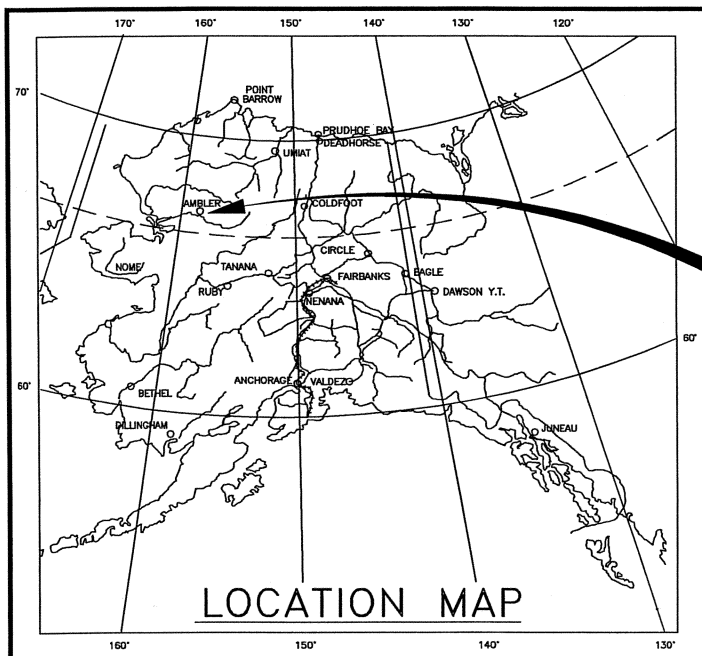


STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	STP-0002(119)/61056	2013	1	9

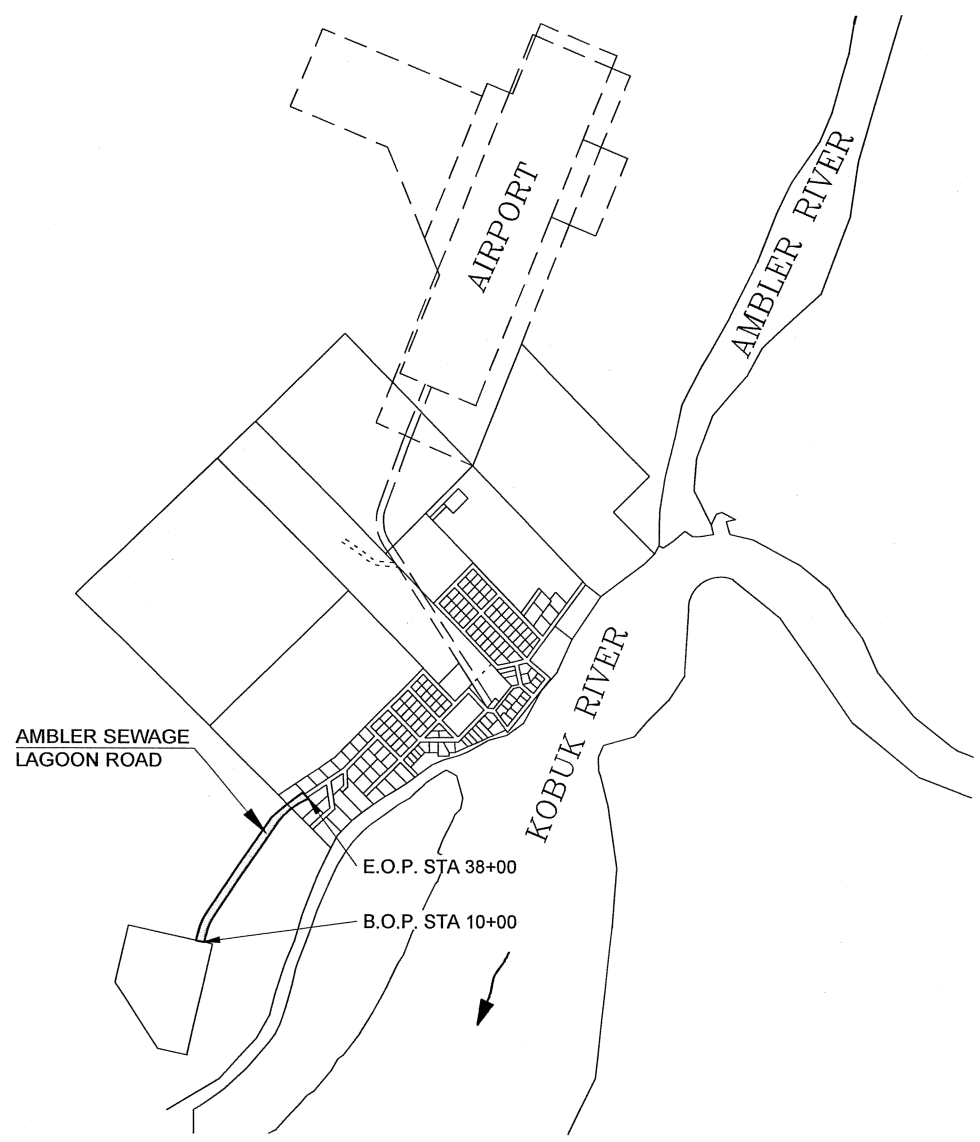
INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	ABBREVIATIONS, LEGEND & ESTIMATE OF QUANTITIES
3	SURVEY CONTROL
4	REMOTE THAW WIRE INSTALLATION
5	TYPICAL SECTIONS
6	PLAN AND PROFILE
7	CULVERT SUMMARY
8	SIGN SUMMARY, NOTES AND DETAILS
9	EROSION AND SEDIMENT CONTROL PLAN



