DRAWING LOCATION: Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\F23_Driveway_Approach P&P.dwg
DATE TIME: 4/14/2017 2:21 PM
XREFS:
DESIGNED BY: BCL
CHECKED BY: JP/AJ
DRAFTED BY: SH/BP/BB
SCALE: N/A
LAYOUT: F23

DESIGNED BY	BCL
CHECKED BY	JP/AJ
DRAFTED BY	SH/BP/BB

XREFS

SCALE N/A

LAYOUT F24

DATE TIME 4/14/2017 2:21 PM

DRAWING LOCATION Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\F23_Driveway_Approach P&P.dwg

RADIUS POINT SUMMARY

POINT	STATION	OFFSET	RADIUS	REMARKS
①	155+02.81	33.09 RT	20.00'	
②	155+59.14	33.09 RT	20.00'	
③	191+03.97	33.00 LT	20.00'	
④	191+57.96	33.00 LT	20.00'	
⑤	201+46.71	65.38 RT	40.00'	
⑥	202+57.45	68.00 RT	40.00'	

NOTES:

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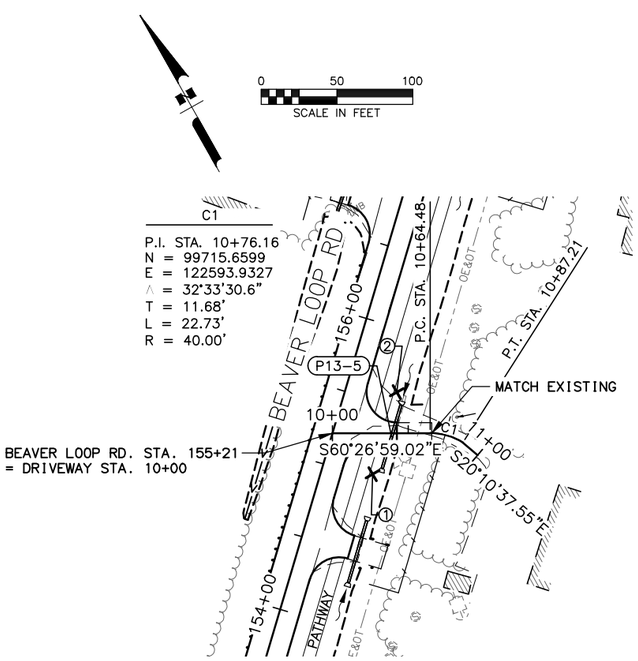
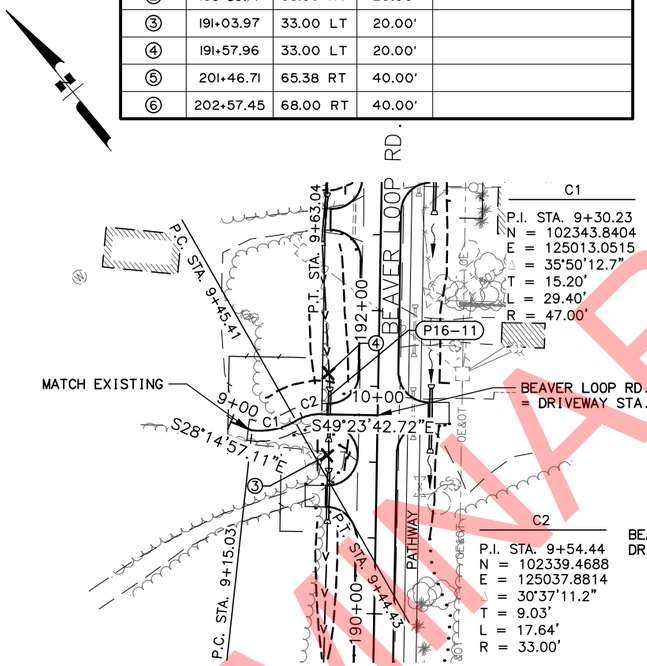
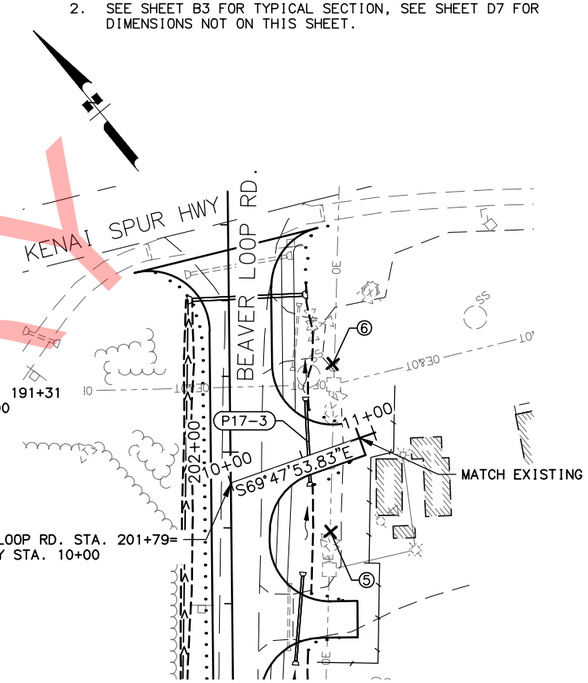


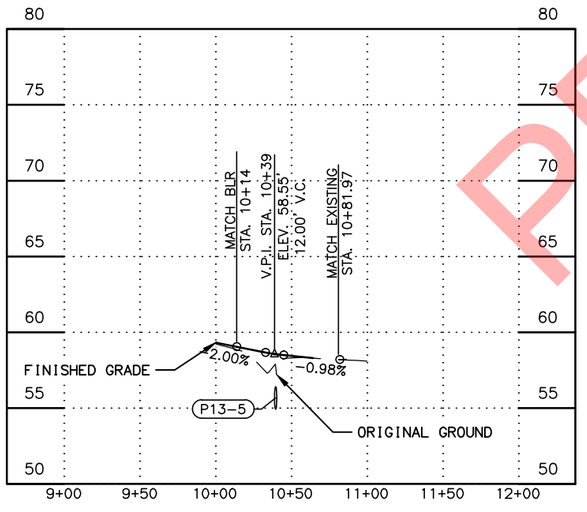
DRIVEWAY
STA. 155+21, RT

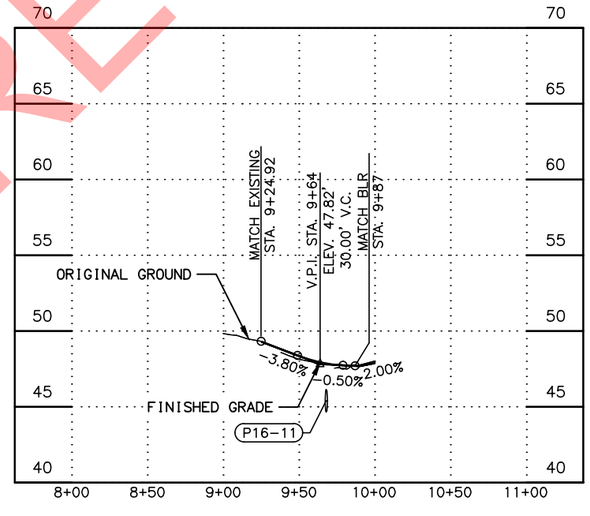


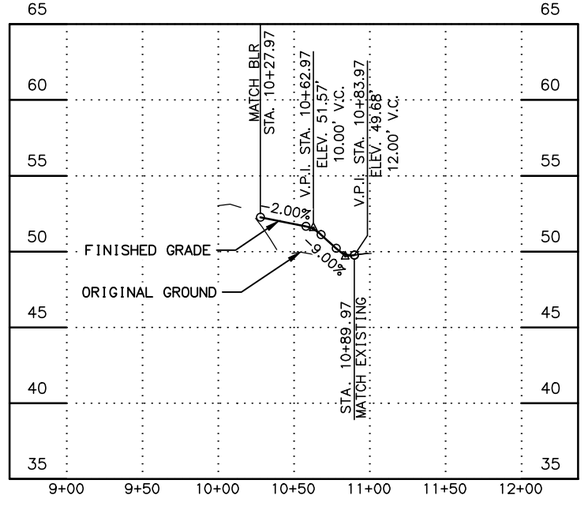
DRIVEWAY
STA. 191+31, LT



DRIVEWAY
STA. 201+79, RT







SHEET NO.	TOTAL SHEETS
F24	F25
STATE	YEAR
ALASKA	2018

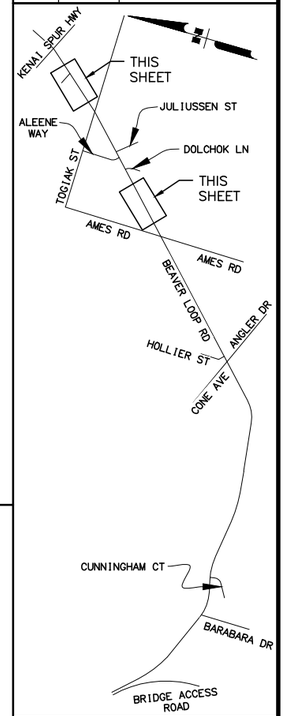
PROJECT DESIGNATION
0001453/Z534560000

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

NO.	DATE	DESCRIPTION



PLANS DEVELOPED BY:
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3909 Arctic Blvd, Suite 400
Anchorage, Alaska 99503
(907) 346-2373
CERT. OF AUTH. NO. AECL 1102

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

BEAVER LOOP ROAD
IMPROVEMENTS
AND PEDESTRIAN PATH

APPROACH PLAN
AND PROFILE

DESIGNED BY XXX
CHECKED BY XXX
DRAFTED BY XXX

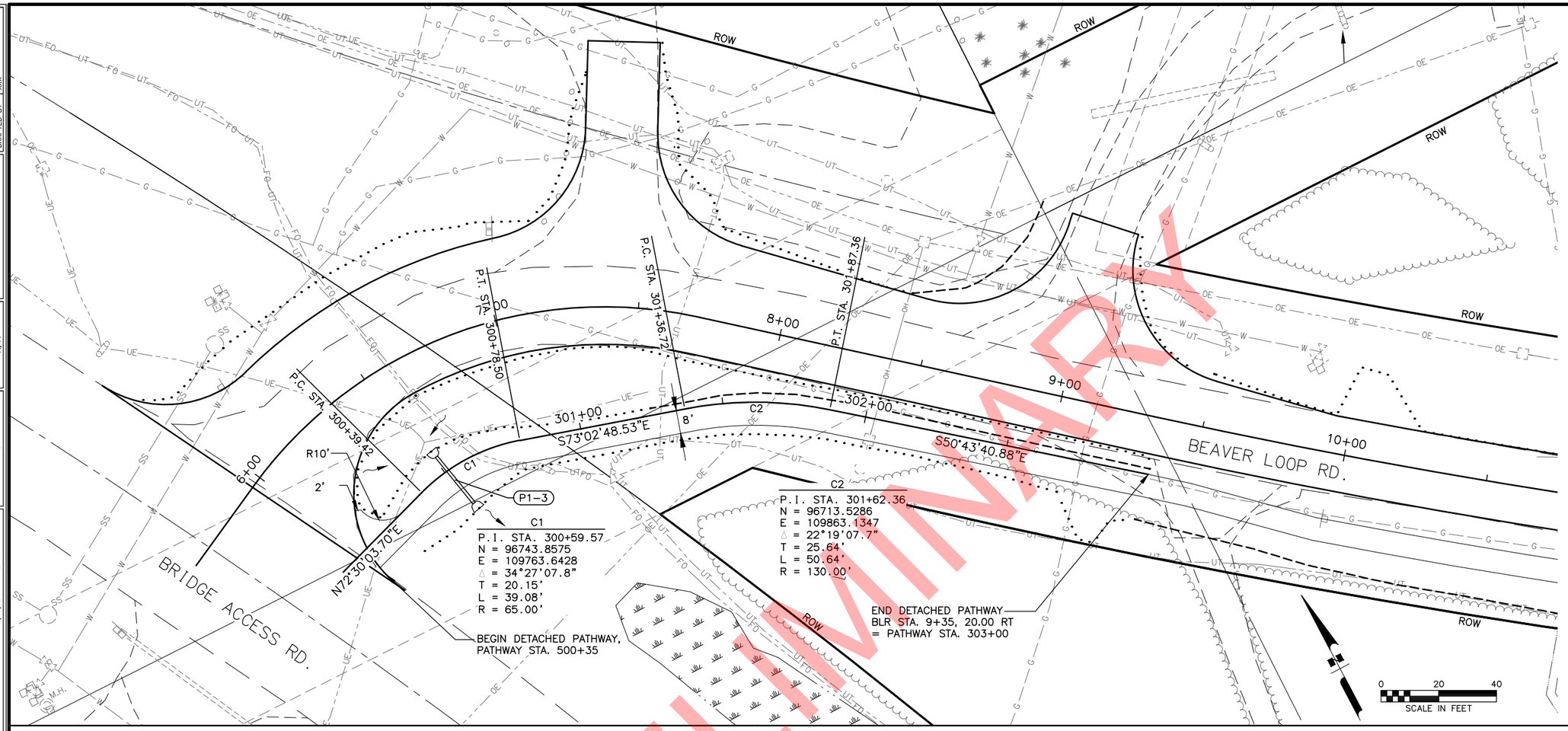
XREFS

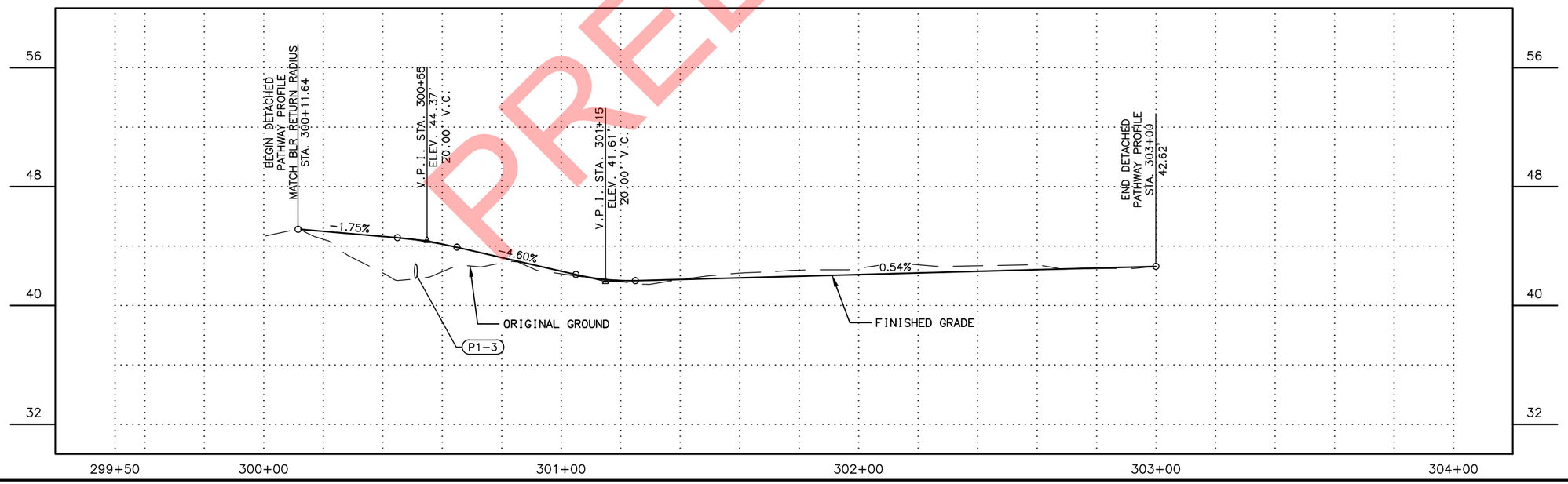
SCALE N/A

LAYOUT F25

DATE TIME 4/6/2017 12:06 PM

DRAWING LOCATION Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\53456_F_Path P&P.dwg





SHEET NO.	TOTAL SHEETS
F25	F25
STATE	YEAR
ALASKA	2018

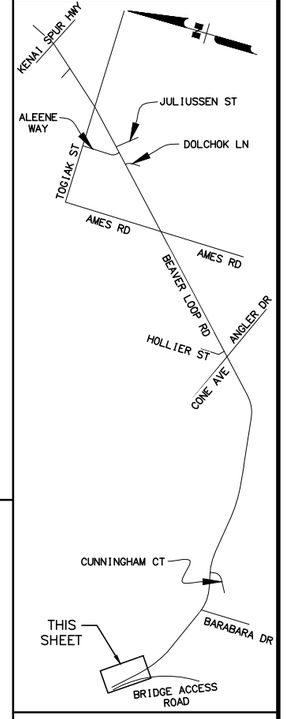
PROJECT DESIGNATION
0001453/Z534560000

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

NO.	DATE	DESCRIPTION



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STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATH

PATHWAY PLAN & PROFILE

BOP TO STA. 17+00

DESIGNED BY	BCL
CHECKED BY	JP/AJ
DRAFTED BY	SH/BP/BB

XREFS: CENTRAL REGION TRAFFIC DETAIL 10/13/2016

SCALE: N/A

LAYOUT: H1

DATE TIME: 4/7/2017 4:34 PM

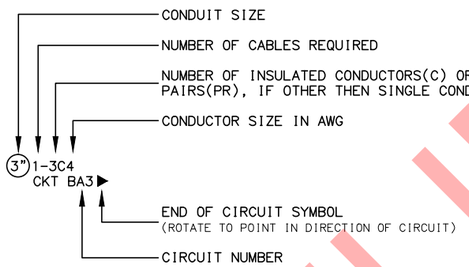
DRAWING LOCATION: Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\H1_TRAFFIC-LEGEND-AND-NOTES.dwg

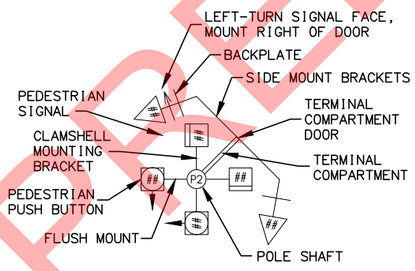
SYMBOL LEGEND

EXISTING	PROPOSED	
		LOAD CENTER
		TRAFFIC CONTROLLER
		BEACON CONTROLLER
##	##	TYPE 1A JUNCTION BOX
##	##	TYPE II JUNCTION BOX
##	##	TYPE III JUNCTION BOX
##	##	TYPE IV JUNCTION BOX
		ELECTROLIER
HT#	HT#	HIGHTOWER
##	##	SIGNAL POLE WITH MASTARM
		PEDESTRIAN PUSH BUTTON
		PEDESTRIAN SIGNAL
		VEHICULAR SIGNAL
		VEHICULAR SIGNAL LEFT
		VEHICULAR SIGNAL RIGHT
A	A	OPTICAL DETECTOR
GPS	GPS	GPS DETECTOR
CAM	CAM	CAMARA DETECTOR
RAD	RAD	RADAR DETECTOR
###	###	LOOP DETECTOR
		ANTENNA, YAGI OR OMNI
		MASTARM BEACON
		RURAL BEACON
		SCHOOL ZONE BEACON
		LOOP DETECTOR CONDUIT
		SIGNAL CONDUIT
		LIGHTING CONDUIT
		SIGNAL & LIGHTING CONDUIT
		CONDUIT BORING
2"	2"	CONDUIT SIZE IN INCHES
F/O #	F/O #	FIBER OPTIC VAULT
I/C	I/C	INTERCONNECT
	1	SIGN POST & NUMBER
		PRIVATE SIGN

PAVEMENT MARKING LEGEND

PROPOSED	
	PROJECT CENTERLINE
8"W	8" WHITE SOLID STRIPE
4"W	4" WHITE SOLID STRIPE
4"W SKIP	4" WHITE SKIP STRIPE 10' STRIPES AND 30' SPACES
8"W GUIDE SKIP	8" WHITE LANE GUIDE SKIP LANE CONTINUATION OR TURN SKIP 1' STRIPES AND 3' SPACES
4"W GUIDE SKIP	4" WHITE BIKE LANE GUIDE SKIP LANE CONTINUATION OR TURN SKIP 2' STRIPES AND 6' SPACES
8"Y	8" YELLOW SOLID STRIPE
4"Y	4" YELLOW SOLID STRIPE
4"Y SKIP	4" YELLOW SKIP STRIPE 10' STRIPES AND 30' SPACES
+20	STRIPING CHANGE STATION INTERVAL
24"W (TYP)	2' CROSSWALK OR STOPBAR
10'	LADDER CROSSWALK LAYOUT 2' WIDE RUNGS WITH 2' SPACES ALIGNED TO AVOID TIRE PATHS
12', (2)-4"Y 3" APART, VARIES, 18"Y @ 45°	TYPICAL PAINTED MEDIAN





POLE SHAFT LEGEND

CALL BEFORE YOU DIG!

CONTRACTOR SHALL CALL A MINIMUM OF 3 DAYS IN ADVANCE OF CONSTRUCTION

ALASKA DIGLINE....907-278-3121 OR 800-478-3121

CALL OR GO TO WWW.AKONECALL.COM/STATEWIDE.HTM FOR MEMBER LIST OF WHO WILL BE NOTIFIED

ABBREVIATIONS

℄ - CENTERLINE
SIG - SERVICE TO CONTROLLER
INTX - INTERSECTION
INTX L - INTERSECTION LIGHTING
LTG - LIGHTING
PRE 2 - PREEMPTION #
PRE CON 2 - PREEMPTION CONTROLLER #
LC - LOAD CENTER
TC - TRAFFIC CONTROLLER
P1 - TRAFFIC SIGNAL POLE #
PEC - PHOTOELECTRIC CELL
YAGI - DIRECTIONAL ANTENNA
OMNI - OMNI DIRECTIONAL ANTENNA
HEAD - VEHICULAR SIGNAL HEAD
PED B 28 - PEDESTRIAN PUSH BUTTON #
PEDI - PEDESTRIAN SIGNAL HEAD
RMC - RIGID METAL CONDUIT
PE - POLYETHYLENE CONDUIT
LFNC - LIQUIDTIGHT FLEXIBLE NONMETALLIC CONDUIT
AWG - AMERICAN WIRE GAUGE
NB - NORTH BOUND
EB - EAST BOUND
SB - SOUTH BOUND
WB - WEST BOUND

NOTES:

FOUNDATIONS NOTES:

1. STATION & C.L. REFERENCE ARE TO THE CENTER OF THE STRUCTURE, EXCEPT ON LOOPS WHICH ARE TO THE CENTER OF THE TRAILING EDGE OF THE LOOP (EDGE NEAREST INTERSECTION).
2. JUNCTION BOX LOCATIONS APPROXIMATE. LOCATE J-BOXES SO THAT THEY ARE LOCATED OUT OF THE PATHWAY, SIDEWALK, CURB RAMPS, AND DRAINAGE COLLECTION AREAS.
3. INSTALL LOAD CENTER AND TRAFFIC CONTROLLER FOUNDATIONS WITHIN 1-DEGREE OF PLUMB.
4. INSTALL ANCHOR BOLTS IN CAST FOUNDATIONS TO BE WITHIN 1:40 OF PLUMB.
5. TOPSOIL AND SEED ANY DISTURBED AREAS.

REVISIONS		
NO.	DATE	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0001453/Z534560000	2018	H1	H29

SIGNING & STRIPING NOTES:

1. ALL STATION LOCATIONS FOR SIGN INSTALLATION ARE APPROXIMATE. INSTALL SIGNS AT LOCATIONS AS DIRECTED BY THE ENGINEER.
2. USE THE FOLLOWING DEFINITIONS TO DECIPHER THE ABBREVIATED SIGN POST TYPES IN THE SIGN SUMMARY SHEETS.
   A. PT MEANS A PERFORATED STEEL TUBE.
   B. T MEANS A SQUARE STEEL TUBE.
   C. P MEANS A ROUND STEEL PIPE.
   D. W MEANS A WIDE FLANGE BEAM.
   E. POPL MEANS A POLE PLATE INSTALLED PER ITS STANDARD DRAWING S-23
3. FABRICATE ALL SIGNS FROM 0.125" THICK ALUMINUM SHEETING, UNLESS STATED ELSEWHERE.
4. FOR SIGNS SUPPORTED BY MULTIPLE POSTS, FABRICATE THE POSTS WITH THEIR TOPS LEVEL WITH ONE ANOTHER.
5. FOR PERFORATED STEEL TUBE SIGNPOSTS, INSTALL THE CONCRETE FOUNDATION OPTION SHOWN ON STANDARD DRAWING S-30.03. TRIM EACH PT POST TO LIMIT THE LENGTH INSERTED INTO THE FOUNDATION TO 12 INCHES.
6. FABRICATE GUIDE SIGNS ACCORDING TO THE SHOP DRAWINGS INCLUDED IN THE APPENDICES OF PART 4, CONTRACT PROVISIONS AND SPECIAL PROVISIONS. TRIM THE CORNERS OF ALL SIGNS TO THE RADIUS SHOWN ON EACH SHOP DRAWING.
7. ERECT NEW SIGNS BEFORE REMOVAL OF EXISTING SIGNS WITH SIMILAR MESSAGE. NOTIFY THE ENGINEER A MINIMUM OF 14 DAYS PRIOR TO BEGINNING SIGN REMOVAL AND SALVAGE OR DISPOSAL ACTIVITIES.
8. FOR SIGNS SUPPORTED BY MULTIPLE TUBES OR PIPES, LOCATE THE OUTER POSTS ON MAXIMUM SIX FEET CENTERS. INSTALL ADJACENT WIDE FLANGE POSTS ON MINIMUM EIGHT FEET CENTERS.
9. SELECTIVE AND HAND CLEARING SHALL BE PERFORMED AT THE DISCRETION OF THE ENGINEER, IN ACCORDANCE WITH SECTION 201, UPSTREAM OF ALL SIGN INSTALLATION LOCATIONS TO ACHIEVE MINIMUM SIGN VISIBILITY REQUIREMENTS. IF NOT INCLUDED AS A SEPARATE ITEM, THIS WORK SHALL BE SUBSIDIARY TO THE SIGN INSTALLATION ITEMS AND WORK.
10. FOR ALL FINAL PAVEMENT MARKINGS USE PAINT, SURFACE APPLIED AT 20 MILS.
11. DIMENSIONS REFER TO THE CENTER OF STRIPE AND THE EDGE OF PAVEMENT OR FACE OF CURB WHEN PRESENT.
12. IF THE NEW AND EXISTING PAVEMENT MARKINGS ARE NOT ALIGNED AT MATCH LINE, TRANSITION BETWEEN THE TWO USING A 100:1 TAPER ON THE NEW PAVEMENT.
13. WHERE NEW STRIPING IS TO EXTEND BEYOND PAVING LIMITS, REMOVE EXISTING STRIPING IN ACCORDANCE WITH SUBSECTION 670-3.04 TO THE EXTENT OF STRIPING LIMITS.
14. PASSING AND NO PASSING LANE STRIPING SHOWN IN THE PLANS IS FOR REFERENCE ONLY. DETERMINE THE FINAL PASSING LANE STRIPING LOCATIONS PER SECTION 642-3.01.12 OF THE SPECIAL PROVISIONS.

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STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY

TRAFFIC LEGEND AND NOTES

REVISIONS		
NO.	DATE	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0001453/Z534560000	2018	H2	H29

DESIGNED BY BCL
CHECKED BY JP/AJ
DRAFTED BY SH/BP/BB

XREFS
CENTRAL REGION TRAFFIC DETAIL
10/13/2016

SCALE N/A

LAYOUT H2

DATE TIME 3/29/2017 11:29 AM

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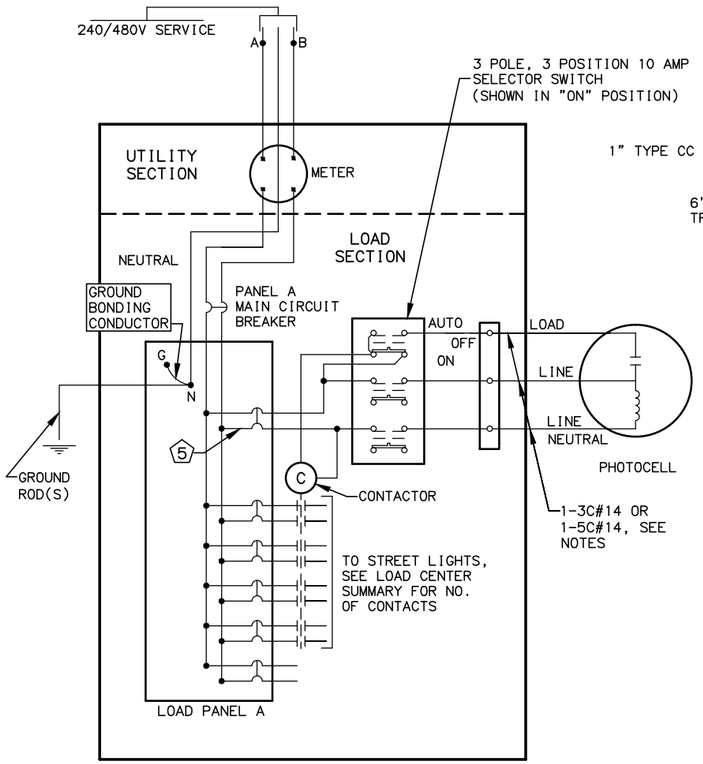
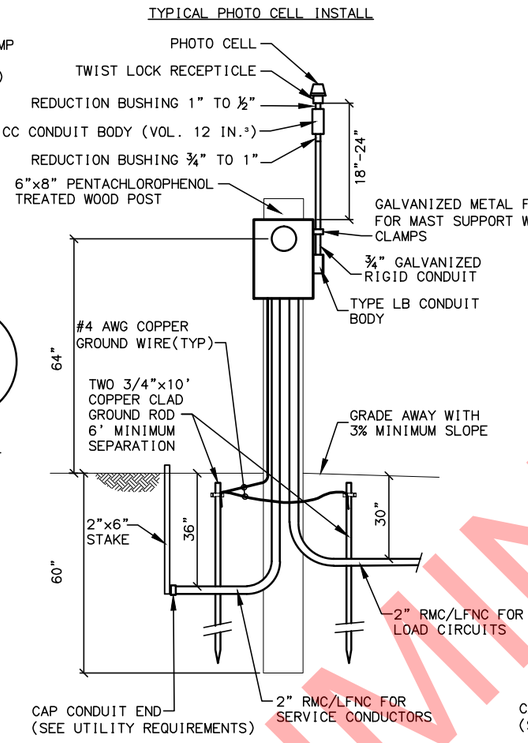
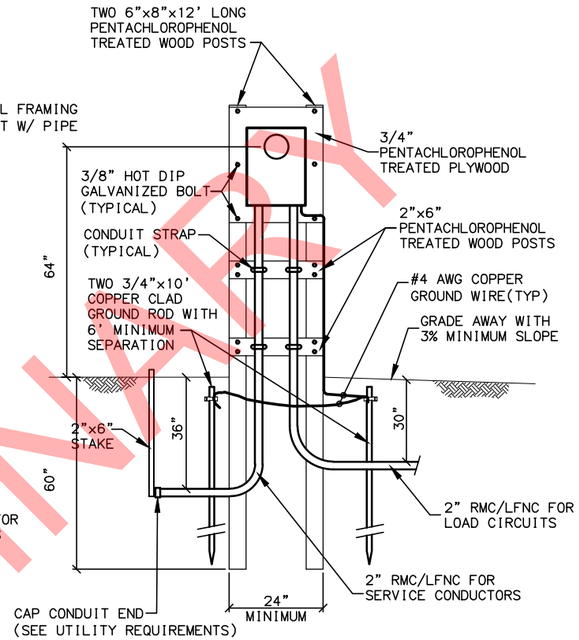


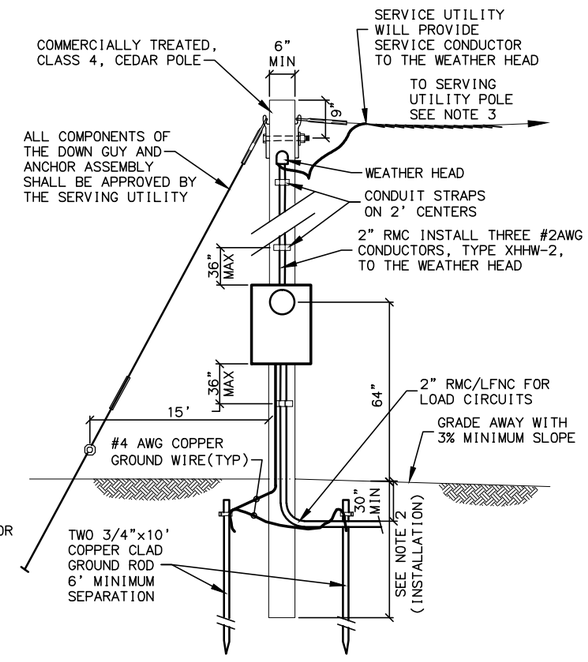
LOAD CENTER ONE LINE DIAGRAM
AND SELECTOR SWITCH WIRING



TYPE 2 LOAD CENTER
SINGLE POST - STANDARD



TYPE 2 LOAD CENTER
DUAL POST - ALTERNATE



TYPE 3 LOAD CENTER

WIRING NOTES:

1. FURNISH ALL EQUIPMENT NOTED IN THE LOAD CENTER SUMMARY, PLUS TWO 20-AMP 2-POLE SPARE CIRCUIT BREAKERS, AND SPACE FOR A MINIMUM OF TWO ADDITIONAL TWO-POLE CIRCUIT BREAKERS, IN EACH LOAD PANEL. SEE SUMMARIES FOR LOAD PANEL VOLTAGES, CURRENT RATINGS, SHORT CIRCUIT INTERRUPTING RATINGS, AND THE NAME OF THE SERVING UTILITY.
2. SIZE THE TYPE 2 AND 3 LOAD CENTER CABINETS TO HOLD THE EQUIPMENT SHOWN IN THE WIRING DIAGRAM AND DETAILED IN EACH LOAD CENTER SUMMARY, ALLOWING SPACE FOR WIRING PER THE NATIONAL ELECTRICAL CODE. INSTALLING A METER BASE AND MAIN BREAKER IN A SEPARATE ENCLOSURE IS ALLOWABLE. HOWEVER IN THIS CASE, FURNISH A BREAKER PANEL WITH A MAIN BREAKER.
3. LABEL ALL CIRCUIT BREAKERS AS TO FUNCTION AND POSITION. LABEL THE SELECTOR SWITCH "LIGHTING" AND ITS POSITIONS "ON-OFF-AUTO".
4. THE VOLTAGE FOR THE PHOTOELECTRIC CONTROL EQUIPMENT SHALL BE 240-VOLT, DERIVED FROM THE SERVICE VOLTAGE, OR FROM A CONTROL TRANSFORMER.
5. PROVIDE 1-POLE CIRCUIT BREAKER ON 240/480 VOLT LOAD CENTERS AND 2-POLE CIRCUIT BREAKER ON 120/240 VOLT LOAD CENTERS.
6. LABEL ALL CIRCUIT BREAKERS AS TO FUNCTION AND POSITION.
7. MOUNT PHOTOCELL RECEPTACLE TO ½" CONDUIT WITH SILICONE SEALANT. INSTALL A 3C#14 CABLE FROM THE LOAD CENTER TO THE TYPE CC CONDUIT BODY WHERE THE SPLICE TO THE PHOTOCELL RECEPTACLE CABLE SHALL BE MADE. IF PLANS CALL TO MOUNT PHOTOCELL AWAY FROM LOAD CENTER USE A 5C#14 CABLE FROM LOAD CENTER TO RECEPTACLE.
8. STORE A SCHEMATIC DIAGRAM, A CIRCUIT DIRECTORY, AND A MATERIALS LIST INCLUDING THE MANUFACTURERS' NAMES AND PART/CATALOG NUMBERS, ALL LAMINATED IN PLASTIC, IN A METAL POCKET ATTACHED TO THE INSIDE OF THE LOAD CENTER.
9. WHEN METAL HALIDE OR MERCURY VAPOR LAMPED FIXTURES ARE USED, PROVIDE A REMOTE BULB THERMOSTAT, SO THAT THE CONTACT CLOSES AND THE LIGHTS TURN ON WHEN THE TEMPERATURE DROPS TO 15°F. WIRE THERMOSTAT SO THAT ITS CONTACT IS PARALLEL THE CONTACT IN THE PHOTOELECTRIC CELL.

INSTALLATION NOTES:

1. INSTALL TYPE 3 LOAD CENTER POLES OF SUFFICIENT LENGTH TO PROVIDE THE FOLLOWING MINIMUM GROUND TO SERVICE CONDUCTOR CLEARANCE:
   - A. 18.5 FEET, IF THE SERVICE CONDUCTORS ARE LOCATED ABOVE ROADWAYS OR PARKING AREAS.
   - B. 26.5 FEET, IF THE SERVICE CONDUCTORS ARE LOCATED WITHIN 20 FEET OF A RAILROAD TRACK.
   - C. 18.5 FEET IN ALL OTHER CIRCUMSTANCES.
2. SET THE BUTT END OF TYPE 3 LOAD CENTER POLES TO THE FOLLOWING MINIMUM DEPTH:
   - A. 10 PERCENT OF ITS LENGTH PLUS 24 INCHES, OR 60 INCHES, WHICHEVER IS GREATER, IF IT IS INSTALLED IN EARTH OTHER THAN SOLID ROCK OR MUSKEG.
   - B. 10 PERCENT OF ITS LENGTH, OR 48 INCHES, WHICHEVER IS GREATER, IF IT IS INSTALLED IN SOLID ROCK.
   - C. CONSIDER MUSKEG TO BE AIR, AND SET THE BUTT ENDS TO THE DEPTH GIVEN IN A OR B, WHICHEVER APPLIES, IN THE UNDERLYING EARTH OR ROCK.

   WHENEVER MORE THAN 24 INCHES OF EARTH OVERLAYS ROCK, OR THE DIAMETER OF THE DRILLED HOLE IN ROCK EXCEEDS TWICE THE DIAMETER OF THE POLE AT THE GROUND LINE, CONSIDER THE INSTALLATION AS EARTH.
3. ATTACH ALL CONDUITS TO THE POSTS AND POLES USING TWO HOLE RIGID METAL CONDUIT STRAPS LOCATED ON 24 INCHES MAXIMUM CENTERS.
4. ATTACH ALL GROUND CONDUCTORS TO THE POSTS AND POLES USING CABLE STAPLES LOCATED ON 12 INCH CENTERS. MAKE ALL GROUNDING CONDUCTORS CONTINUOUS. USE #4 AWG GROUND WIRE FOR 200 AMP SERVICE.

UTILITY REQUIREMENTS:

1. USE THE SINGLE-POST TYPE 2 "STANDARD" LOAD CENTER IN ALL LOCATIONS EXCEPT WHERE THE SERVING UTILITY REQUIRES THE TWO-POST TYPE 2 "ALTERNATIVE" LOAD CENTER. REFER TO THE LOAD CENTER SUMMARY FOR WHICH TO INSTALL.
2. THE LENGTH AND TYPE OF SERVICE ENTRANCE CONDUIT INSTALLED BY THE CONTRACTOR VARIES BY UTILITY. REGARDLESS OF ITS LENGTH, INSTALL A PULL ROPE IN THE SERVICE CONDUIT AND A CAP ON THE BURIED END: MARK THE BURIED END WITH A 2"x6" STAKE. SEE THE LOAD CENTER SUMMARIES FOR THE FOLLOWING INFORMATION.
   - A. STATION AND OFFSET OF THE LOAD CENTER AND POWER SOURCE.
   - B. WHERE THE CONTRACTOR TERMINATES THE SERVICE ENTRANCE CONDUIT.
   - C. THE TYPE OF SERVICE ENTRANCE CONDUIT (SUCH AS RIGID METAL CONDUIT OR LIQUID-TIGHT FLEXIBLE METAL CONDUIT).
   - D. THE MAXIMUM AND MINIMUM DISTANCES ALLOWED BETWEEN THE TYPE-3 LOAD CENTER POLE AND UTILITY POLE TO WHICH THE AERIAL DROP IS CONNECTED.
3. VERTICAL CLEARANCE FOR SERVICE-DROP CONDUCTORS IN ACCORDANCE WITH NEC 230.24(B).

PLANS DEVELOPED BY:
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DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY

TYPE 2 AND 3 LOAD CENTER DETAILS

REVISIONS		
NO.	DATE	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0001453/Z534560000	2018	H3	H29

DESIGNED BY
CHECKED BY
DRAFTED BY

XREFS
CENTRAL REGION TRAFFIC DETAIL
10/13/2016

SCALE

LAYOUT
H3

DATE TIME
4/5/2017 3:50 PM

DRAWING LOCATION
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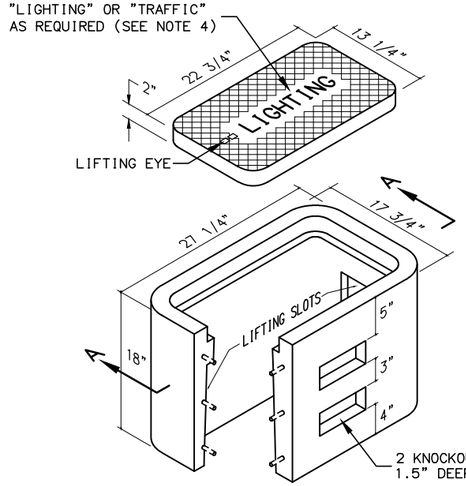
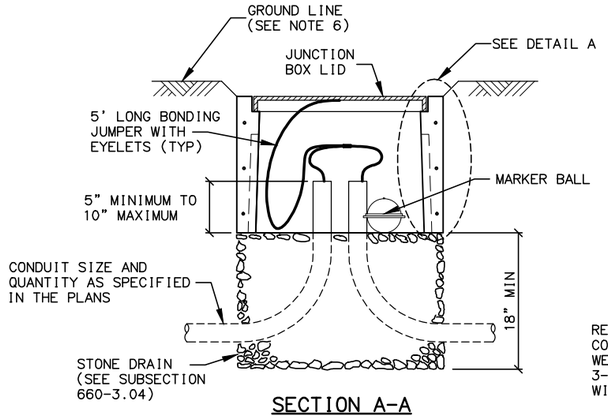
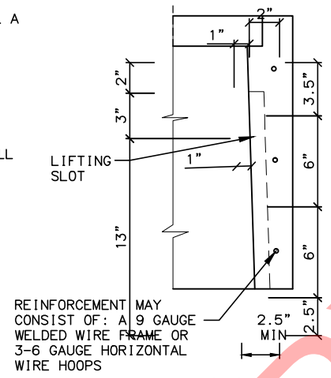


TYPE IA JUNCTION BOX



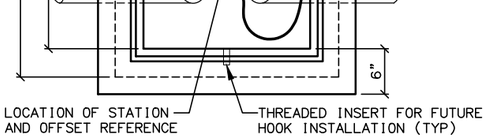
SECTION A-A



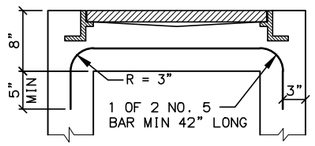
DETAIL A

NOTES:

1. AVOID INSTALLING TYPE IA JUNCTION BOXES IN DRIVEWAYS OR IN LOCATIONS SUBJECT TO USE BY HEAVY TRUCKS. INSTALL JUNCTION BOXES ONLY AT THE LATERAL LOCATIONS ALLOWED IN SUBSECTION 660-3.04.
2. FURNISH TYPE II, III AND IV JUNCTION BOXES WITH CAST IRON FRAMES AND LIDS THAT WEIGH A MINIMUM OF 210 POUNDS AND ARE RATED FOR HEAVY TRAFFIC LOADS IN COMPLIANCE WITH AASHTO M306. FURNISH TYPE IA JUNCTION BOXES WITH CAST IRON LIDS THAT WEIGH A MINIMUM OF 50 POUNDS.
3. CONSTRUCT JUNCTION BOXES ACCORDING TO SECTION 501 USING CLASS A CONCRETE. REINFORCE TYPE IA JUNCTION BOXES AS SHOWN. SYNTHETIC STRUCTURAL FIBER-REINFORCED CONCRETE THAT MEETS ASTM C 1116 AND CONTAINS FIBER IN PROPORTIONS AS RECOMMENDED BY THE FIBER MANUFACTURER MAY BE ADDED FOR STRENGTH.
4. FOR JUNCTION BOXES THAT CONTAIN ILLUMINATION CONDUCTORS EXCLUSIVELY, FURNISH LIDS WITH THE WORD "LIGHTING" INSCRIBED INTO THEM. FOR OTHER JUNCTION BOXES, FURNISH LIDS WITH THE WORD "TRAFFIC" INSCRIBED INTO THEM.
5. SET THE TOPS OF JUNCTION BOXES WITH THE FOLLOWING DIMENSIONS BELOW THE FINISHED SURROUNDING SURFACE:
   1" IN PAVED MEDIANS AND ADJACENT TO PEDESTRIAN FACILITIES
   1/4" IN PEDESTRIAN FACILITIES
   2" IN ALL OTHER AREAS
6. BOND JUNCTION BOX LIDS TO THE SYSTEM OF EQUIPMENT GROUNDING CONDUCTORS ACCORDING TO SUBSECTION 660-3.06. ATTACH BONDING JUMPERS TO THE JUNCTION BOX LIDS WITH BRASS OR STAINLESS STEEL HARDWARE.
7. INSTALL LOOP DETECTOR TAILS THROUGH ONE OF THE KNOCKOUTS OF TYPE 1A JUNCTION BOXES. AFTER SETTING THE BOXES TO GRADE, INSTALL GROUT IN THE GAPS THAT REMAIN IN THE KNOCKOUT.
8. INSTALL A 1/2" THICK PREFORMED BITUMINOUS JOINT MATERIAL AROUND JUNCTION BOXES INSTALLED IN PORTLAND CEMENT CONCRETE WALKWAYS.
9. INSTALL AN ELECTRONIC MARKER BALL IN ALL JUNCTION BOXES PER SUBSECTION 660-3.04.
10. PRIOR TO INSTALLATION MARK ALL JUNCTION BOX LOCATIONS WITH A WIRE STAFF VINYL FLAG. THE FLAG SHALL BE RED IN COLOR AND MINIMUM 4-INCHES TALL BY 5-INCHES WIDE. THE WIRE STAFF SHALL BE 21-INCHES IN LENGTH AND CONSTRUCTED OF MINIMUM 15.5 GAUGE STEEL.



PLAN



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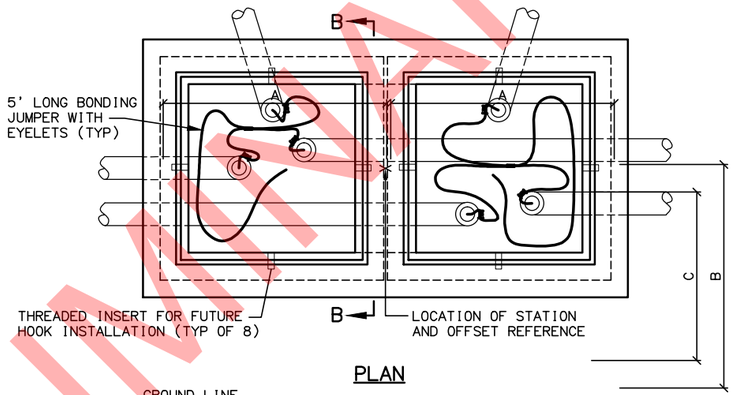

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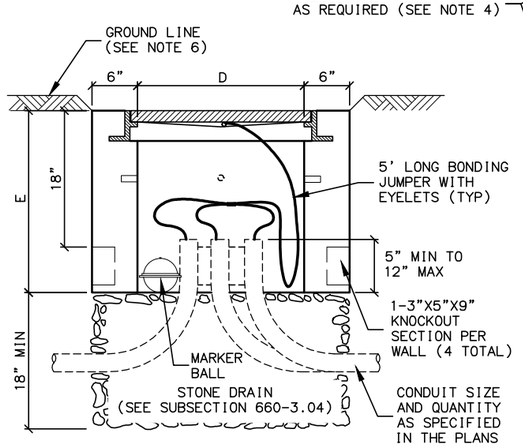
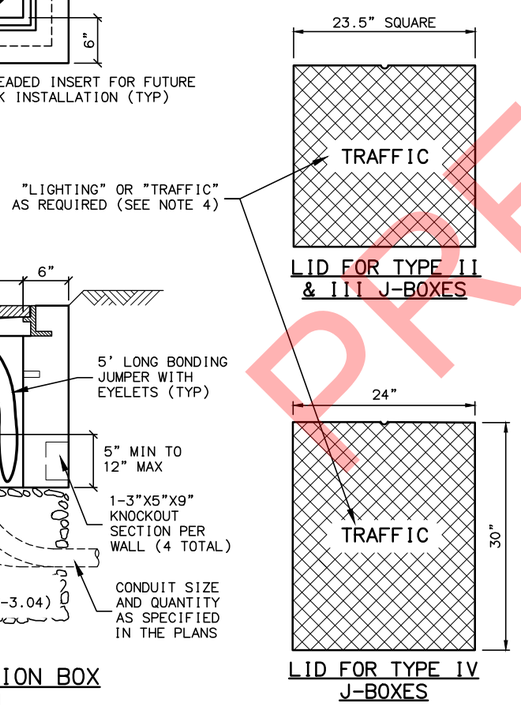
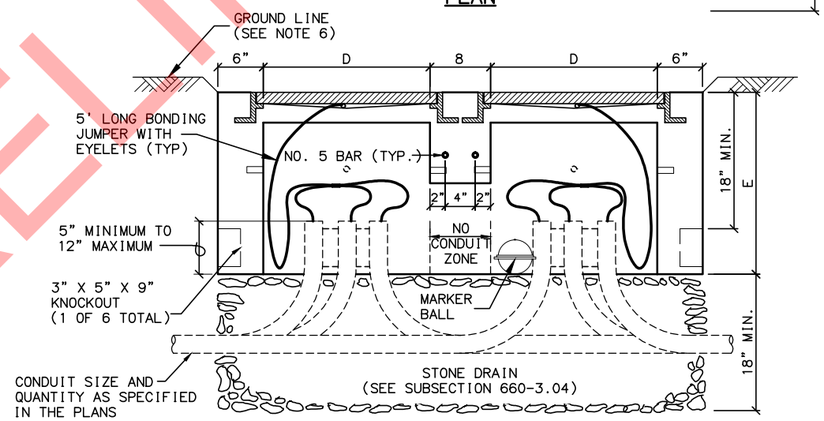


TYPE II JUNCTION BOX
ELEVATION





TYPE III/IV JUNCTION BOX
ELEVATION (TYPE III LAYOUT DEPICTED)

J-BOX TYPE	DIMENSIONS				
	A (MAX.)	B (MAX.)	C (MIN.)	D (MIN.)	E (MIN.)
II	29 1/2"	29 1/2"	22"	22"	24"
III	29 1/2"	29 1/2"	22"	22"	24"
IV	30"	36"	30"	24"	30"

J-BOX DIMENSIONS

PLANS DEVELOPED BY:
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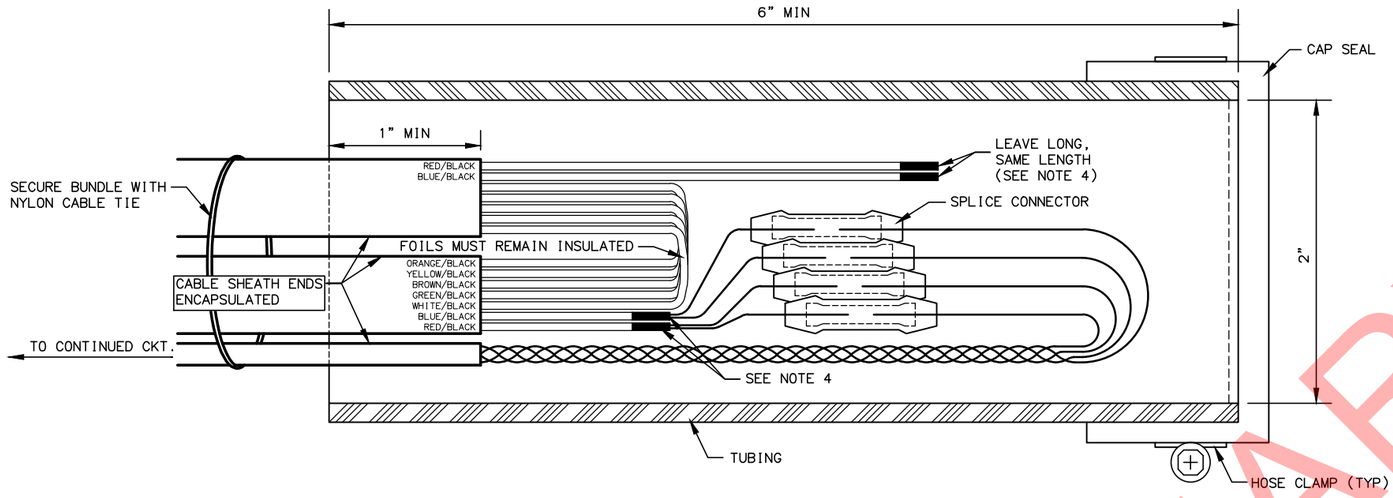
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY

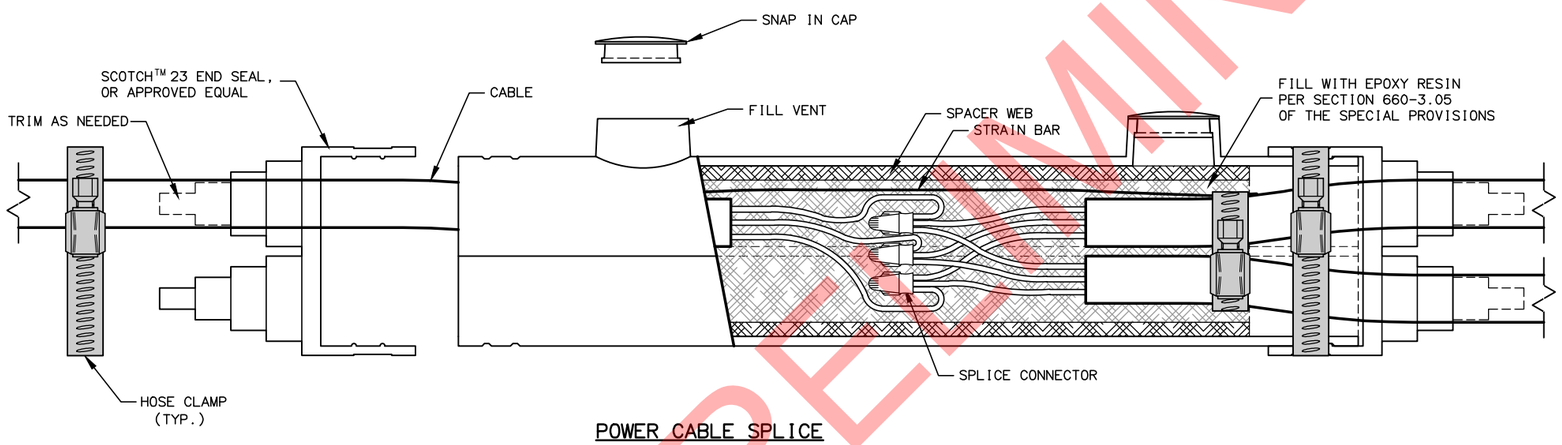
JUNCTION BOX

REVISIONS		
NO.	DATE	DESCRIPTION

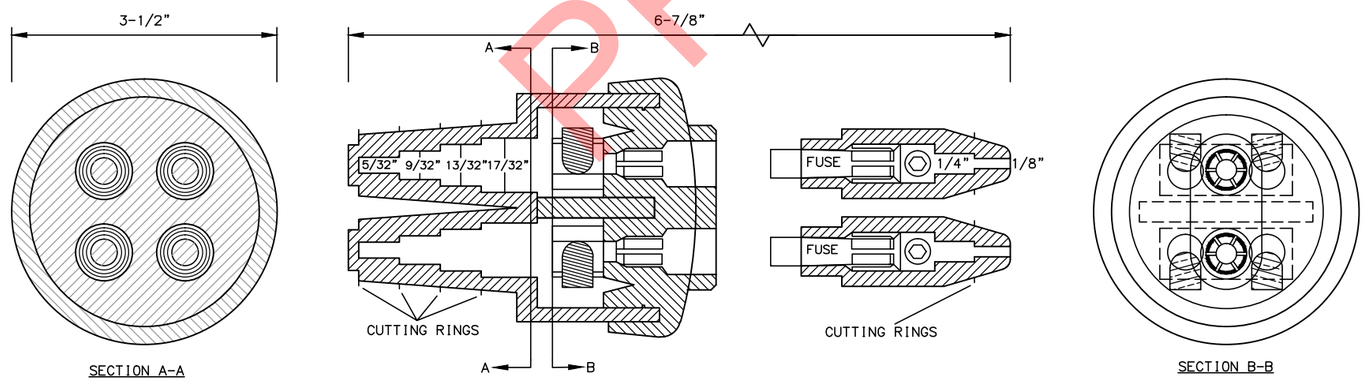
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0001453/Z534560000	2018	H4	H29



LOOP LEAD-IN SPLICE



POWER CABLE SPLICE



DOUBLE FUSED CONNECTOR

NOTES:

LOOP LEAD-IN SPLICE

1. FABRICATE LOOP LEAD-IN SPLICE IN THE FIELD AS SHOWN.
2. CAP SEAL ONE END AND COMPLETELY FILL OPEN END WITH RE-ENTERABLE ENCAPSULATION COMPOUND TO EDGE OF TUBING.
3. LEAVE A MINIMUM OF 1/2" CLEARANCE BETWEEN THE ENCLOSURE AND THE SPLICE AT BOTH ENDS OF THE TUBING.
4. EXPOSE FOIL AND DRAIN WIRES, SEAL WITH HEAT SHRINK TUBING (TYP).
5. INSTALL SPLICE CONNECTORS ACCORDING TO MANUFACTURER'S SPECIFICATIONS.

POWER CABLE SPLICE

6. SECURE CABLE/CONNECTOR BUNDLE WITH HOSE CLAMPS AS SHOWN.

MATERIAL PROPERTIES	
LOOP LEAD-IN SPLICE	
TUBING	PER SECTION 660-3.05
CAP SEAL	FERNCO QWIK CAP #QC-102, OR APPROVED EQUAL
HOSE CLAMP	STAINLESS STEEL
SPLICE CONNECTOR	ML56-16, OR APPROVED EQUAL
COMPOUND	RE-ENTERABLE ENCAPSULATION
POWER CABLE SPLICE	
SPLICE KIT	3M MODEL 78R, OR APPROVED EQUAL
SPLICE CONNECTOR	SCOTCHLOCK G, R, OR Y SPRING CONNECTOR, OR APPROVED EQUAL
HOSE CLAMP	(4)- STAINLESS STEEL
EPOXY RESIN	PER SECTION 660-3.05
DOUBLE FUSED CONNECTOR	
DOUBLE FUSED CONNECTOR	SEC-1791-DF-1, OR APPROVED EQUAL
FUSES	(2) - COMPATIBLE 10-AMP

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BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY

SPLICE DETAILS

DESIGNED BY
CHECKED BY
DRAFTED BY

XREFS
CENTRAL REGION TRAFFIC DETAIL 10/13/2016

SCALE

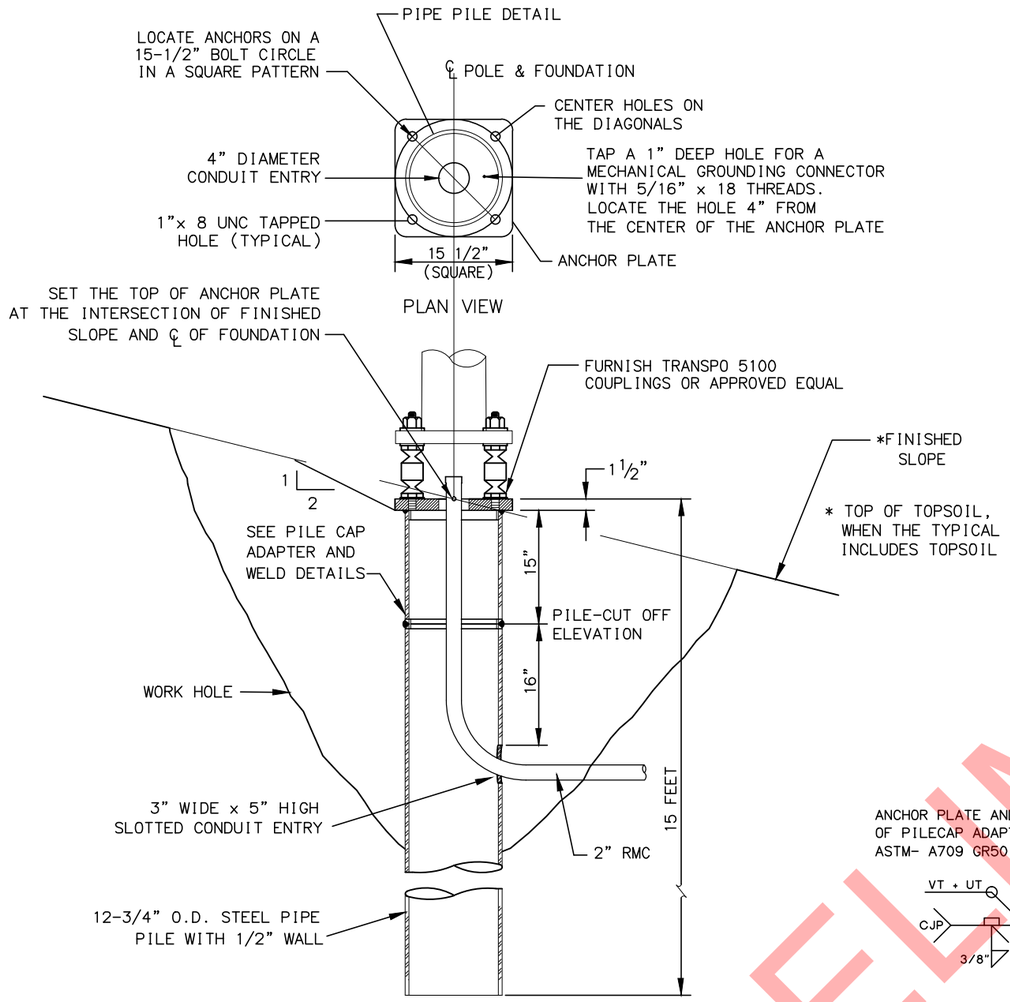
LAYOUT H4

DATE TIME 4/5/2017 4:19 PM

DRAWING LOCATION
Z:\PROJECTS\60332_Beaver Lp Rd\DWGS\c\Sheets\H4_SPLICE DETAILS.dwg

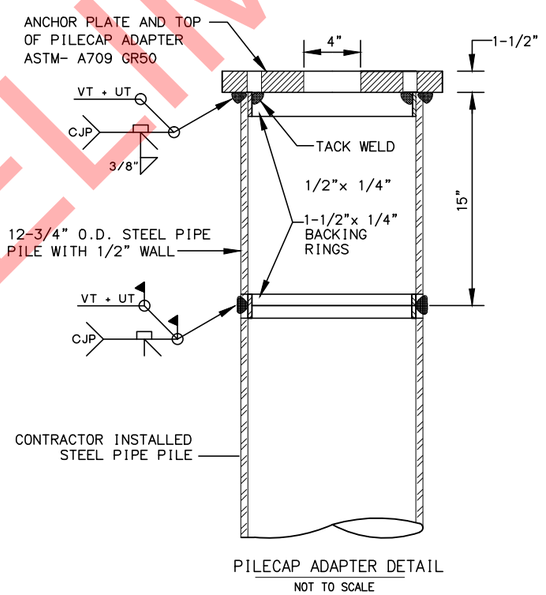
REVISIONS		
NO.	DATE	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0001453/Z534560000	2018	H5	H29



PIPE PILE FOUNDATION

(SHOWN WITH FRANGIBLE COUPLINGS)



PILECAP ADAPTER DETAIL

NOT TO SCALE

PILECAP ADAPTER AND WELD DETAILS

DESIGN NOTES:

1. DESIGN STANDARD: 2001 STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINARIES AND TRAFFIC SIGNALS WITH 2006 INTERIM.
2. DESIGN LOADS: 5-KIPS AXIAL, 7.5-KIPS SHEAR, 40-KIP-FT MOMENT.
3. GALVANIZATION OF PILE IS NOT REQUIRED. UNLESS THE GROUND WATER TABLE IS FOUND TO BE ABOVE 5 FEET, THEN GALVANIZE PILE ACCORDING TO SECTION 505.
4. CHARPY TEST FOR ELECTROLIER POLE PILE FOUNDATIONS ARE NOT REQUIRED.

MATERIAL REQUIREMENTS		
STRUCTURAL STEEL PLATE	ASTM A709 GRADE 50	Fy = 50 ksi
STEEL PIPE PILE	ASTM A709, GRADE 50 T3	Fy = 50 ksi
	API 5L GRADE X 42	Fy = 42 ksi

NOTES:

1. FURNISH STEEL PIPE PILES THAT CONFORM TO THE MATERIAL REQUIREMENTS AND SECTION 660, 715 AND 740 OF THE SPECIFICATIONS. NO SPLICES ARE ALLOWED BELOW THE PILECAP ADAPTER.
2. DRIVE PILES OPEN ENDED. COMPLETE PILE WORK ACCORDING TO SECTIONS 505, 660 AND 715 OF THE SPECIFICATIONS. REMOVE AND REINSTALL PILES OUT OF PLUMB MORE THAN 1:40.
3. FRESH HEAD THE TOP OF PILES IN A LEVEL PLANE AND CUT THE CONDUIT ENTRANCE HOLE AFTER DRIVING THE PILE. NOTE; ONLY MECHANICAL OR PLASMA CUTTER MEANS ARE PERMITTED. OXY-FUEL CUTTING IS PROHIBITED.
4. FURNISH ONLY SHOP FABRICATED PILECAP ADAPTERS. INCLUDE STAMPED ENGINEERING CALCULATIONS, DRAWINGS, MILL CERTIFICATIONS AND WELDING PLANS FOR PILECAP ADAPTERS AND THE PILECAP ADAPTER TO PILE WELD. WELDING SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST EDITION OF THE AWS D1.1, STRUCTURAL WELDING CODE-STEEL AND THE SPECIFICATIONS.
5. WAIT AT LEAST 3 DAYS AFTER BACKFILLING THE WORK HOLE BEFORE ERECTING THE LUMINAIRE POLE.
6. TERMINATE CONDUIT(S) 3" ABOVE THE TOP OF THE ANCHOR PLATE. INSTALL A GROUNDING BUSHING ON THE END OF THE RIGID METAL CONDUIT AND ESTABLISH A BOND WITH THE ANCHOR PLATE.

PLANS DEVELOPED BY:
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DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY

PIPE PILE FOUNDATION

DESIGNED BY
CHECKED BY
DRAFTED BY

XREFS
CENTRAL REGION TRAFFIC DETAIL
10/13/2016

SCALE

LAYOUT
H5

DATE TIME
4/14/2017 1:55 PM

DRAWING LOCATION
Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\H5_PIPE PILE FOUNDATION.dwg

REVISIONS		
NO.	DATE	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0001453/Z534560000	2018	H6	H29

DESIGNED BY
CHECKED BY
DRAFTED BY

XREFS
CENTRAL REGION TRAFFIC DETAIL
10/13/2016

SCALE

LAYOUT
H6

DATE TIME
4/6/2017 7:54 AM

DRAWING LOCATION
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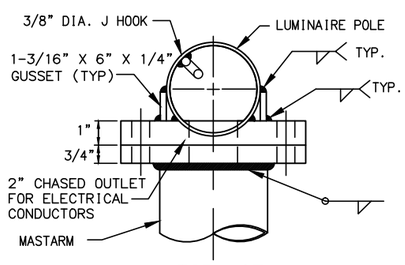
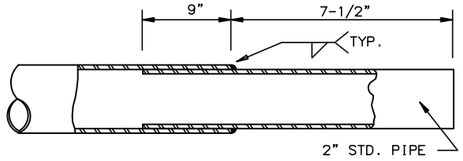
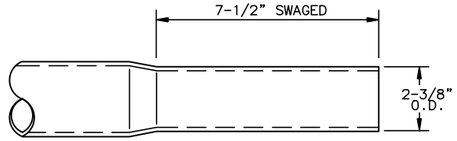


TOP VIEW

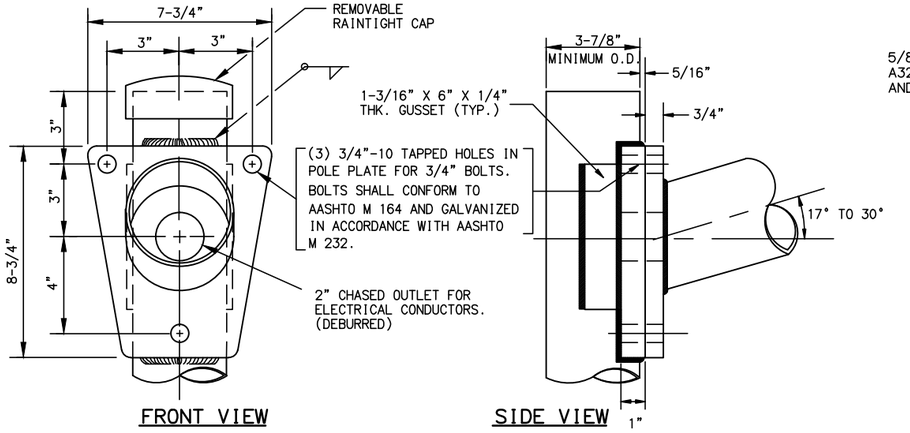


TENON



OPTIONAL SWAGED TENON

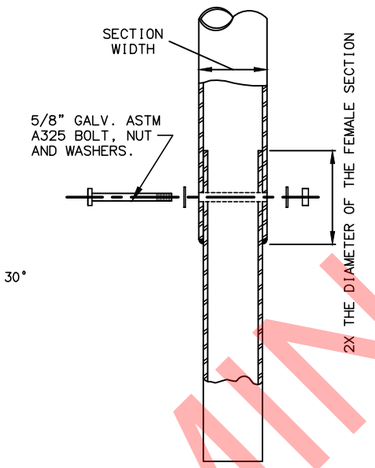
END OF MASTARM DETAIL



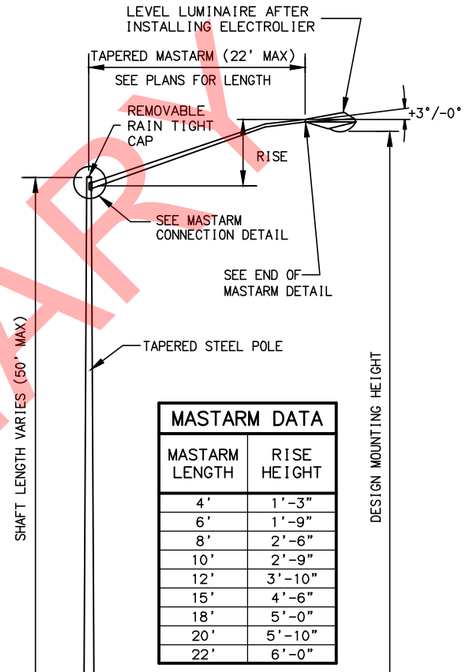
FRONT VIEW

SIDE VIEW

MASTARM CONNECTION DETAIL



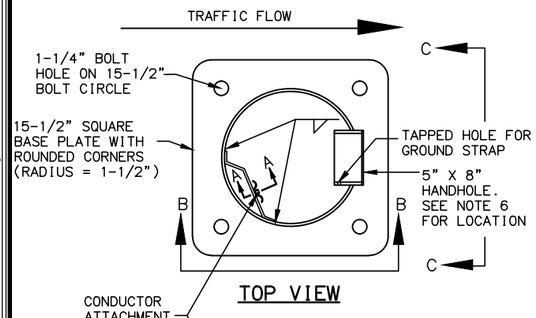
POLE CONNECTION DETAIL



MASTARM DATA	
MASTARM LENGTH	RISE HEIGHT
4'	1'-3"
6'	1'-9"
8'	2'-6"
10'	2'-9"
12'	3'-10"
15'	4'-6"
18'	5'-0"
20'	5'-10"
22'	6'-0"

NOTES:

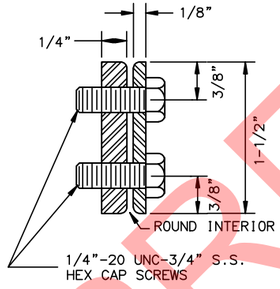
1. DESIGN AND FABRICATE ALL SHAFTS TO SUPPORT A MASTARM 22 FEET LONG WITH LUMINAIRE. ASSUME EACH LUMINAIRE WEIGHS 55 POUNDS AND HAS AN EFFECTIVE PROJECTED AREA OF 1.2 SQUARE FEET. WITH THIS DEAD LOAD, LIMIT THE ANGULAR ROTATION TO THE POLE TOP 1°40'0" MAXIMUM.
2. WELD SIZE TO BE DETERMINED BY THE MANUFACTURER.
3. MOUNTING HEIGHT, IF SPECIFIED IN THE PLANS, REFERS TO THE HEIGHT OF LUMINAIRE ABOVE THE ROADWAY. ADJUST EACH POLE'S SHAFT LENGTH TO MAINTAIN THIS DIFFERENCE IN ELEVATION WHENEVER SLOPE AND/OR OFFSET VARIES.
4. MINIMUM OUTSIDE DIAMETER AT THE TOP OF POLE EQUALS 3-7/8". POLE DIAMETER SHALL TAPER UNIFORMLY FROM THE TOP OF THE POLE TO THE BASE PLATE, WITH A MAXIMUM TAPER RATE OF 0.14" PER FOOT.
5. APPLY AN ANTI-SEIZING COMPOUND TO ALL THREADED SURFACES, INCLUDING THOSE IN THE ANCHOR PLATE AND ON THE COUPLINGS.
6. MASTARM RISE MAY VARY ±0.5' FROM THE VALUES LISTED IN THE TABLE.
7. LOCATE THE HANDHOLD AT 90 DEGREES TO THE MASTARM ON THE SIDE OF POLE DOWNSTREAM FROM TRAFFIC FLOW.
8. FURNISH ALL POLES WITH A J-HOOK TO SUPPORT THE ILLUMINATION TAP CONDUCTORS. FURNISH ALL MASTARM POLES WITH A REMOVABLE RAIN TIGHT CAP.
9. MOUNT LIGHTING STANDARDS UPON TRANSPO MODEL NO. 5100 FRANGIBLE COUPLINGS AND TRANSPO TYPE B FEMALE ANCHORS, OR APPROVED EQUAL.
10. INSTALL ALL COMPONENTS OF THE BREAKAWAY SUPPORT SYSTEM IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
11. FABRICATE THE SKIRT FROM FOUR PIECES OF 1/16" THICK 3003 H-14 ALUMINUM SHEET. BEND EACH PLATE TO PROVIDE CORNERS WITH A 3/4" RADIUS. ASSEMBLE THE SKIRT WITH #10 X 3/8" SELF TAPPING STAINLESS SCREWS OR POP RIVETS. THE ASSEMBLED SKIRT MEASURES ABOUT 12-3/4" SQUARE.
12. A JUNCTION BOX IS REQUIRED AT EACH NEW ELECTROLIER. INSTALL THE JUNCTION BOX IMMEDIATELY BEHIND THE FOUNDATION APPROXIMATELY 7' FROM POLE UNLESS OTHERWISE SPECIFIED IN THE PLANS.



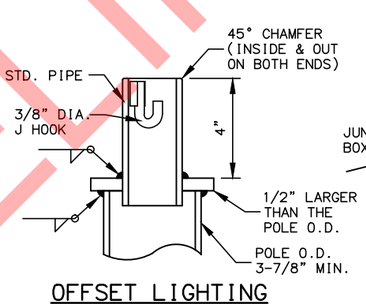
TOP VIEW

SIDE VIEW

BASE PLATE AND HAND HOLE DETAIL

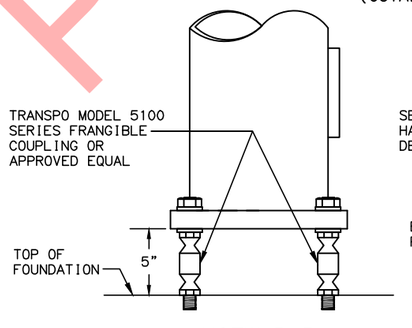


SECTION A-A

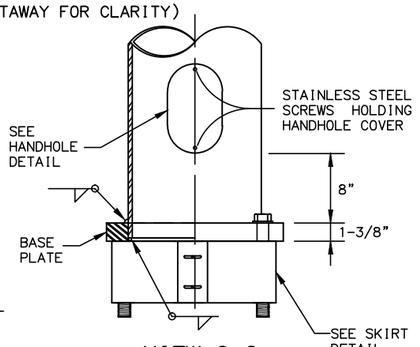


OFFSET LIGHTING STANDARD POLE TOP DETAIL

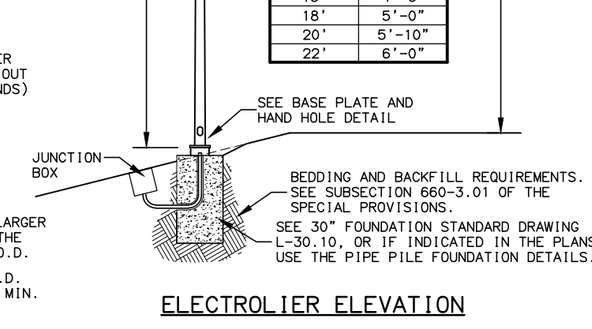
(CUTAWAY FOR CLARITY)



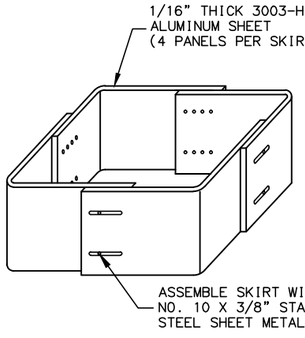
VIEW B-B



VIEW C-C



ELECTROLIER ELEVATION



SKIRT DETAIL

PLANS DEVELOPED BY:
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STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY

LIGHT STANDARD 1

REVISIONS		
NO.	DATE	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0001453/Z534560000	2018	H7	H29

DESIGNED BY
CHECKED BY
DRAFTED BY

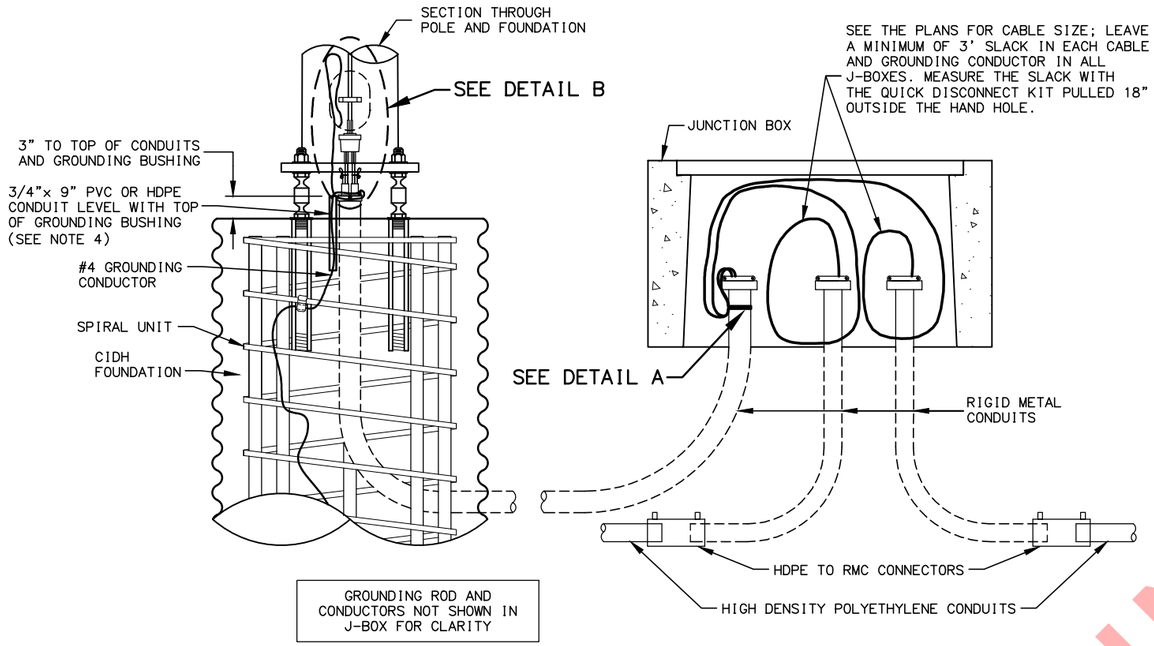
XREFS
CENTRAL REGION TRAFFIC DETAIL
10/13/2016

SCALE

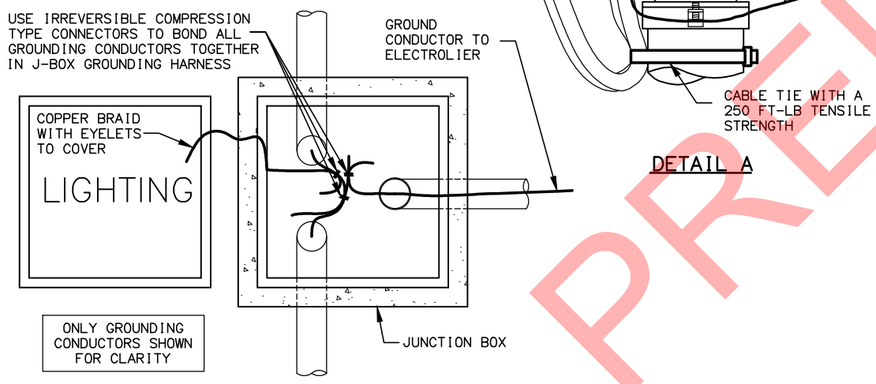
LAYOUT
H7

DATE TIME
4/7/2017 11:22 AM

DRAWING LOCATION
Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\H7_CIDH POLE W&G.dwg

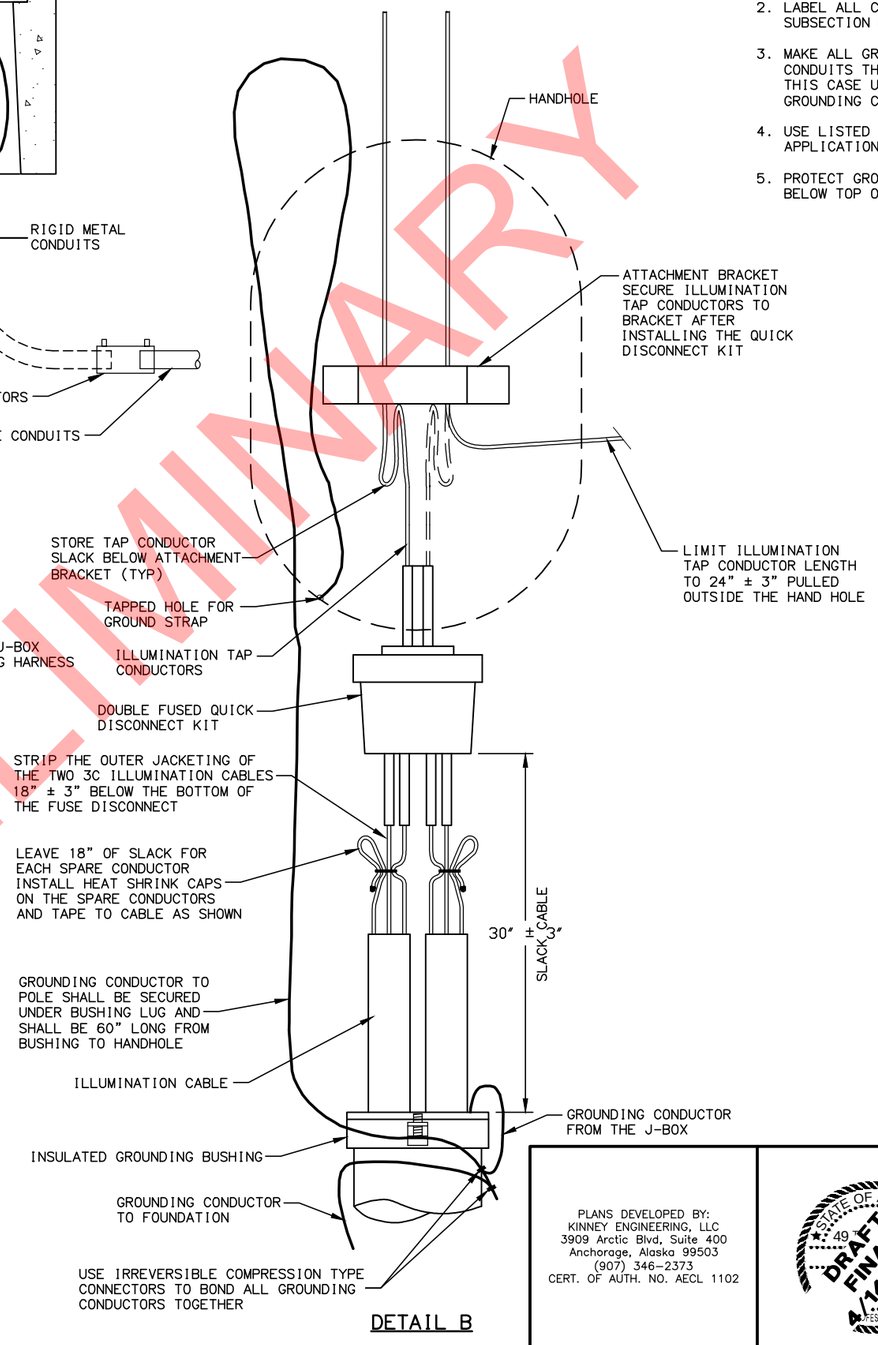


LIGHTING SYSTEM POLE AND J-BOX WIRING DETAILS



GROUNDING CONDUCTOR BONDING CONNECTIONS

DETAIL A



DETAIL B

NOTES:

1. APPLICATION FOR SLIP BASE IS THE SAME EXCEPT FOR BONDING. SEE SUBSECTION 660-3.06 FOR BONDING.
2. LABEL ALL CABLES AND CONDUCTORS IN POLE BASE AND J-BOX. SEE SUBSECTION 660-3.05.
3. MAKE ALL GROUNDING AND BONDING WIRE #8 AWG, EXCEPT IN THOSE CONDUITS THAT CONTAIN CIRCUIT CONDUCTORS LARGER THAN #8 AWG. IN THIS CASE USE WIRE EQUAL IN SIZE TO THE LARGEST CONDUCTOR. THE GROUNDING CONDUCTOR TO THE FOUNDATION SHALL BE #4 AWG.
4. USE LISTED IRREVERSIBLE COMPRESSION TYPE CONNECTORS SIZED FOR EACH APPLICATION AND INSTALLED PER MANUFACTURERS SPECIFICATIONS.
5. PROTECT GROUND WIRE WITH 3/4 INCH PVC OR HDPE CONDUIT TO 6 INCHES BELOW TOP OF FOUNDATION FILLED WITH SILICONE SEALANT.

PLANS DEVELOPED BY:
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BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY

CIDH POLE WIRING & GROUNDING

REVISIONS		
NO.	DATE	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0001453/Z534560000	2018	H8	H29

DESIGNED BY BCL
CHECKED BY JP/AJ
DRAFTED BY SH/BP/BB

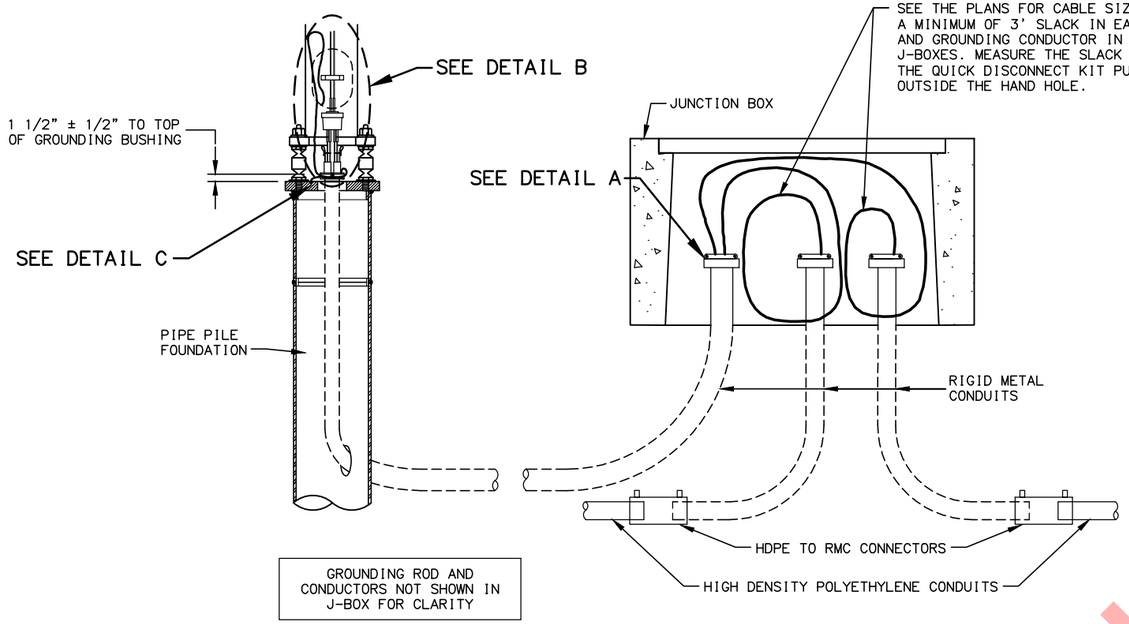
XREFS

SCALE N/A

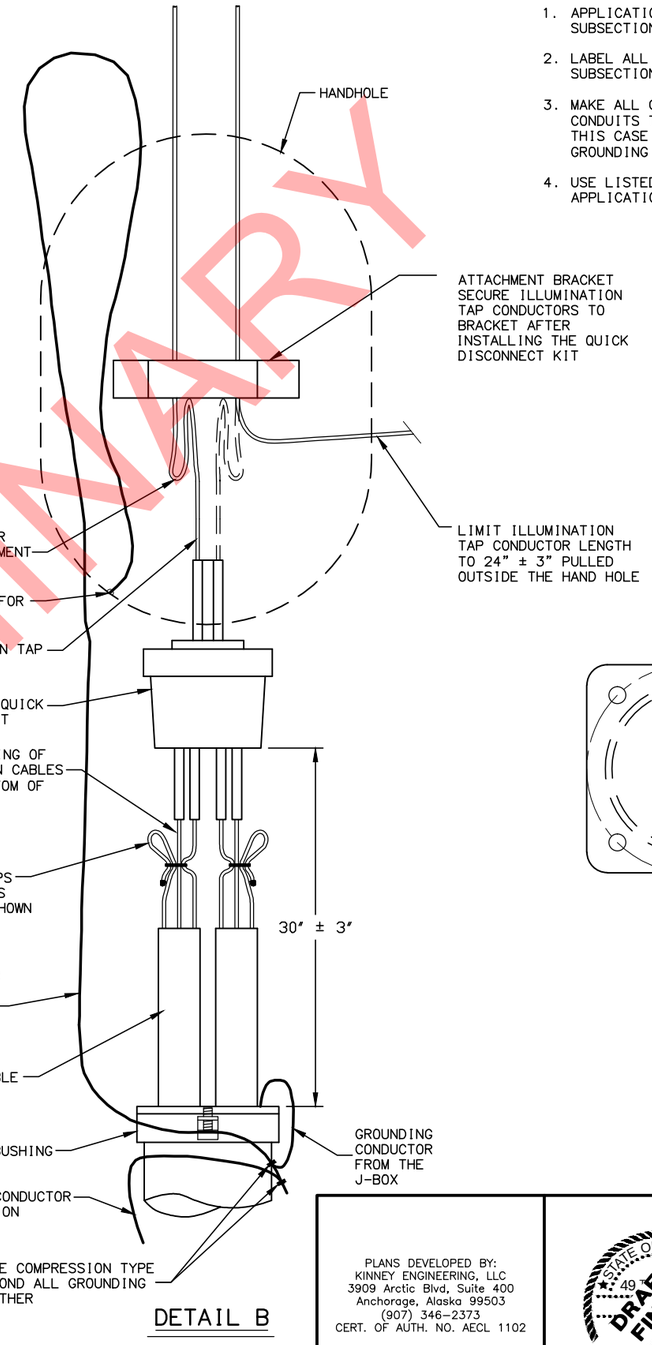
LAYOUT H8

DATE TIME 3/29/2017 10:57 AM

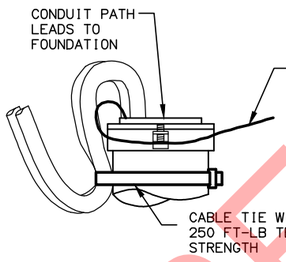
DRAWING LOCATION Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\H8_PIPE PILE POLE W&G.dwg



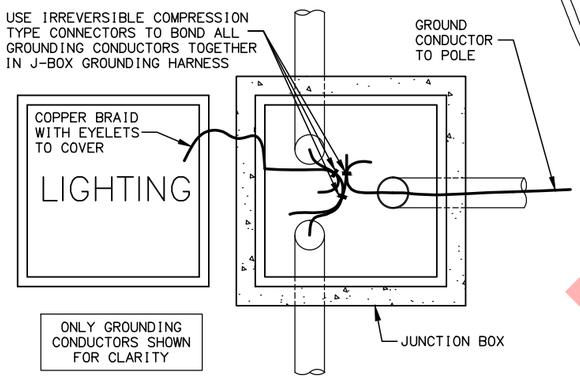
LIGHTING SYSTEM POLE AND J-BOX WIRING DETAILS



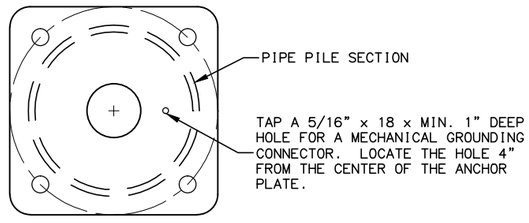
DETAIL B



DETAIL A



GROUNDING CONDUCTOR BONDING CONNECTIONS



DETAIL C

NOTES:

1. APPLICATION FOR SLIP BASE IS THE SAME EXCEPT FOR BONDING. SEE SUBSECTION 660-3.06 FOR BONDING.
2. LABEL ALL CABLES AND CONDUCTORS IN POLE BASE AND J-BOX. SEE SUBSECTION 660-3.05.
3. MAKE ALL GROUNDING AND BONDING WIRE #8 AWG, EXCEPT IN THOSE CONDUITS THAT CONTAIN CIRCUIT CONDUCTORS LARGER THAN #8 AWG. IN THIS CASE USE WIRE EQUAL IN SIZE TO THE LARGEST CONDUCTOR. THE GROUNDING CONDUCTOR TO THE FOUNDATION SHALL BE #4 AWG.
4. USE LISTED IRREVERSIBLE COMPRESSION TYPE CONNECTORS SIZED FOR EACH APPLICATION AND INSTALLED PER MANUFACTURERS SPECIFICATIONS.

PLANS DEVELOPED BY:
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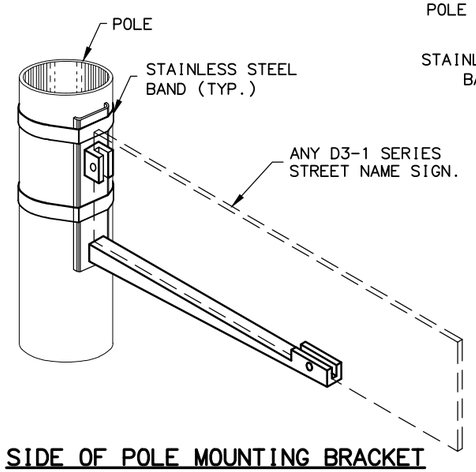
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY

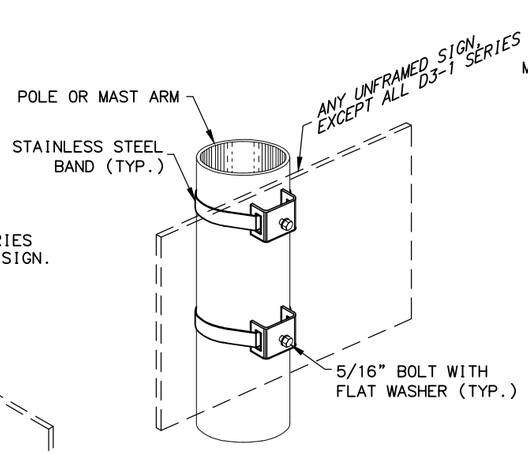
PIPE PILE POLE WIRING & GROUNDING

REVISIONS		
NO.	DATE	DESCRIPTION

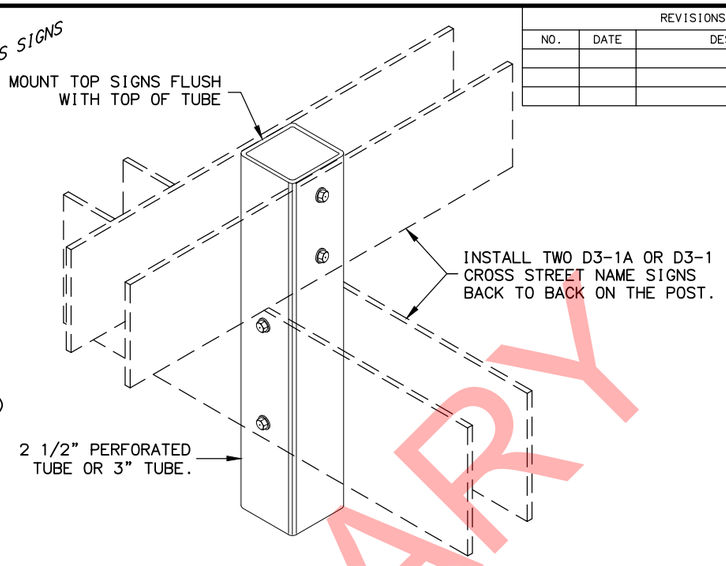
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0001453/Z534560000	2018	H9	H29



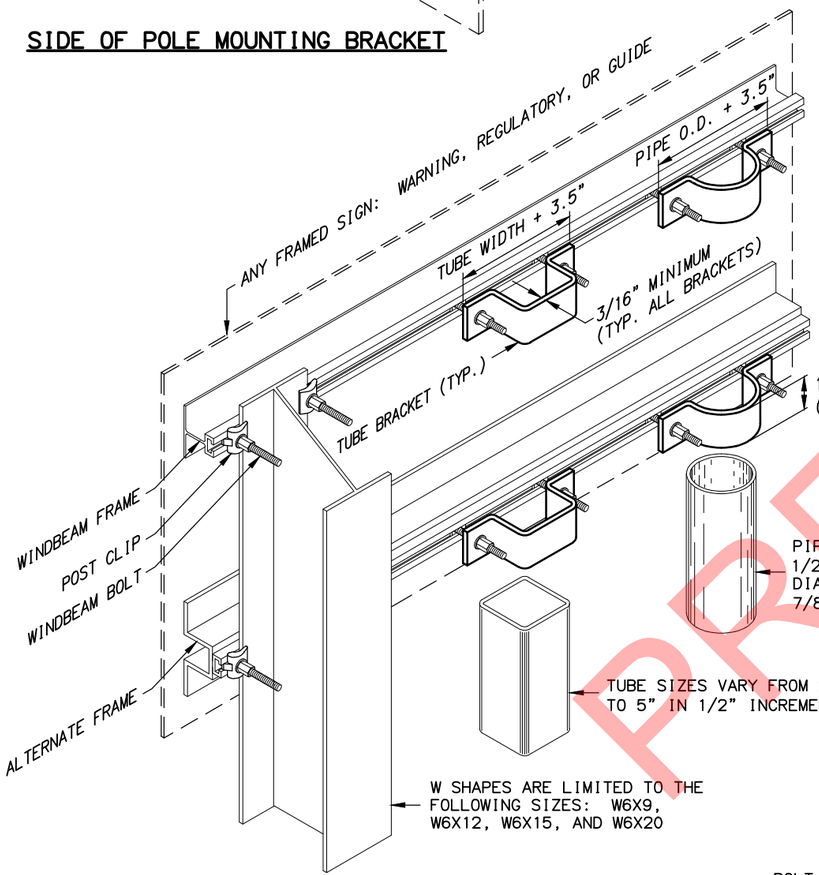
SIDE OF POLE MOUNTING BRACKET



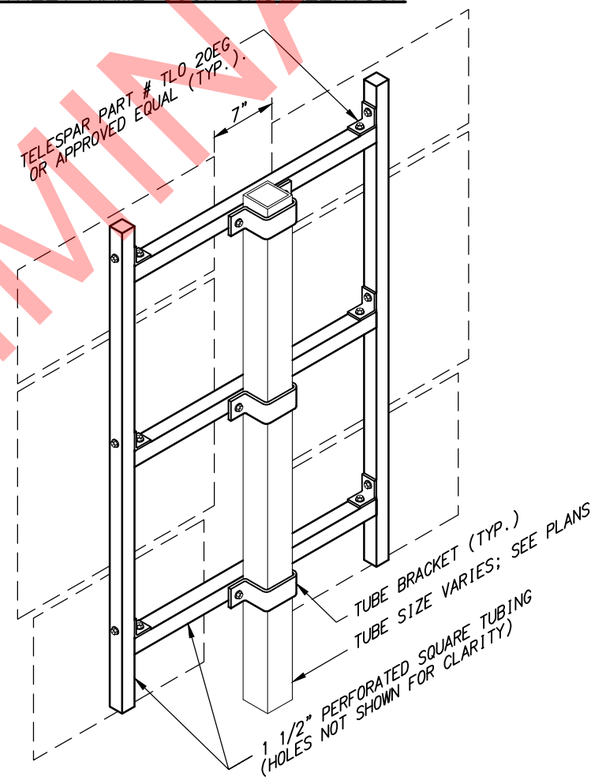
SADDLE BRACKETS



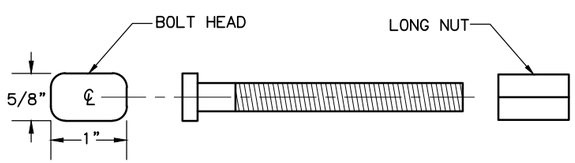
STREET NAME SIGN INSTALLATION



FRAMED SIGN ATTACHMENT BRACKETS



ROUTE MARKER TREE



3/8" WINDBEAM BOLT AND LONG NUT

NOTES:

1. EXCEPT FOR POLES AND MAST ARMS, ONLY USE TUBES TO SUPPORT SIGNS MOUNTED ON ONE POST.
2. ATTACH SIGNS, FRAMED AND UNFRAMED TO THEIR SUPPORTS WITH ZINC PLATED 3/8" BOLTS, EXCEPT ATTACH UNFRAMED SIGNS TO PERFORATED TUBES WITH ACCESSORY DRIVE RIVETS AND TO SADDLES WITH 5/16" BOLTS.
3. BOLT UNFRAMED SIGNS DIRECTLY TO TUBES IN TWO LOCATIONS, NEAR TOP AND NEAR BOTTOM OF MATING SURFACE. ATTACH THEM TO POLES AND MAST ARMS WITH TWO SADDLES.
4. ATTACH BRACKETS TO POLES AND MAST ARMS WITH DOUBLE WRAPS OF 3/4" WIDE BY 0.020" THICK STAINLESS STEEL BANDING MATERIAL. TIGHTEN EACH BAND UNTIL IT STOPS MOVING THROUGH THE BUCKLE.
5. 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, AND A BRACKET WITH SQUARE CORNERS ON TUBES.
6. THE TUBE BRACKETS USED ON EVEN INCH SIZE TUBES MAY ALSO BE USED ON TUBES 1/2" SMALLER IN SIZE.
7. ONLY USE THE SPECIAL WINDBEAM BOLTS TO ATTACH SIGNS FRAMED WITH THE WINDBEAM FRAMING MATERIAL.
8. ATTACH FRAMED SIGNS TO POLES AND MAST ARMS USING POLE PLATES INSTALLED ACCORDING TO STANDARD DRAWING S-23.00
9. FOR ROUTE MARKER TREES, CUT PERFORATED TUBES TO ENSURE TIGHT FITTING JOINTS. ASSEMBLE THE PIECES WITH ACCESSORY ELL-SHAPED ANGLE BRACKETS.
10. INSTALL THE TOP EDGE OF SIGNS 1" ABOVE THE TOPS OF POSTS, EXCEPT FOR THE D3-1 STREET NAME SIGNS.
11. INSTALL THE TOP EDGE OF SIGNS 3" BELOW THE TOP OF POST, WHENEVER THEY ARE MOUNTED BELOW SIGNS SECURED BY POST TOP MOUNTING BRACKETS.
12. THE BRACKET DETAILS SHOWN INDICATE GENERAL DESIGNS ONLY. DESIGNS MAY VARY BY MANUFACTURER.
13. INSTALL WEATHER TIGHT CAPS ON ALL PIPE AND TUBE POSTS, EXCEPT PERFORATED TUBING.

FASTENER SPECIFICATION TABLE			
FASTENERS		STEEL	STAINLESS STEEL
BOLTS		ASTM A 307	ASTM F 593
NUTS	REGULAR	ASTM A 563	ASTM F 594
	LOCK		
WASHERS		ASTM A 36	ASTM A 480
POST CLIPS			

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STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY

SIGN ATTACHMENT DETAILS

DESIGNED BY
CHECKED BY
DRAFTED BY

XREFS
CENTRAL REGION TRAFFIC DETAIL
10/13/2016

SCALE

LAYOUT
H9

DATE TIME
3/29/2017 11:38 AM

DRAWING LOCATION
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REVISIONS		
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STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
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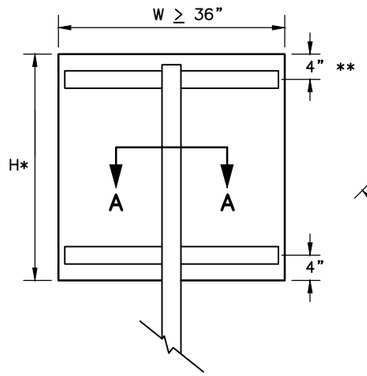
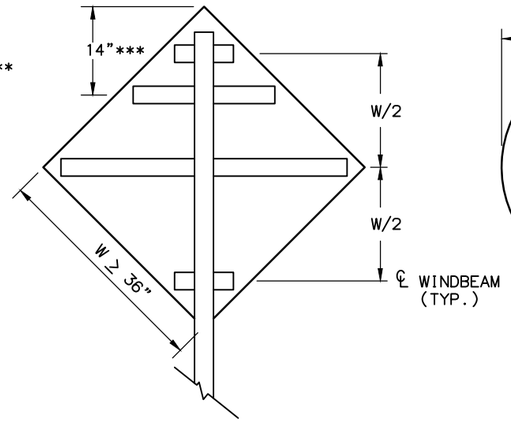


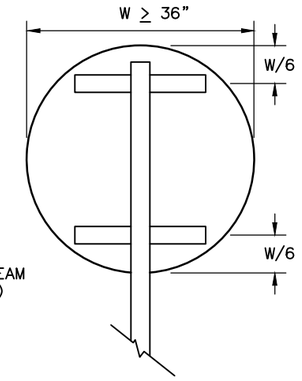
RECTANGLES AND TRAPEZOIDS

* WHEN H > 42 INCHES, INSTALL A 3RD WINDBEAM CENTERED ON THE SIGN.

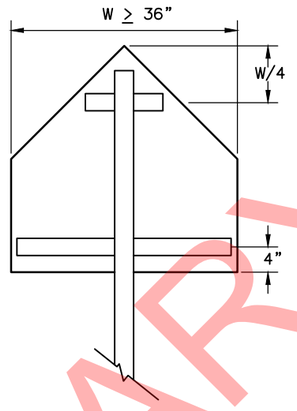
** FOR S5-1 SIGNS MOUNTED ON FLASHING BEACON POSTS, USE A 10" OFFSET. OTHERWISE, USE 4".

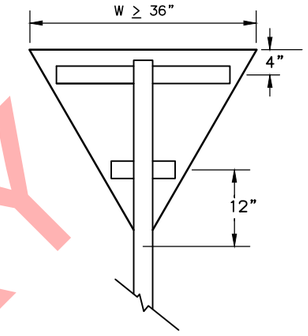


*** FOR WARNING SIGNS MOUNTED ON FLASHING BEACON POSTS, USE THE 14" OFFSET. OTHERWISE, USE W/2.



ROUNDS AND OCTAGONS



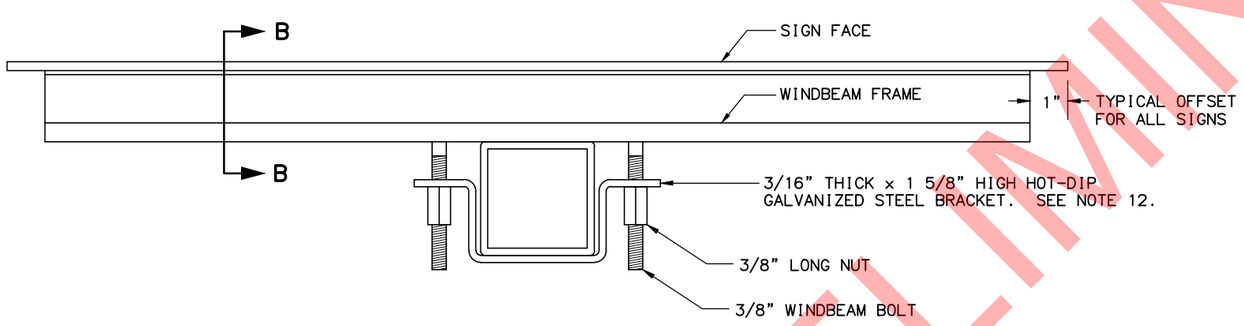


NOTES:

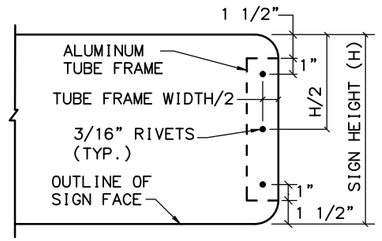
1. EXCEPT FOR POLES AND MAST ARMS, ONLY USE SQUARE STEEL TUBES TO SUPPORT SIGNS MOUNTED ON SINGLE POSTS.
2. INSTALL WINDBEAM OR ZEE SHAPED FRAMING MEMBERS ON DIAMOND SHAPED SIGNS 36 INCHES AND LONGER ON A SIDE AND ON OTHER SIGNS 36 INCHES WIDE AND WIDER.
3. IN HIGH WIND AREAS, THE PLANS MAY REQUIRE SIGNS SMALLER THAN THOSE LISTED IN NOTE 2 BE FRAMED AS SHOWN HERE IN.
4. THIS DRAWING DEPICTS THE WINDBEAM FRAMING AND ATTACHMENT SYSTEM. ATTACH SIGNS FRAMED WITH ZEE SHAPED FRAMING ACCORDING TO REGIONAL DRAWING "SIGN ATTACHMENT DETAILS", USING "U" SHAPED BRACKETS AND TWO BOLTS WITH NUTS.
5. THE ENGINEER MAY APPROVE OTHER FRAMING MEMBERS. SUBMIT DOCUMENTS THAT DETAIL THE FRAME'S CROSS SECTION AND STRENGTH, AND METHOD OF ATTACHING THE FRAME TO A POST.
6. USE FRAMING MEMBERS MADE FROM ALUMINUM ALLOY 6061-T6.
7. EACH FRAMING MEMBER SHALL BE ONE CONTINUOUS PIECE.
8. ATTACH FRAMING MEMBERS TO THE SIGN PANELS WITH RIVETS OR AN ENGINEER APPROVED, DOUBLE SIDED, HIGH STRENGTH, ADHESIVE TAPE.
9. WITH THE ADHESIVE TAPE, INSTALL TWO RIVETS IN BOTH ENDS OF EACH FRAMING MEMBER, AND ATTACH THE FRAMING MEMBERS TO THE SIGN PANELS ACCORDING TO THE TAPE MANUFACTURER'S WRITTEN INSTRUCTIONS, INCLUDING:
   A. THE CLEANING AND HANDLING OF THE SIGN PANELS AND FRAMING MEMBERS.
   B. THE APPLICATION OF THE ADHESIVE TAPE.
10. WHEN RIVETS ARE USED TO ATTACH FRAMING MEMBERS, INSTALL 2 RIVETS IN EACH END AND THE BALANCE ON 8" MAXIMUM CENTERS.
11. USE 3/16" DIAMETER RIVETS CONFORMING TO ALUMINUM ALLOY 6061-T6 FOR COLD DRIVEN RIVETS, OR ALUMINUM ALLOY 6061-T43 FOR HOT DRIVEN RIVETS.
12. THE BRACKETS USED ON EVEN INCH SIZE TUBES MAY ALSO BE USED ON TUBES 1/2" SMALLER IN SIZE.
13. USE ONE 2.5" P.T. FOR ALL STOP SIGNS WITHIN THE MOA, AND ALL POSTS WITH A SINGLE SIGN PANEL THAT ARE 30" WIDE OR LESS. ALL OTHER STOP SIGN POSTS OUTSIDE THE MOA SHALL BE ON A 3" TUBE.

WINDBEAM LOCATIONS FOR EACH SIGN SHAPE

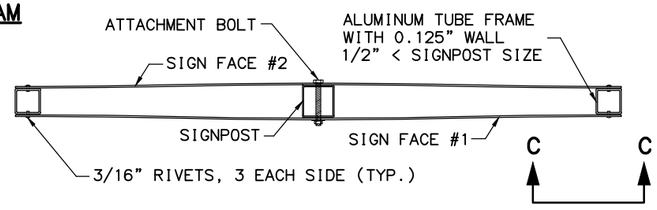
ELEVATION VIEW



SECTION A - A TYPICAL SIGN ATTACHMENT DETAILS AT EACH WINDBEAM

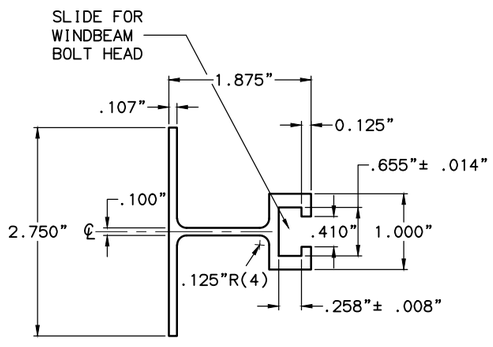


VIEW C - C

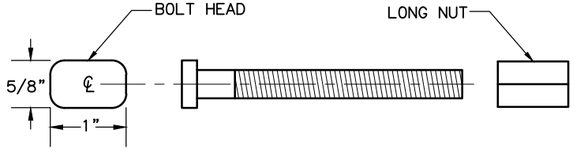


D3-1, D3-100, D3-100A STREET NAME SIGN FRAMING DETAIL

PLAN VIEW



SECTION B - B WINDBEAM CROSS SECTION



3/8" WINDBEAM BOLT AND LONG NUT

THIS SHEET SUPERSEDES ONLY:
THE LIGHT SIGN FRAMING DETAILS AND SIGN POST SPACING NOTE 2.B. ON STD. DWG. S-00.11, AND ENTIRELY REPLACES STD. DWG. S-01.00

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STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY

LIGHT SIGN FRAMING AND ATTACHMENT DETAILS

DESIGNED BY
CHECKED BY
DRAFTED BY
XREFS
CENTRAL REGION TRAFFIC DETAIL 10/13/2016
SCALE
LAYOUT H10
DATE TIME 3/29/2017 11:38 AM
DRAWING LOCATION
Z:\PROJECTS\60332_Beaver Lp Rd\DWGS\C\Sheets\H9-H10_SIGN-ATTACHMENT-DETAILS.dwg

DESIGNED BY	TSW
CHECKED BY	JP/AJ
DRAFTED BY	GD

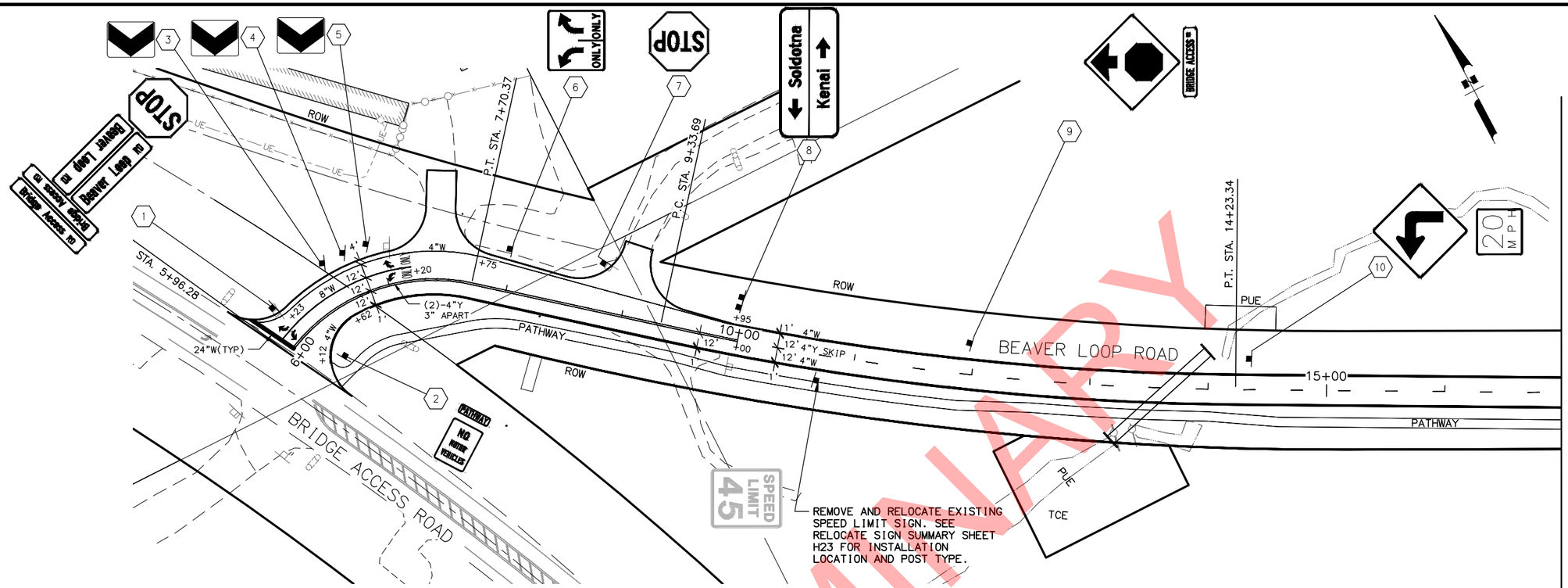
XREFS

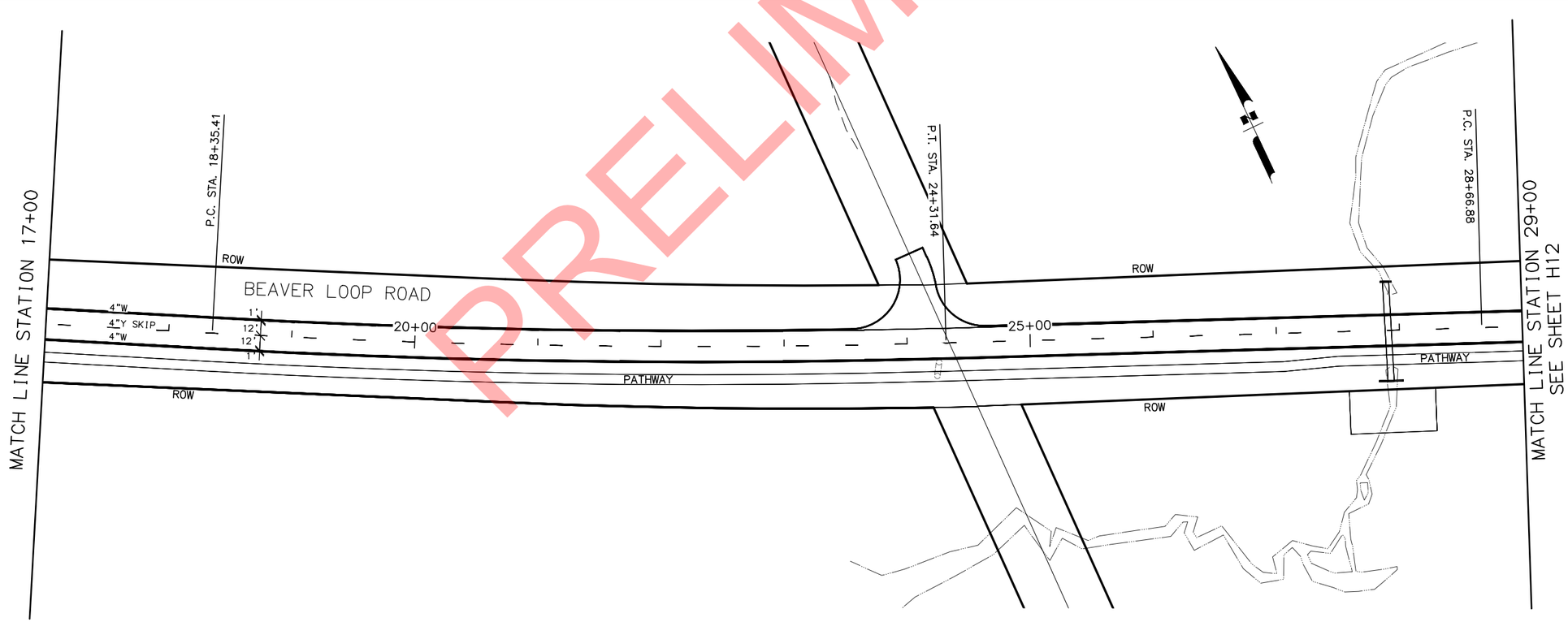
SCALE: N/A

LAYOUT: H11

DATE TIME: 4/7/2017 2:55 PM

DRAWING LOCATION: Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\H9-H19_Signing&Striping.dwg





SHEET NO.	TOTAL SHEETS
H11	H29
STATE	YEAR
ALASKA	2018

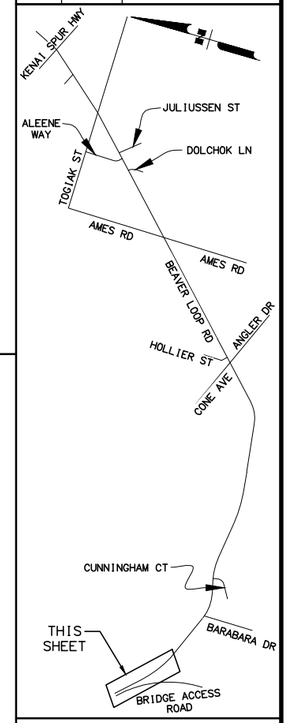
PROJECT DESIGNATION
0001453/Z534560000

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

NO.	DATE	DESCRIPTION



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STATE OF ALASKA
49
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FINAL
4/14/2017
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STATE OF ALASKA
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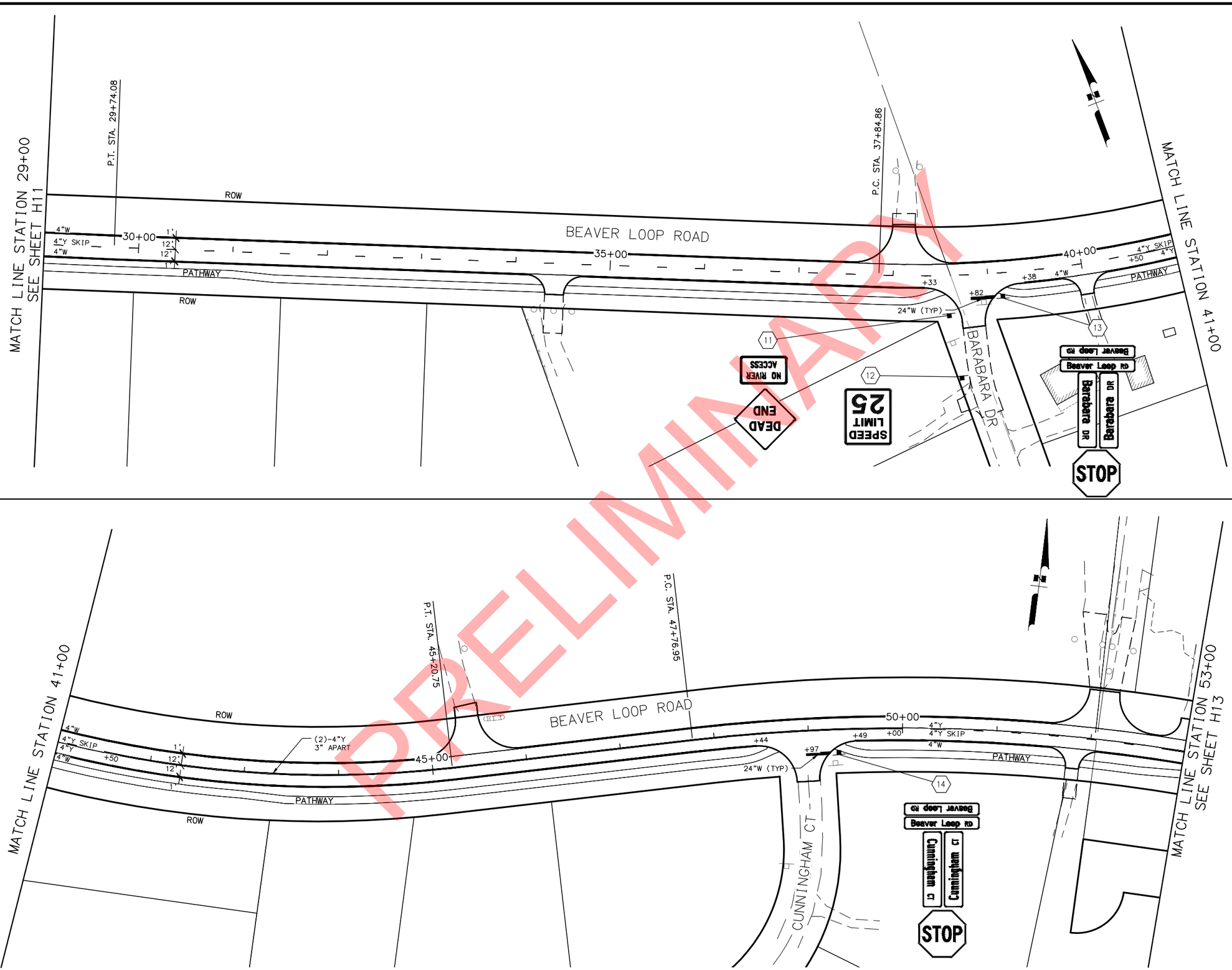
BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATH

SIGNING AND STRIPING PLAN
BOP TO STA 29+00



PRELIMINARY

DESIGNED BY: TSW
CHECKED BY: JP/AJ
DRAFTED BY: GD

XREFS

SCALE

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SHEET NO.	TOTAL SHEETS
H12	H29
STATE	YEAR
ALASKA	2018

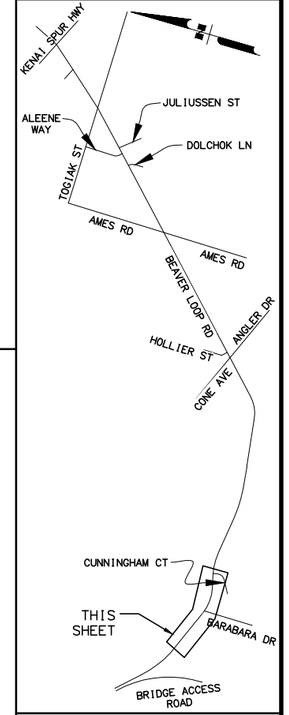
PROJECT DESIGNATION
0001453/Z534560000

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

NO.	DATE	DESCRIPTION



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STATE OF ALASKA
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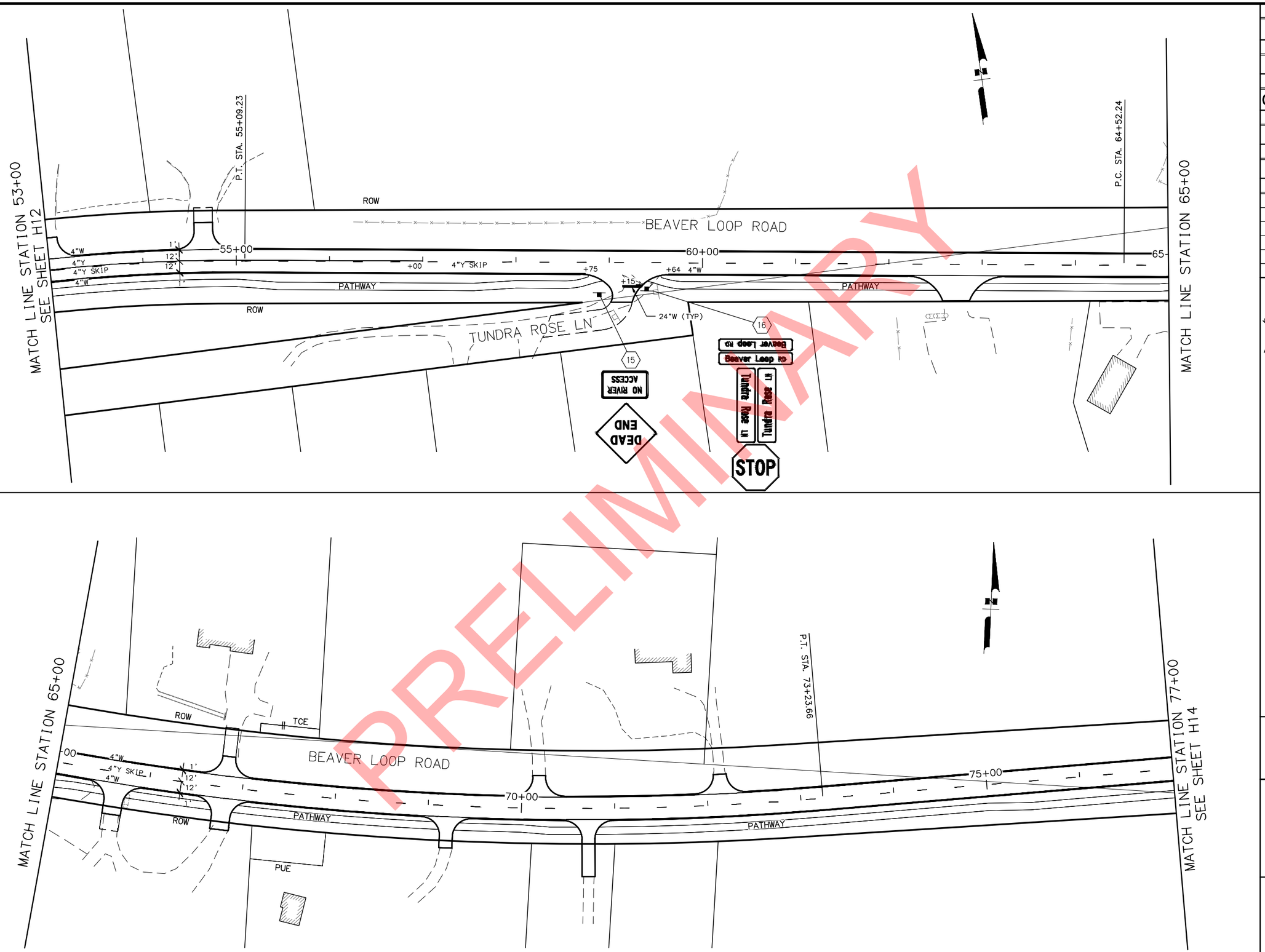
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATH

SIGNING AND STRIPING PLAN
STA 29+00 TO STA 53+00



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CHECKED BY: JP/AJ
DRAFTED BY: GD

XREFS

SCALE

LAYOUT: H13

DATE TIME: 4/7/2017 2:55 PM

DRAWING LOCATION: Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\H9-H19_Signing&Striping.dwg

SHEET NO.	TOTAL SHEETS
H13	H29
STATE	YEAR
ALASKA	2018

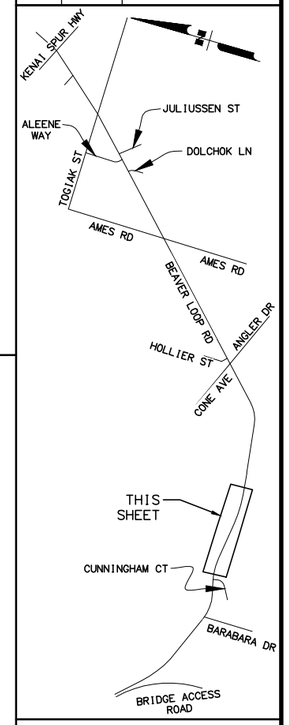
PROJECT DESIGNATION
0001453/Z534560000

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

NO.	DATE	DESCRIPTION



PLANS DEVELOPED BY:
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STATE OF ALASKA
★ 49 ★
DRAFT FINAL
4/14/2017
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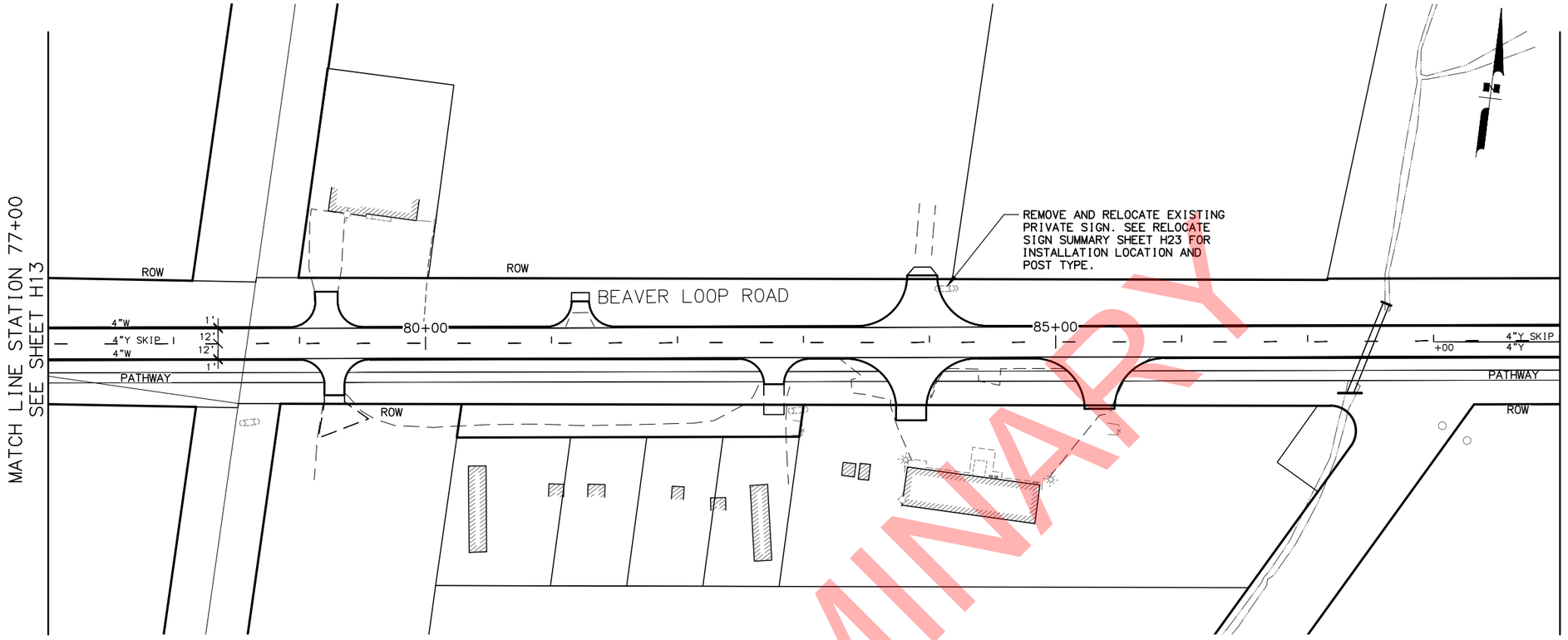
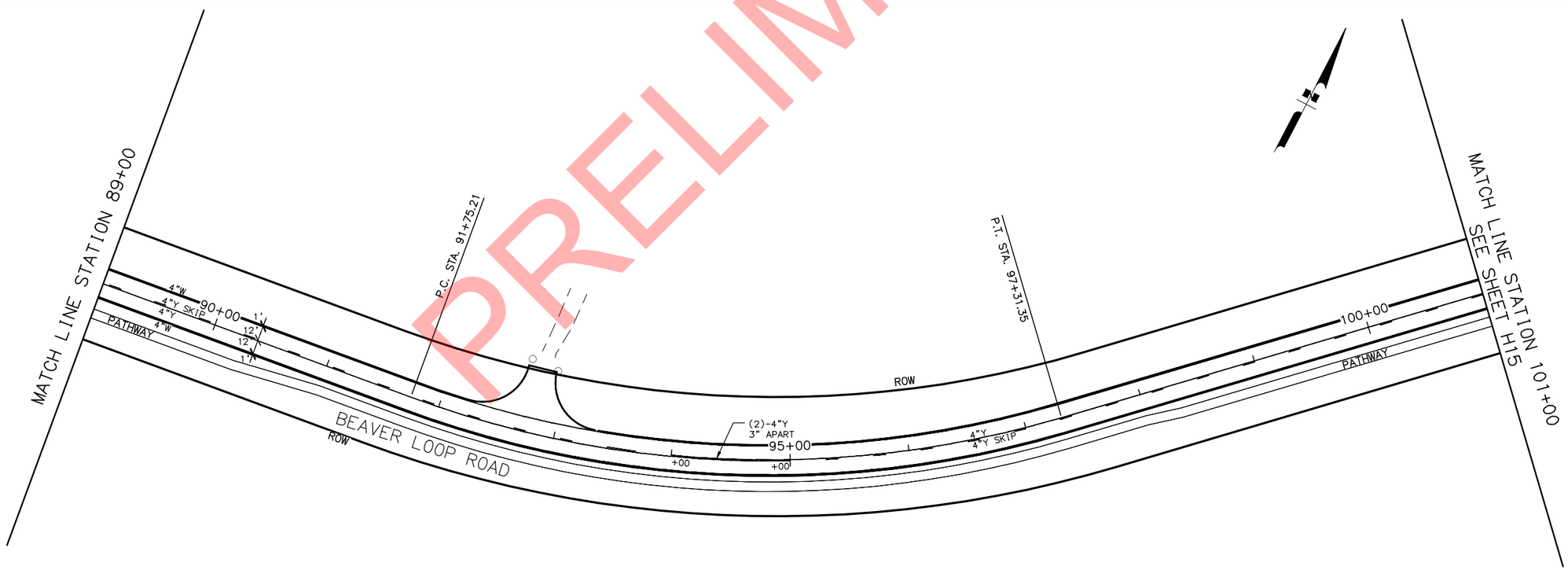
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATH

SIGNING AND STRIPING PLAN
STA 53+00 TO STA 77+00





DESIGNED BY: ISW
CHECKED BY: JP/AJ
DRAFTED BY: GD

XREFS

SCALE

LAYOUT: H14

DATE TIME: 4/7/2017 2:55 PM

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SHEET NO.	TOTAL SHEETS
H14	H29
STATE	YEAR
ALASKA	2018

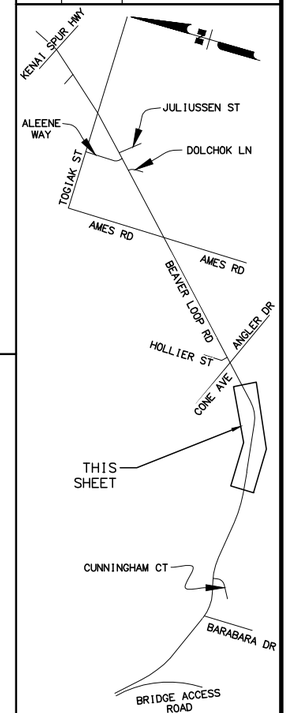
PROJECT DESIGNATION
0001453/Z534560000

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

NO.	DATE	DESCRIPTION



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STATE OF ALASKA
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4/14/2017
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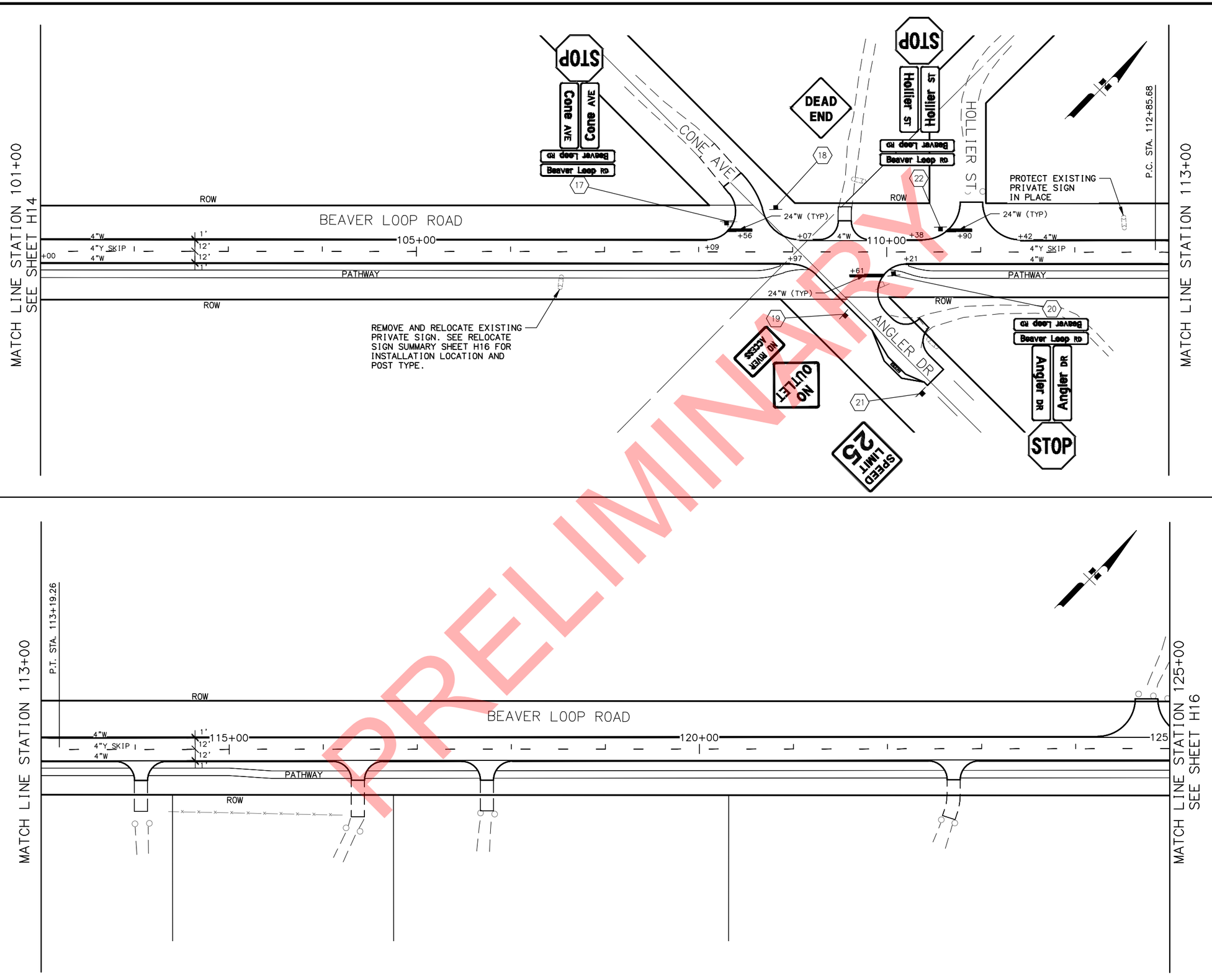
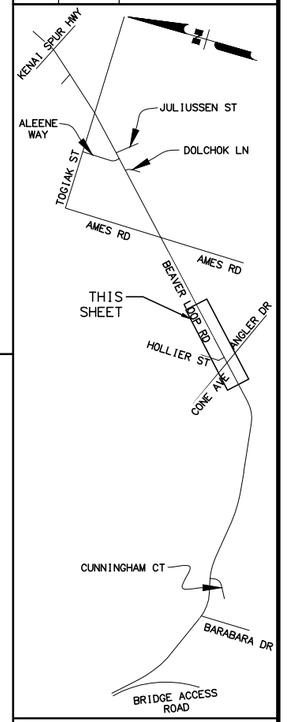
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATH

SIGNING AND STRIPING PLAN
STA 77+00 TO STA 101+00





SHEET NO.	TOTAL SHEETS
H15	H29
STATE	YEAR
ALASKA	2018

PROJECT DESIGNATION
0001453/Z534560000

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

NO.	DATE	DESCRIPTION

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC
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(907) 346-2373
CERT. OF AUTH. NO. AECL 1102

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATH

SIGNING AND STRIPING PLAN
STA 101+00 TO STA 125+00

DESIGNED BY: TSW
CHECKED BY: JP/AJ
DRAFTED BY: GD

XREFS

SCALE

LAYOUT: H15

DATE TIME: 4/7/2017 2:55 PM

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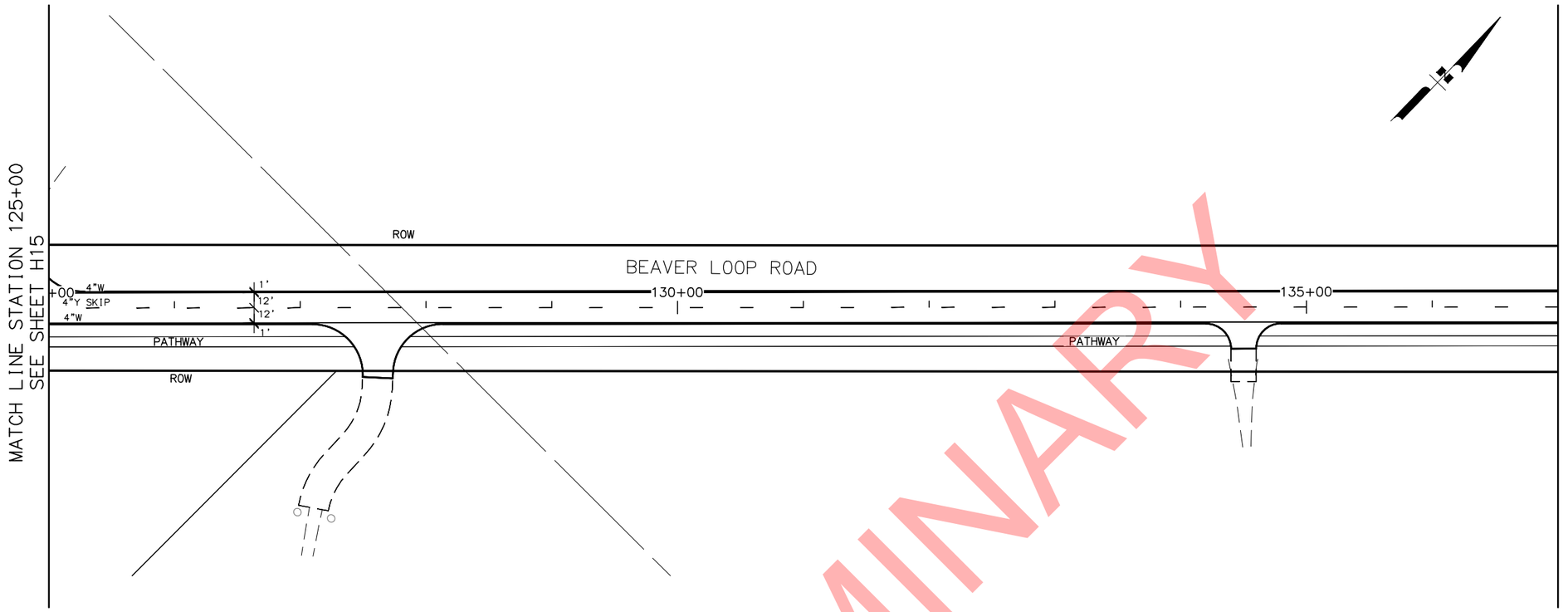

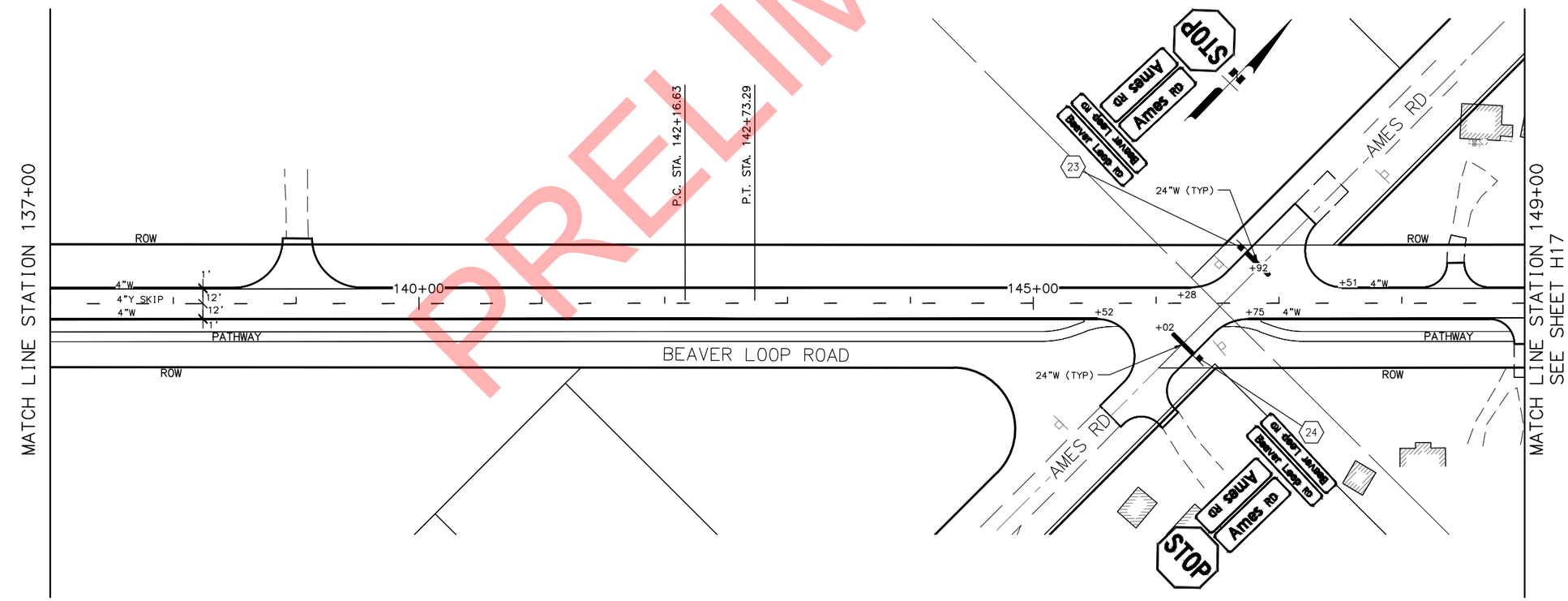

DESIGNED BY	TSW
CHECKED BY	JP/AJ
DRAFTED BY	GD

XREFS

SCALE

LAYOUT
H16

DATE TIME
4/7/2017 2:55 PM

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SHEET NO.	TOTAL SHEETS
H16	H29
STATE	YEAR
ALASKA	2018

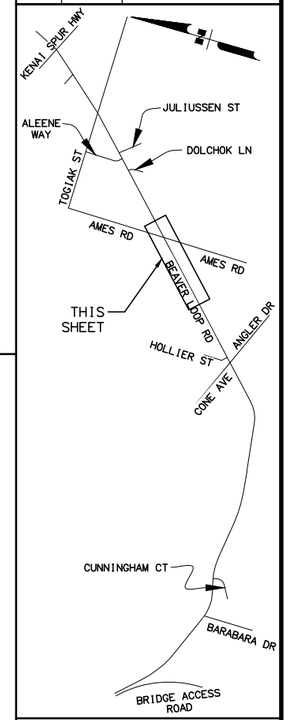
PROJECT DESIGNATION
0001453/Z534560000

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

NO.	DATE	DESCRIPTION



PLANS DEVELOPED BY:
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(907) 346-2373
CERT. OF AUTH. NO. AECL 1102

STATE OF ALASKA
49
DRAFT
FINAL
4/14/2017
PROFESSIONAL ENGINEER

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATH

SIGNING AND STRIPING PLAN
STA 125+00 TO STA 149+00

DESIGNED BY: TSW
CHECKED BY: JP/AJ
DRAFTED BY: GD

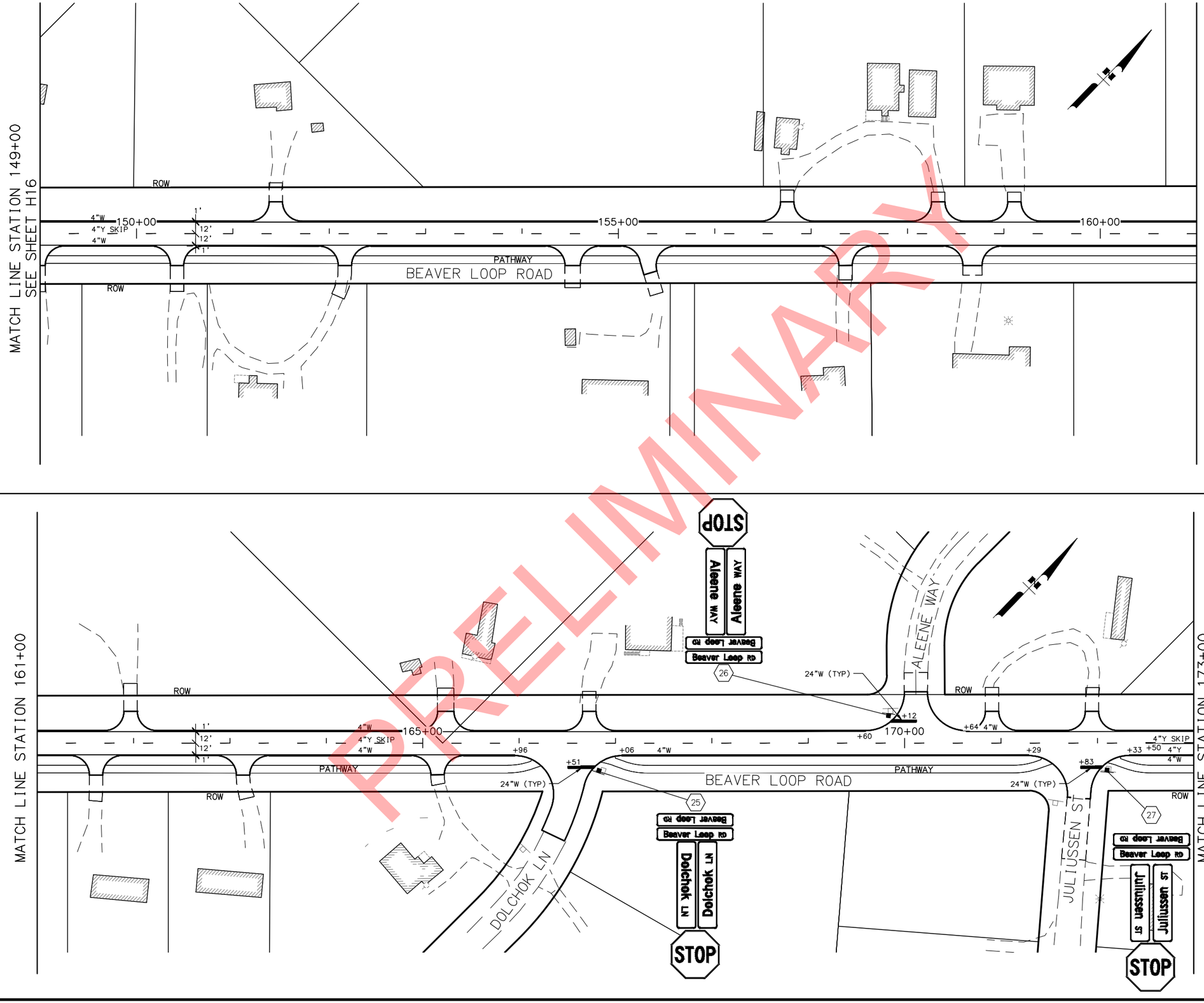
XREFS

SCALE

LAYOUT: H17

DATE TIME: 4/7/2017 2:55 PM

DRAWING LOCATION: Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\H9-H19_Signing&Striping.dwg



SHEET NO.	TOTAL SHEETS
H17	H29
STATE	YEAR
ALASKA	2018

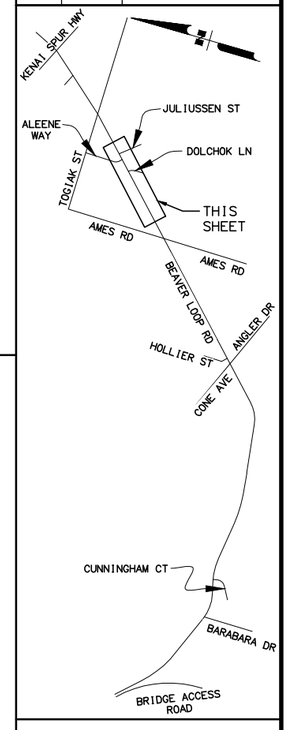
PROJECT DESIGNATION
0001453/Z534560000

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

NO.	DATE	DESCRIPTION



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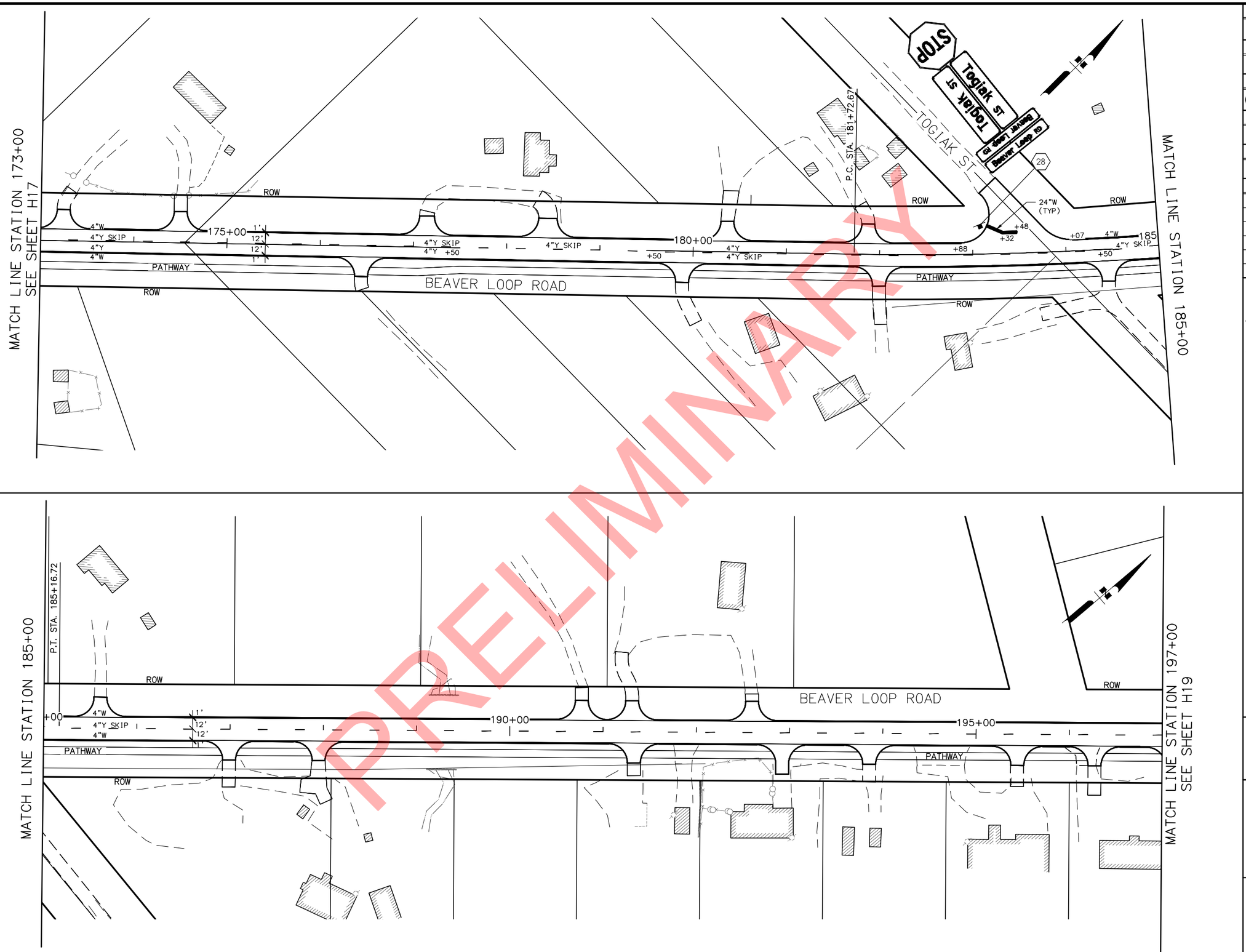
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATH

SIGNING AND STRIPING PLAN
STA 149+00 TO STA 173+00



DRAWING LOCATION	DATE TIME	LAYOUT	SCALE	XREFS	DESIGNED BY	CHECKED BY	DRAFTED BY
Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\H9-H19_Signing&Striping.dwg	4/7/2017 2:55 PM	H18			TSW	JP/AJ	GD

SHEET NO.	TOTAL SHEETS
H18	H29
STATE	YEAR
ALASKA	2018

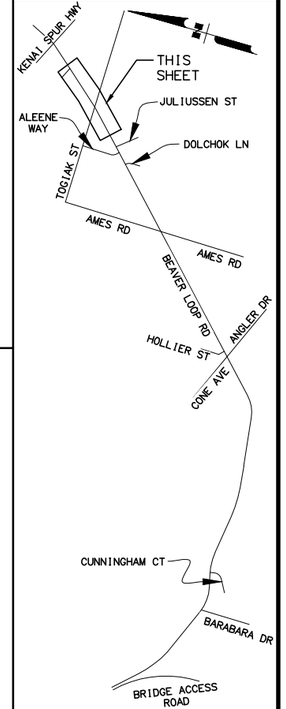
PROJECT DESIGNATION
0001453/Z534560000

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

NO.	DATE	DESCRIPTION



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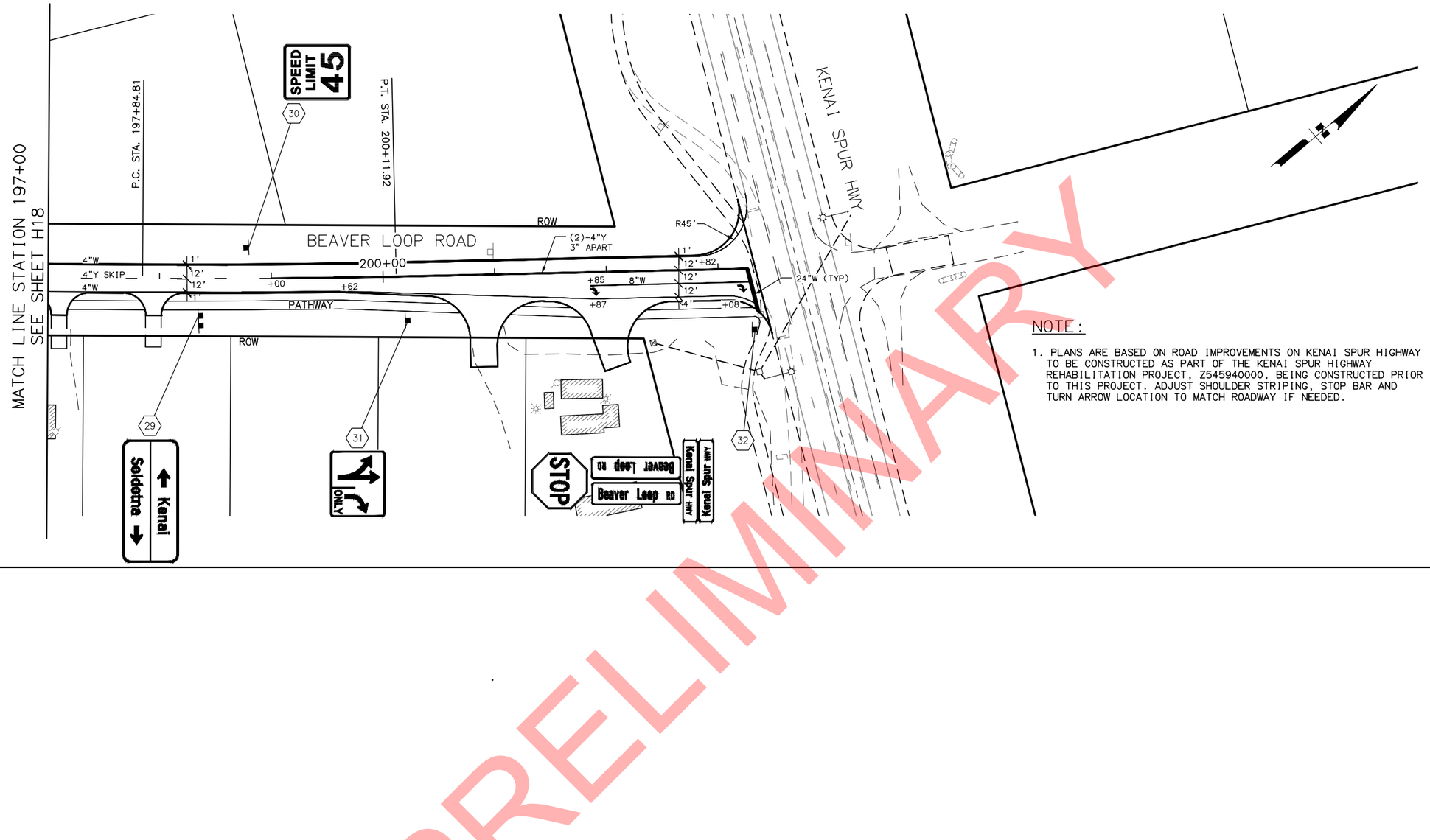
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATH

SIGNING AND STRIPING PLAN
STA 173+00 TO STA 197+00



NOTE:

1. PLANS ARE BASED ON ROAD IMPROVEMENTS ON KENAI SPUR HIGHWAY TO BE CONSTRUCTED AS PART OF THE KENAI SPUR HIGHWAY REHABILITATION PROJECT, Z545940000, BEING CONSTRUCTED PRIOR TO THIS PROJECT. ADJUST SHOULDER STRIPING, STOP BAR AND TURN ARROW LOCATION TO MATCH ROADWAY IF NEEDED.

SHEET NO.	TOTAL SHEETS
H19	H29
STATE	YEAR
ALASKA	2018

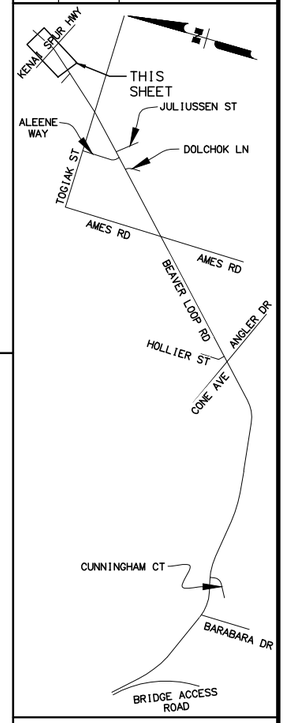
PROJECT DESIGNATION
0001453/Z534560000

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

NO.	DATE	DESCRIPTION



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STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATH

SIGNING AND STRIPING PLAN
STA 197+00 TO EOP

DESIGNED BY: TSW
CHECKED BY: JP/AJ
DRAFTED BY: GD

XREFS

SCALE

LAYOUT: H19

DATE TIME: 4/7/2017 2:55 PM

DRAWING LOCATION
Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\c\Sheets\H9-H19_Signing&Striping.dwg

SIGN SUMMARY

SHEET NO.	POST NO.	STATION ALIGNMENT	OFFSET	MUTCD TYPE	LEGEND	SIZE (IN) WIDTH	SIZE (IN) HEIGHT	AREA (SF)	SIGN FACE	POSTS NO., SIZE, & TYPE	FRAMED YES	FRAMED NO	REMARKS
H11	1	6+14	36 LT	D3-100	Bridge Access RD	48	8	5.33	E/W	1-3"X3" T	X		TWO SIGNS MOUNTED BACK TO BACK
				D3-100	Beaver Loop RD	48	12	8.00	N/S		X		TWO SIGNS MOUNTED BACK TO BACK
				R1-1	STOP	30	30	6.25	E			X	
H11	2	6+30	36 RT	R5-103P	PATHWAY	18	6	0.75	W	1-2.5"X2.5" P.T.		X	
				R5-103	NO MOTOR VEHICLES	18	24	3.00	W			X	
H11	3	6+60	39 LT	W1-8L		18	24	3.00	SE	1-2.5"X2.5" P.T.		X	
H11	4	6+75	39 LT	W1-8L		18	24	3.00	SE	1-2.5"X2.5" P.T.		X	
H11	5	6+92	39 LT	W1-8L		18	24	3.00	SE	1-2.5"X2.5" P.T.		X	
H11	6	7+96	36 LT	R3-108 L/R	ONLY ONLY	30	30	6.25	SE	1-2.5"X2.5" P.T.		X	
H11	7	8+75	41 LT	R1-1	STOP	30	30	6.25	NE	1-2.5"X2.5" P.T.		X	
H11	8	9+96	28 LT	D1-2	Soldotna / Kenai	66	30	13.75	SE	2-3"X3" T	X		
H11	9	11+95	27 LT	W3-1		30	30	6.25	SE	1-2.5"X2.5" P.T.		X	
				W16-8P	BRIDGE ACCESS RD	36	8	2.00	SE		X		
H11	10	14+36	26 LT	W1-1		30	30	6.25	SE	1-2.5"X2.5" P.T.		X	
				W13-1P	20 MPH	18	18	2.25	SE			X	
H12	11	38+58	43 RT	W14-1	DEAD END	30	30	6.25	N	1-2.5"X2.5" P.T.		X	
				SPECIAL	NO RIVER ACCESS	30	18	3.75	N			X	
H12	12	38+69	109 RT	R2-1	SPEED LIMIT 25	24	30	5.00	N	1-2.5"X2.5" P.T.		X	
H12	13	39+14	25 RT	D3-100	Beaver Loop RD	48	8	5.33	N/S	1-3"X3" T	X		TWO SIGNS MOUNTED BACK TO BACK
				D3-100	Barabara DR	48	12	8.00	E/W		X		TWO SIGNS MOUNTED BACK TO BACK
				R1-1	STOP	30	30	6.25	S			X	
H12	14	49+32	25 RT	D3-100	Beaver Loop RD	48	8	5.33	N/S	1-3"X3" T	X		TWO SIGNS MOUNTED BACK TO BACK
				D3-100	Cunningham CT	48	12	8.00	E/W		X		TWO SIGNS MOUNTED BACK TO BACK
				R1-1	STOP	30	30	6.25	S			X	
H13	15	58+90	35 RT	W14-1	DEAD END	30	30	6.25	N	1-2.5"X2.5" P.T.		X	
				SPECIAL	NO RIVER ACCESS	18	30	3.75	N			X	

REVISIONS		
NO.	DATE	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0001453/Z534560000	2018	H20	H29

DESIGNED BY: TSM
CHECKED BY: JP/AJ
DRAFTED BY: GD

XREFS

SCALE: N/A

LAYOUT: H20

DATE TIME: 4/6/2017 8:33 AM

DRAWING LOCATION: Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\H20-H22_Sign Summary.dwg

PLANS DEVELOPED BY:
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STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY

SIGN SUMMARY

SIGN SUMMARY

SHEET NO.	POST NO.	STATION ALIGNMENT	OFFSET	MUTCD TYPE	LEGEND	SIZE (IN) WIDTH	SIZE (IN) HEIGHT	AREA (SF)	SIGN FACE	POSTS NO., SIZE, & TYPE	FRAMED YES	FRAMED NO	REMARKS
H13	16	59+40	28 RT	D3-100	Beaver Loop RD	48	8	5.33	N/S	1-3"X3" T	X		TWO SIGNS MOUNTED BACK TO BACK
				D3-100	Tundra Rose LN	48	12	8.00	E/W		X		TWO SIGNS MOUNTED BACK TO BACK
				R1-1	STOP	30	30	6.25	S			X	
H15	17	108+30	31 LT	D3-100	Beaver Loop RD	48	8	5.33	NW/SE	1-3"X3" T	X		TWO SIGNS MOUNTED BACK TO BACK
				D3-100	Cone AVE	42	12	7.00	NE/SW		X		TWO SIGNS MOUNTED BACK TO BACK
				R1-1	STOP	30	30	6.25	NW			X	
H15	18	108+82	47 LT	W14-1	DEAD END	30	30	6.25	SE	1-2.5"X2.5" P.T.		X	
H15	19	109+56	68 RT	W14-2	NO OUTLET	30	30	6.25	W	1-2.5"X2.5" P.T.		X	
				SPECIAL	NO RIVER ACCESS	30	18	3.75	W			X	
H15	20	110+07	23 RT	D3-100	Beaver Loop RD	48	8	5.33	NW/SE	1-3"X3" T	X		TWO SIGNS MOUNTED BACK TO BACK
				D3-100	Angler DR	48	12	8.00	NE/SW		X		TWO SIGNS MOUNTED BACK TO BACK
				R1-1	STOP	30	30	6.25	SE			X	
H15	21	110+38	150 RT	R2-1	SPEED LIMIT 25	24	30	5.00	W	1-2.5"X2.5" P.T.		x	
H15	22	110+57	24 LT	D3-100	Beaver Loop RD	48	8	5.33	NW/SE	1-3"X3" T	X		TWO SIGNS MOUNTED BACK TO BACK
				D3-100	Hollier ST	42	12	7.00	NE/SW		X		TWO SIGNS MOUNTED BACK TO BACK
				R1-1	STOP	30	30	6.25	NW			X	
H16	23	146+48	25 LT	D3-100	Beaver Loop RD	48	8	5.33	N/S	1-3"X3" T	X		TWO SIGNS MOUNTED BACK TO BACK
				D3-100	Ames RD	42	12	7.00	E/W		X		TWO SIGNS MOUNTED BACK TO BACK
				R1-1	STOP	30	30	6.25	N			X	
H16	24	146+62	21 RT	D3-100	Beaver Loop RD	48	8	5.33	N/S	1-3"X3" T	X		TWO SIGNS MOUNTED BACK TO BACK
				D3-100	Ames RD	42	12	7.00	E/W		X		TWO SIGNS MOUNTED BACK TO BACK
				R1-1	STOP	30	30	6.25	S			X	
H17	25	166+83	29 RT	D3-100	Beaver Loop RD	48	8	5.33	N/S	1-3"X3" T	X		TWO SIGNS MOUNTED BACK TO BACK
				D3-100	Dolchok LN	48	12	8.00	E/W		X		TWO SIGNS MOUNTED BACK TO BACK
				R1-1	STOP	30	30	6.25	S			X	

REVISIONS		
NO.	DATE	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0001453/Z534560000	2018	H21	H29

DESIGNED BY: TSM
CHECKED BY: JP/AJ
DRAFTED BY: GD
XREFS:
SCALE: N/A
LAYOUT: H21
DATE TIME: 4/6/2017 8:33 AM
DRAWING LOCATION: Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\H20-H22_Sign Summary.dwg

PLANS DEVELOPED BY:
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STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY

SIGN SUMMARY

REVISIONS		
NO.	DATE	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0001453/Z534560000	2018	H22	H29

SIGN SUMMARY

SHEET NO.	POST NO.	STATION ALIGNMENT	OFFSET	MUTCD TYPE	LEGEND	SIZE (IN) WIDTH	SIZE (IN) HEIGHT	AREA (SF)	SIGN FACE	POSTS NO., SIZE, & TYPE	FRAMED YES	FRAMED NO	REMARKS
H17	26	169+83	28 LT	D3-100	Beaver Loop RD	48	8	5.33	NW/SE	1-3"X3" T	X		TWO SIGNS MOUNTED BACK TO BACK
				D3-100	Aleene WAY	48	12	8.00	NE/SW		X		TWO SIGNS MOUNTED BACK TO BACK
				R1-1	STOP	30	30	6.25	NW			X	
H17	27	172+10	28 RT	D3-100	Beaver Loop RD	48	8	5.33	NW/SE	1-3"X3" T	X		TWO SIGNS MOUNTED BACK TO BACK
				D3-100	Juliussen ST	48	12	8.00	NE/SW		X		TWO SIGNS MOUNTED BACK TO BACK
				R1-1	STOP	30	30	6.25	SE			X	
H18	28	183+08	30 LT	D3-100	Beaver Loop RD	48	8	5.33	E/W	1-3"X3" T	X		TWO SIGNS MOUNTED BACK TO BACK
				D3-100	Togiak ST	42	12	7.00	N/S		X		TWO SIGNS MOUNTED BACK TO BACK
				R1-1	STOP	30	30	6.25	W			X	
H19	29	198+37	33 RT	D1-2	← Kenai / Soldotna →	66	30	13.75	SW	2-3"X3" T	X		
H19	30	198+77	28 LT	R2-1	SPEED LIMIT 45	24	30	5.00	NE	1-2.5"X2.5" P.T.		X	
H19	31	200+21	40 RT	R3-108 SL/R	ONLY	36	30	7.50	SW	1-3"X3" T	X		
H19	32	203+32	55 RT	D3-100	Kenai Spur HWY	48	8	5.33	NE/SW	1-3"X3" T	X		TWO SIGNS MOUNTED BACK TO BACK
				D3-100	Beaver Loop RD	48	12	8.00	NW/SE		X		TWO SIGNS MOUNTED BACK TO BACK
				R1-1	STOP	30	30	6.25	SW			X	
							TOTAL	397.42					

DESIGNED BY: TSW
CHECKED BY: JP/AJ
DRAFTED BY: GD

XREFS

SCALE: N/A

LAYOUT: H22

DATE TIME: 4/6/2017 8:33 AM

DRAWING LOCATION: Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\H20-H22_Sign Summary.dwg

PLANS DEVELOPED BY:
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CERT. OF AUTH. NO. AECL 1102

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY

SIGN SUMMARY

REVISIONS		
NO.	DATE	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0001453/Z534560000	2018	H23	H29

SALVAGE SIGN SUMMARY

STATION ALIGNMENT	OFFSET	MUTCD TYPE	LEGEND	SIGN FACE
6+14	30 LT	D3-100	BEAVER LOOP	N/S
		R1-1	STOP	E
7+05	30 LT	W1-6	LARGE LEFT ARROW	SE
8+81	38 LT	R1-1	STOP	N
38+61	72 RT	R2-1	SPEED LIMIT 25	N
		SPECIAL	NO RIVER ACCESS	N
38+94	30 RT	D3-100	BARABARA DR	E/W
		R1-1	STOP	S
48+68	142 RT	R2-1	SPEED LIMIT 25	N
		W14-2	NO OUTLET	N
		SPECIAL	NO RIVER ACCESS	N
49+28	36 RT	D3-100	CUNNINGHAM CT	E/W
		R1-1	STOP	S
59+07	58 RT	W14-2	NO OUTLET	SW
		SPECIAL	NO RIVER ACCESS	SW
		SPECIAL	PRIVATE DRIVE	SW
59+50	31 RT	D3-100	TUNDRA ROSE LN	E/W
		R1-1	STOP	S
108+33	29 LT	D3-100	CONE AVE	SW/NE
		R1-1	STOP	NW
109+95	35 RT	D3-100	ANGLER DR	SW/NE
		R1-1	STOP	SE
110+38	150 RT	SPECIAL	NOT A THROUGH STREET	E
		R2-1	SPEED LIMIT 25	E
		SPECIAL	NO PARKING ON ANY CITY STREET 4AM-8AM OCT 1-MAY 1	E
		SPECIAL	NO RIVER ACCESS	E
145+21	99 RT	SPECIAL	NOT A THROUGH STREET	N
		R2-1	SPEED LIMIT 25	N
		SPECIAL	NO PARKING ON ANY CITY STREET 4AM-8AM OCT 1-MAY 1	N
		SPECIAL	NO RIVER ACCESS	N
146+51	32 LT	D3-100	AMES RD	SW/NE
		R1-1	STOP	S
146+53	35 RT	D3-100	AMES RD	SW/NE
		R1-1	STOP	N
147+86	105 LT	SPECIAL	NOT A THROUGH STREET	S
		R2-1	SPEED LIMIT 25	S
		SPECIAL	NO PARKING ON ANY CITY STREET 4AM-8AM OCT 1-MAY 1	S
166+04	110 RT	R2-1	SPEED LIMIT 25	N
		SPECIAL	NO RIVER ACCESS	N
166+87	28 RT	D3-100	DOLCHOK LN	SW/NE
		R1-1	STOP	SE
169+85	33 LT	D3-100	ALEENE WAY	SW/NE
		R1-1	STOP	NW
171+56	62 RT	W14-1	DEAD END	N
		SPECIAL	NO PARKING ON ANY CITY STREET 4AM-8AM OCT 1-MAY 1	N
		SPECIAL	NO RIVER ACCESS	N
172+11	27 RT	D3-100	JULIUSSEN ST	SW/NE
		R1-1	STOP	SE
200+96	25 LT	R2-1	SPEED LIMIT 45	NE
203+38	31 RT	D3-100	BEAVER LOOP RD	NW/SE
		R1-1	STOP	SW

REMOVE AND RELOCATE EXISTING SIGN SUMMARY

SHEET NO.	STATION ALIGNMENT	OFFSET	TYPE	SIGN FACE	POSTS NO., SIZE, & TYPE	REMARKS
H11	10+71	22 RT	45 MPH SPEED LIMIT	NW	1-2.5"X2.5" P.T.	
H14	84+12	43 LT	PRIVATE SIGN	S	2-2.5"X2.5" P.T.	
H15	106+53	33 RT	PRIVATE SIGN	SW	1-2.5"X2.5" P.T.	

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BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY

SALVAGE AND RELOCATE SIGN SUMMARY TABLES

DESIGNED BY: TSM
CHECKED BY: JP/AJ
DRAFTED BY: SH

XREFS

SCALE: N/A

LAYOUT: H23

DATE TIME: 4/6/2017 8:55 AM

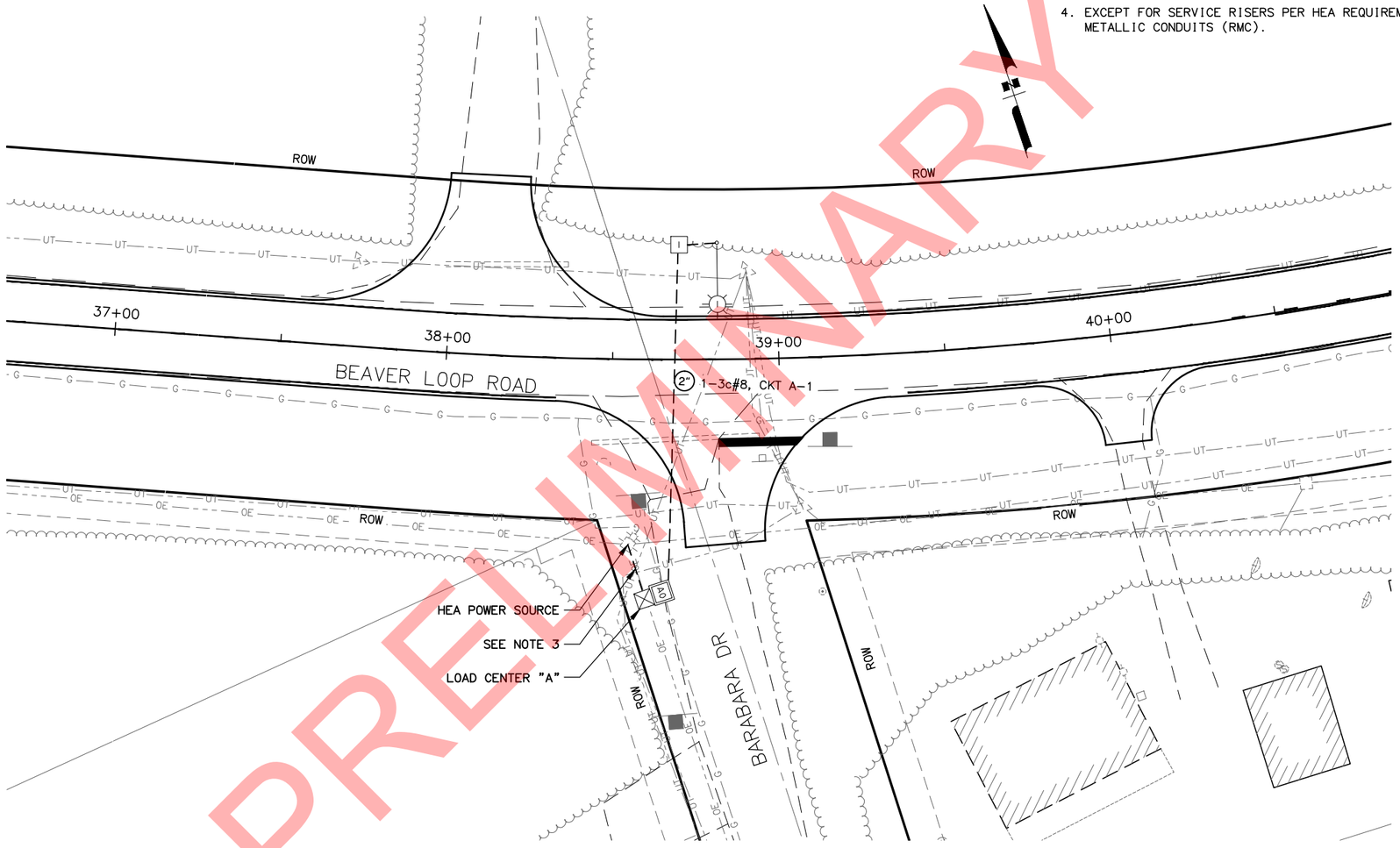
DRAWING LOCATION: Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\H23_Salvage Sign Summary.dwg

REVISIONS		
NO.	DATE	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0001453/Z534560000	2018	H24	H29

NOTES:

1. SEE SHEET H28 FOR LOAD CENTER SUMMARY. AT THE DIRECTION OF THE ENGINEER, ADJUST LOCATION SO THAT LOAD CENTER IS NOT LESS THAN TEN FEET AWAY FROM ANY POLE THAT SUPPORTS OVERHEAD UTILITIES.
2. SEE SHEET H29 FOR ELECTROLIER, LUMINAIRE, AND JUNCTION BOX SUMMARIES.
3. UNDERGROUND SERVICE SHALL BE INSTALLED BY UTILITY. SEE LOAD CENTER DETAILS ON SHEET H2.
4. EXCEPT FOR SERVICE RISERS PER HEA REQUIREMENTS, ALL CONDUITS SHALL BE RIGID METALLIC CONDUITS (RMC).



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(907) 346-2373
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STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY

BARABARA DRIVE ILLUMINATION PLAN

DESIGNED BY
CHECKED BY
DRAFTED BY

XREFS

SCALE

LAYOUT
H24_BARABARA

DATE TIME
4/6/2017 3:05 PM

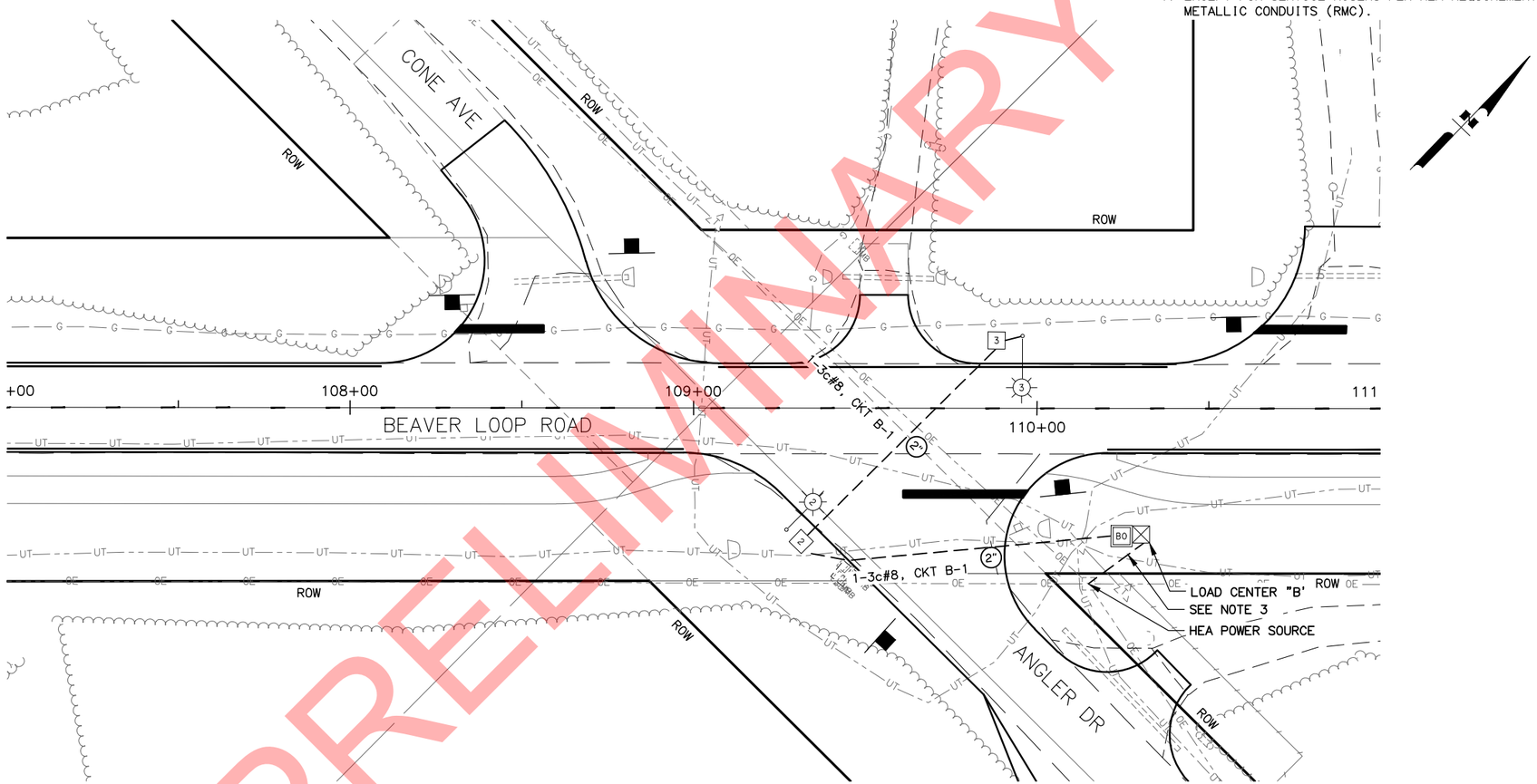
DRAWING LOCATION
Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\H24_BARABARA_LIGHTING_PLAN.dwg

REVISIONS		
NO.	DATE	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0001453/Z534560000	2018	H25	H29

NOTES:

1. SEE SHEET H28 FOR LOAD CENTER SUMMARY. AT THE DIRECTION OF THE ENGINEER, ADJUST LOCATION SO THAT LOAD CENTER IS NOT LESS THAN TEN FEET AWAY FROM ANY POLE THAT SUPPORTS OVERHEAD UTILITIES.
2. SEE SHEET H29 FOR ELECTROLIER, LUMINAIRE, AND JUNCTION BOX SUMMARIES.
3. UNDERGROUND SERVICE SHALL BE INSTALLED BY UTILITY. SEE LOAD CENTER DETAILS ON SHEET H2.
4. EXCEPT FOR SERVICE RISERS PER HEA REQUIREMENTS, ALL CONDUITS SHALL BE RIGID METALLIC CONDUITS (RMC).



PLANS DEVELOPED BY:
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CERT. OF AUTH. NO. AECL 1102

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY

ANGLER DRIVE ILLUMINATION PLAN

DESIGNED BY
CHECKED BY
DRAFTED BY

XREFS

SCALE

LAYOUT
H25_ANGLER

DATE TIME
4/6/2017 2:53 PM

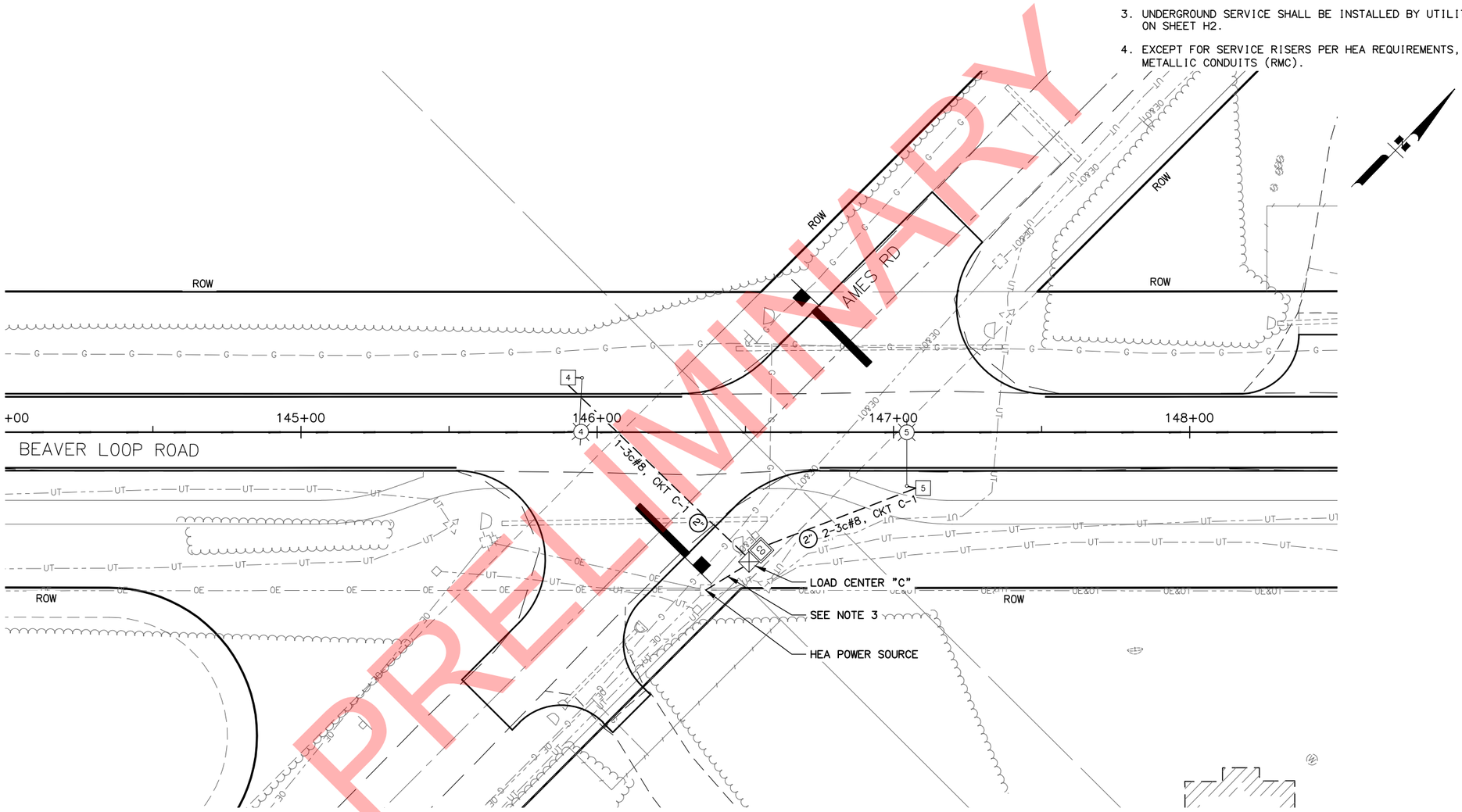
DRAWING LOCATION
Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\H25_ANGLER_LIGHTING_PLAN.dwg

REVISIONS		
NO.	DATE	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0001453/Z534560000	2018	H26	H29

NOTES:

1. SEE SHEET H28 FOR LOAD CENTER SUMMARY. AT THE DIRECTION OF THE ENGINEER, ADJUST LOCATION SO THAT LOAD CENTER IS NOT LESS THAN TEN FEET AWAY FROM ANY POLE THAT SUPPORTS OVERHEAD UTILITIES.
2. SEE SHEET H29 FOR ELECTROLIER, LUMINAIRE, AND JUNCTION BOX SUMMARIES.
3. UNDERGROUND SERVICE SHALL BE INSTALLED BY UTILITY. SEE LOAD CENTER DETAILS ON SHEET H2.
4. EXCEPT FOR SERVICE RISERS PER HEA REQUIREMENTS, ALL CONDUITS SHALL BE RIGID METALLIC CONDUITS (RMC).



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STATE OF ALASKA
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BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY

AMES ROAD ILLUMINATION PLAN

DESIGNED BY
CHECKED BY
DRAFTED BY

XREFS

SCALE

LAYOUT
H26_AMES

DATE TIME
4/14/2017 2:14 PM

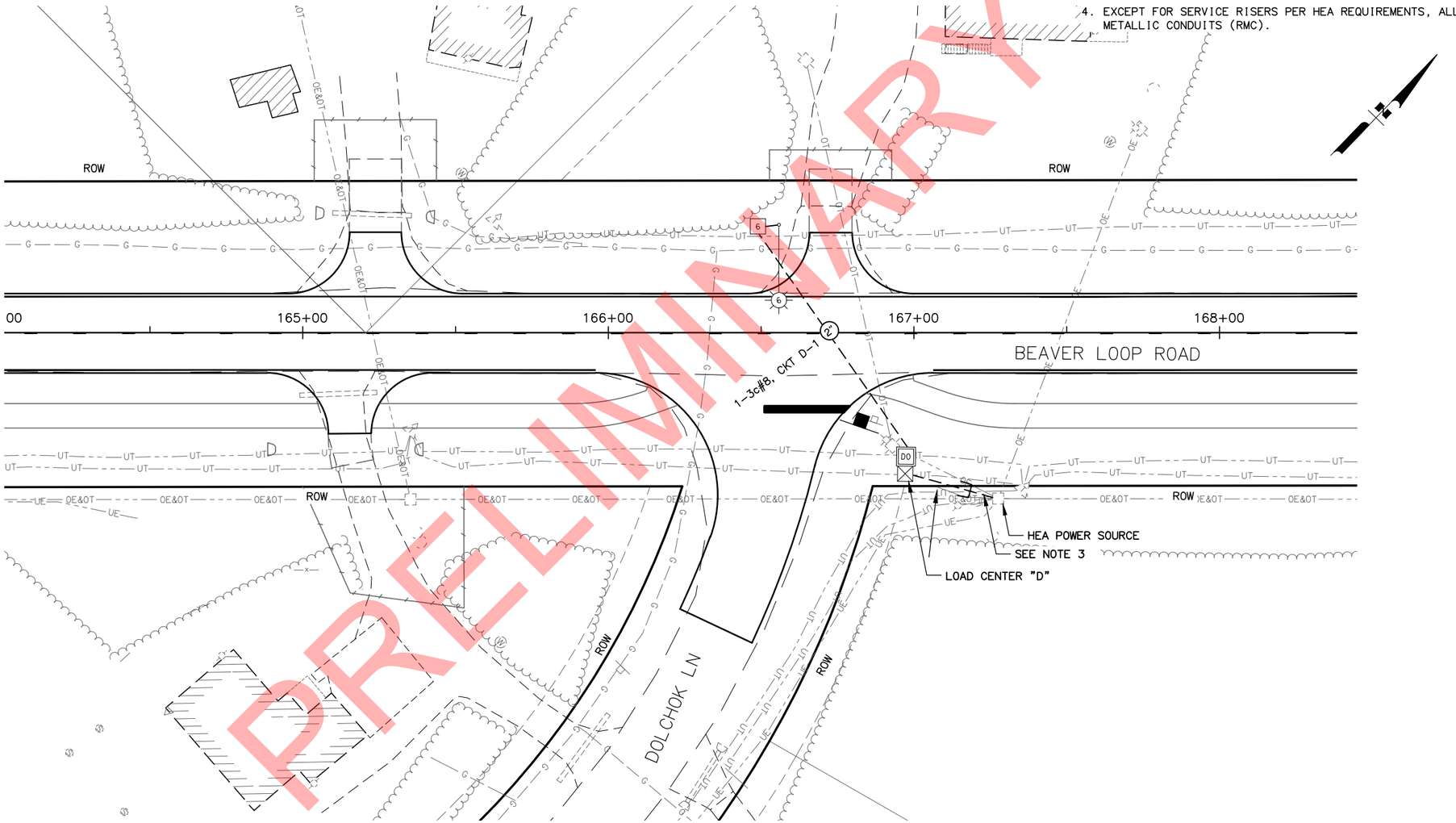
DRAWING LOCATION
\\192.168.0.10\KE-Files\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\H26_AMES_LIGHTING_PLAN.dwg

REVISIONS		
NO.	DATE	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0001453/Z534560000	2018	H27	H29

NOTES:

1. SEE SHEET H28 FOR LOAD CENTER SUMMARY AT THE DIRECTION OF THE ENGINEER, ADJUST LOCATION SO THAT LOAD CENTER IS NOT LESS THAN TEN FEET AWAY FROM ANY POLE THAT SUPPORTS OVERHEAD UTILITIES.
2. SEE SHEET H29 FOR ELECTROLIER, LUMINAIRE, AND JUNCTION BOX SUMMARIES.
3. UNDERGROUND SERVICE SHALL BE INSTALLED BY UTILITY. SEE LOAD CENTER DETAILS ON SHEET H2.
4. EXCEPT FOR SERVICE RISERS PER HEA REQUIREMENTS, ALL CONDUITS SHALL BE RIGID METALLIC CONDUITS (RMC).



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STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
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BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY

DOLCHOK LANE ILLUMINATION PLAN

DESIGNED BY
CHECKED BY
DRAFTED BY

XREFS

SCALE

LAYOUT
H27_DOLCHOK

DATE TIME
4/6/2017 2:29 PM

DRAWING LOCATION
\\192.168.0.10\KE-Files\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\H27_DOLCHOK_LIGHTING_PLAN.dwg

REVISIONS		
NO.	DATE	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0001453/Z534560000	2018	H28	H29

DESIGNED BY	ISM
CHECKED BY	JP/AJ
DRAFTED BY	GD

XREFS

SCALE N/A

LAYOUT H28

DATE TIME 4/14/2017 2:37 PM

DRAWING LOCATION Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\H28_LOAD SUMMARY.dwg

SUMMARY OF LOAD CENTER A

LOAD CENTER TYPE:	TYPE 2, SINGLE POST
LOAD CENTER LOCATION:	STATION 30+60, 72.1 FT RIGHT
SERVING UTILITY:	HOMER ELECTRIC ASSOCIATION
UTILITY POWER SOURCE:	POLE AT STATION 35+55, 57.7 FT RIGHT
SERVICE REQUIRED:	100 AMP, 240/120 VAC, 1-PHASE, 3-WIRE
SERVICE CONDUIT TYPE:	LFNC (SERVICE RISER ONLY)
SERVICE METER:	4-JAW SAFETY SOCKET; FACE TO TRAVELED WAY.
MAIN BREAKER A:	100 AMP, 240 VOLT, 2-POLE
LIGHTING CONTACTOR:	30 AMP, 600 VOLT, 4-POLE
PHOTOELECTRIC CONTROL:	MOUNT ON LOAD CENTER

PANEL A

CIRCUIT NUMBER	DESCRIPTION	BREAKER AMPS	BREAKER POLES	KVA LOAD BUS A	KVA LOAD BUS B
A-1	* ELECTROLIER # 1	20	2	0.08	0.08
A-2	PHOTOELECTRIC CONTROL	15	2	0.05	0.05
A-3	SPARE	20	2		
A-4	SPARE	20	2		
A-5	SPACE		2		
A-6	SPACE		2		
	TOTAL CONNECTED LOAD:	1.0	AMPS	0.25	KVA
	TOTAL DEMAND LOAD:	1.3	AMPS	0.31	KVA

NOTES:
* CIRCUIT THROUGH CONTACTOR

SUMMARY OF LOAD CENTER B

LOAD CENTER TYPE:	TYPE 2, SINGLE POST
LOAD CENTER LOCATION:	STATION 110+42, 34.8 FT RIGHT
SERVING UTILITY:	HOMER ELECTRIC ASSOCIATION
UTILITY POWER SOURCE:	POLE AT STATION 110+15, 51.1 FT RIGHT
SERVICE REQUIRED:	100 AMP, 240/120 VAC, 1-PHASE, 3-WIRE
SERVICE CONDUIT TYPE:	LFNC (SERVICE RISER ONLY)
SERVICE METER:	4-JAW SAFETY SOCKET; FACE TO TRAVELED WAY.
MAIN BREAKER A:	100 AMP, 240 VOLT, 2-POLE
LIGHTING CONTACTOR:	30 AMP, 600 VOLT, 4-POLE
PHOTOELECTRIC CONTROL:	MOUNT ON LOAD CENTER

PANEL A

CIRCUIT NUMBER	DESCRIPTION	BREAKER AMPS	BREAKER POLES	KVA LOAD BUS A	KVA LOAD BUS B
B-1	* ELECTROLIERS # 2, 3	20	2	0.15	0.15
B-2	PHOTOELECTRIC CONTROL	15	2	0.05	0.05
B-3	SPARE	20	2		
B-4	SPARE	20	2		
B-5	SPACE		2		
B-6	SPACE		2		
	TOTAL CONNECTED LOAD:	1.7	AMPS	0.40	KVA
	TOTAL DEMAND LOAD:	2.1	AMPS	0.50	KVA

NOTES:
* CIRCUIT THROUGH CONTACTOR

SUMMARY OF LOAD CENTER C

LOAD CENTER TYPE:	TYPE 2, SINGLE POST
LOAD CENTER LOCATION:	STATION 146+51, 43.7 FT RIGHT
SERVING UTILITY:	HOMER ELECTRIC ASSOCIATION
UTILITY POWER SOURCE:	POLE AT STATION 146+37, 53.3 FT RIGHT
SERVICE REQUIRED:	100 AMP, 240/120 VAC, 1-PHASE, 3-WIRE
SERVICE CONDUIT TYPE:	LFNC (SERVICE RISER ONLY)
SERVICE METER:	4-JAW SAFETY SOCKET; FACE TO TRAVELED WAY.
MAIN BREAKER A:	100 AMP, 240 VOLT, 2-POLE
LIGHTING CONTACTOR:	30 AMP, 600 VOLT, 4-POLE
PHOTOELECTRIC CONTROL:	MOUNT ON LOAD CENTER

PANEL A

CIRCUIT NUMBER	DESCRIPTION	BREAKER AMPS	BREAKER POLES	KVA LOAD BUS A	KVA LOAD BUS B
C-1	* ELECTROLIERS # 4, 5	20	2	0.15	0.15
C-2	PHOTOELECTRIC CONTROL	15	2	0.05	0.05
C-3	SPARE	20	2		
C-4	SPARE	20	2		
C-5	SPACE		2		
C-6	SPACE		2		
	TOTAL CONNECTED LOAD:	1.7	AMPS	0.40	KVA
	TOTAL DEMAND LOAD:	2.1	AMPS	0.50	KVA

NOTES:
* CIRCUIT THROUGH CONTACTOR

SUMMARY OF LOAD CENTER D

LOAD CENTER TYPE:	TYPE 2, SINGLE POST
LOAD CENTER LOCATION:	STATION 166+97, 54.6 FT RIGHT
SERVING UTILITY:	HOMER ELECTRIC ASSOCIATION
UTILITY POWER SOURCE:	POLE AT STATION 167+28, 54.2 FT RIGHT
SERVICE REQUIRED:	100 AMP, 240/120 VAC, 1-PHASE, 3-WIRE
SERVICE CONDUIT TYPE:	LFNC (SERVICE RISER ONLY)
SERVICE METER:	4-JAW SAFETY SOCKET; FACE TO TRAVELED WAY.
MAIN BREAKER A:	100 AMP, 240 VOLT, 2-POLE
LIGHTING CONTACTOR:	30 AMP, 600 VOLT, 4-POLE
PHOTOELECTRIC CONTROL:	MOUNT ON LOAD CENTER

PANEL A

CIRCUIT NUMBER	DESCRIPTION	BREAKER AMPS	BREAKER POLES	KVA LOAD BUS A	KVA LOAD BUS B
D-1	* ELECTROLIER # 6	20	2	0.08	0.08
D-2	PHOTOELECTRIC CONTROL	15	2	0.05	0.05
D-3	SPARE	20	2		
D-4	SPARE	20	2		
D-5	SPACE		2		
D-6	SPACE		2		
	TOTAL CONNECTED LOAD:	1.0	AMPS	0.25	KVA
	TOTAL DEMAND LOAD:	1.3	AMPS	0.31	KVA

NOTES:
* CIRCUIT THROUGH CONTACTOR

NOTES:

1. LOAD CENTERS A - D WILL BE OWNED AND MAINTAINED BY THE CITY OF KENAI.

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STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY

LOAD CENTER SUMMARIES

REVISIONS		
NO.	DATE	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0001453/Z534560000	2018	H29	H29

DESIGNED BY: ISM
CHECKED BY: JP/AJ
DRAFTED BY: GD

XREFS

SCALE: N/A

LAYOUT: H29

DATE TIME: 4/14/2017 2:48 PM

DRAWING LOCATION: Z:\PROJECTS\00332_Beaver Lp Rd\DWGS\C\Sheets\H29_SCHEDULES.dwg

ELECTROLIER SUMMARY

No.	STATION	OFFSET		LUMINAIRE DATA	WATTS	CIRCUIT	MOUNTING HEIGHT (NOTE 5)	SHAFT LENGTH	MAST ARM LENGTH	FOUNDATION	REMARKS
		LT	RT	IES DISTRIBUTION TYPE							
1	38+82	35'		MED. CUTOFF TYPE III	134W	A-1	30'	27'	22'	CIDH OR DRIVEN PILE	BARABARA DRIVE INTERSECTION POLE BASE NORTH OF SWALE.
2	109+27		35'	MED. CUTOFF TYPE III	134W	B-1	30'	29'	15'	CIDH OR DRIVEN PILE	ANGLER DRIVE INTERSECTION
3	109+95	21'		MED. CUTOFF TYPE III	134W	B-1	30'	29'	15'	DRIVEN PILE	ANGLER DRIVE INTERSECTION POLE BASE SOUTH OF GAS LINE.
4	145+94	18'		MED. CUTOFF TYPE IV	134W	C-1	30'	28'	18'	CIDH OR DRIVEN PILE	AMES ROAD INTERSECTION
5	147+04		18'	MED. CUTOFF TYPE IV	134W	C-1	30'	27'	18'	CIDH OR DRIVEN PILE	AMES ROAD INTERSECTION
6	166+56	35'		MED. CUTOFF TYPE III	134W	D-1	30'	27'	22'	CIDH OR DRIVEN PILE	DOLCHOK LANE INTERSECTION POLE BASE NORTH OF BURIED TELEPHONE.

LUMINAIRE PERFORMANCE CRITERIA

ROADWAY LUMINAIRE		
GENERAL DESCRIPTION:	LED STREETLIGHT, FULL CUTOFF OPTICS	
MANUFACTURER:	CREE OR APPROVED EQUAL	
MODEL:	STR-LWY-XX-HT-06-E-UL-SV-700-40K OR APPROVED EQUAL	
MOUNTING:	HORIZONTAL	
HOUSING ENTRY TYPE:	TOOL-LESS	
FIXTURE FINISH COLOR:	SILVER	
PE CONTROL SOCKET PROVISIONS:	ANSI 7-PIN SOCKET WITH SHORTING CAP	
DIMMING PROVISIONS:	0-10V	
BACKLIGHT SHIELD:	NO	
WARRANTY:	10-YEAR MINIMUM	
UL LISTED PRODUCT:	YES	
VOLTAGE:	240V	
POWER FACTOR:	>= 0.90	
LED QUANTITY:	60	
WATTAGE:	134W	
CORRECTED COLOR TEMP (CCT):	4000K	
COLOR RENDERING INDEX (CCI):	70 MINIMUM	
IESNA DISTRIBUTION TYPE	MED CUTOFF, TYPE 3	MED CUTOFF, TYPE 4
INITIAL LUMEN OUTPUT:	10,666	11,250
IES FILE:	STR-LWY-3M-XX-06-E-UL-700-40K.IES	STR-LWY-4M-XX-06-E-UH-700-40K-CONFIGURED.IES

ROADWAY LIGHTING CRITERIA

ROADWAY CHARACTERISTICS	
ROADWAY CLASSIFICATION:	COLLECTOR
PEDESTRIAN CONFLICTS:	LOW
PAVEMENT CLASSIFICATION:	R3
TRAFFIC FLOW:	2-WAY
LANE WIDTH:	12 FT.
NO. OF LANES, LEFT / RIGHT:	ONE EACH SIDE.
LIGHTING STANDARDS	
ROADWAY LIGHTING STANDARD:	ANSI / IESNA RP-8-2014
PARTIAL LIGHTING COVERAGE & CONFLICT AREAS:	ISOLATED INTERSECTIONS ONLY PER RP-8-14, ARTICLE 5.7
CALCULATION ZONE:	TO PAVEMENT EDGE IN CONFLICT AREA
LIGHT LOSS FACTOR (LLF):	0.85 FOR LED
INTERSECTION ILLUMINANCE CRITERIA	
AVERAGE MAINTAINED (Eavg):	>= 0.6 FC
MINIMUM MAINTAINED (Emin):	>= 0.15 FC
UNIFORMITY (Eavg/Emin), MAXIMUM:	<= 4.0

LIGHTING JUNCTION BOX SUMMARY

JUNCTION BOX NO.	STATION	OFFSET	TYPE	CIRCUIT	REMARKS
A0	38+62	71.33 RT	II	A-1	INSTALL ADJACENT TO LOAD CENTER
B0	110+38	34.78 RT	II	B-1	INSTALL ADJACENT TO LOAD CENTER
C0	156+52	41+96 RT	II	C-1	INSTALL ADJACENT TO LOAD CENTER
D0	166+97	52.08 RT	II	D-1	INSTALL ADJACENT TO LOAD CENTER
1	38+70	34.68 LT	IA	A-1	
2	109+31	38.86 LT	IA	B-1	
3	109+86	19.65 LT	IA	B-1	
4	145+85	21.24 LT	IA	C-1	
5	147+12	20.00 RT	IA	C-1	
6	166+49	35.00 LT	IA	D-1	

ELECTROLIER SUMMARY NOTES:

1. LUMINAIRES SHALL BE SUITABLE FOR 240V SUPPLY, AND COMPLY WITH SPECIAL PROVISIONS OF SECTION 740-2.18. LUMINAIRES SHALL PROVIDE THE AVERAGE INITIAL ILLUMINANCE AND UNIFORMITIES SPECIFIED IN THE PERFORMANCE CRITERIA SUMMARY. PROVIDE LIGHTING CALCULATIONS USING THE MANUFACTURER'S CURRENT PUBLISHED PHOTOMETRIC DATA IN ACCORDANCE WITH SPECIAL PROVISIONS OF SECTION 740-2.18 FOR LED ROADWAY LUMINAIRES.
2. PRIOR TO INSTALLATION, CONTRACTOR SHALL REQUEST LOCATES FOR EXISTING UNDERGROUND UTILITIES, AND RECEIVE WRITTEN CONFIRMATION THAT ALL FACILITIES HAVE BEEN IDENTIFIED.
3. POLE LOCATIONS SHALL BE STAKED AND APPROVED BY THE ENGINEER PRIOR TO INSTALLATION. ADJUST POLE LOCATIONS AS DIRECTED BY THE ENGINEER. MINOR RELOCATIONS OF FOUNDATIONS, CONDUIT, AND JUNCTION BOXES SHALL BE CONSIDERED SUBSIDIARY TO THE SECTION 660(3) PAY ITEM.
4. JUNCTION BOXES AND CONDUIT RUNS SHOWN IN PLANS FOR THE LIGHTING SYSTEM ARE CONSIDERED SUBSIDIARY TO THE 660(3) HIGHWAY LIGHTING SYSTEM PAY ITEM.
5. DESIGN MOUNTING HEIGHT AS SCHEDULED SHALL BE MEASURED FROM THE FINISHED ROAD SURFACE TO THE LUMINAIRE. REFER TO LIGHTING STANDARD 1 DETAILS ON DRAWING H6.
6. CONCRETE POLE FOUNDATIONS AND LIGHTING STANDARDS SHALL COMPLY WITH STANDARD DRAWING L-30.10, AND LIGHTING STANDARD 1 DETAILS ON DRAWING H6.
7. AT NO ADDITIONAL COST TO THE STATE OF ALASKA, THE CONTRACTOR AS AN OPTION MAY PROVIDE DRIVEN STEEL PIPE PILE FOUNDATIONS AS DETAILED IN THESE PLANS IN LIEU OF CONCRETE POLE FOUNDATIONS.
8. ORIENT POLE WITH LUMINAIRE MAST ARMS AS INDICATED ON THE PLANS, TYPICALLY PERPENDICULAR TO THE ROADWAY CENTERLINE, UNLESS A SPECIFIC ORIENTATION IS OTHERWISE NOTED.
9. DO NOT PLACE JUNCTION BOXES OVER BURIED UTILITIES, BOTTOM OF DRAINAGE COLLECTION AREAS, OR DRIVEWAYS. ADJUST LOCATIONS AS DIRECTED BY THE ENGINEER.

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BEAVER LOOP ROAD IMPROVEMENTS AND PEDESTRIAN PATHWAY

ROADWAY LIGHTING SCHEDULES