STATE OF ALASKA  
DEPARTMENT OF TRANSPORTATION  
&  
PUBLIC FACILITIES

PROPOSED HIGHWAY PROJECT  
STP-0002(119)/61056  
AMBLER SEWAGE LAGOON ROAD  
GRADING AND DRAINAGE

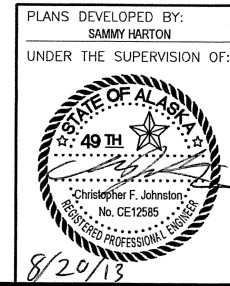
VOLUME I



THE FOLLOWING STANDARD DRAWINGS APPLY TO THIS PROJECT:  
A-1,  
D-01.02, D-04.21, D-09.00,  
S-00.11, S-05.01, S-30.03

DESIGN DESIGNATIONS	
ADT (2005)	<250
ADT (2025)	<250
DHV	N/A
PERCENT TRUCKS (T)	N/A
DIRECTIONAL SPLIT (D)	N/A
DESIGN SPEED (V)	30 MPH
DESIGN EAL'S	N/A

PROJECT SUMMARY	
WIDTH OF FINISHED SURFACE (GRAVEL)	20 FT
LENGTH OF GRADING	2800 FT
LENGTH OF FINISHED SURFACE (GRAVEL)	2800 FT
LENGTH OF PROJECT	2800 FT



PLANS DEVELOPED BY:  
SAMMY HARTON  
UNDER THE SUPERVISION OF:

STATE OF ALASKA  
DEPARTMENT OF TRANSPORTATION  
&  
PUBLIC FACILITIES

APPROVED BY: *R. F. Anderson* DATE 8/20/13  
Ryan F. Anderson, P.E.  
Preconstruction Engineer, Northern Region

*Steve Titus* DATE 8/21/13  
Steve Titus, P.E.  
Regional Director, Northern Region

T:\00 Aviation & Community Rds & Buildings\Ambler\61056 Ambler Sewage Lagoon Road\04 PS&E\Drafting\Title - Title Mon, Aug/19/13 02:50pm

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	STP-0002(119)/61056	2013	2	9

**ABBREVIATIONS**

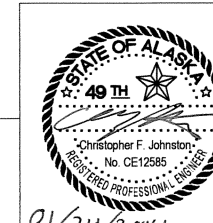
- AD - ALGEBRAIC DIFFERENCE
- BM - BENCH MARK
- BVC - BEGIN VERTICAL CURVE
- CMP - CORRUGATED METAL PIPE
- CL - CENTER LINE
- EG - EXISTING GROUND
- ELEV - ELEVATION
- EST - ESTIMATED
- EVC - END VERTICAL CURVE
- EX - EXISTING
- FG - FINISH GRADE
- IAW - IN ACCORDANCE WITH
- LT - LEFT
- MSL - MEAN SEA LEVEL
- MON - MONUMENT
- NGW - NO GROUNDWATER ENCOUNTERED
- P - PROPERTY LINE
- PC - POINT OF CURVATURE
- PT - POINT OF TANGENCY
- PVI - POINT OF VERTICAL INTERSECTION
- RP - RADIUS POINT
- RT - RIGHT
- ROW - RIGHT-OF-WAY
- STA - STATION/STATIONING
- TP - TEST PIT

ESTIMATE OF QUANTITIES			
ITEM NO.	DESCRIPTION	UNIT	QUANTITY
203(6)	BORROW	TON	38,200
301(3)	AGGREGATE SURFACE COURSE, GRADING E-1	TON	3,190
603(1-36)	36 INCH CSP	LINEAR FOOT	311
603(1-60)	60 INCH CSP	LINEAR FOOT	47
613(2)	CULVERT MARKER POST	EACH	12
615(1)	STANDARD SIGN	SQUARE FOOT	16.25
616(4)	THAW WIRE INSTALLATION	EACH	1
616(5)	REMOTE POWER RECETACLE AND CONNECTOR	EACH	1
618(1)	SEEDING	ACRE	3
624(1)	CALCIUM CHLORIDE	TON	3.2
630(1)	GEOTEXTILE, SEPARATION	SQUARE YARD	5,600
630(2)	GEOTEXTILE, STABILIZATION	SQUARE YARD	1,100
640(1)	MOBILIZATION AND DEMOBILIZATION	LUMP SUM	ALL REQUIRED
640(3)	WORKERS MEALS AND LODGING	LUMP SUM	ALL REQUIRED
641(1)	EROSION, SEDIMENT AND POLLUTION CONTROL ADMINISTRATION	LUMP SUM	ALL REQUIRED
641(3)	TEMPORARY EROSION, SEDIMENT AND POLLUTION CONTROL	LUMP SUM	ALL REQUIRED
641(4)	TEMPORARY EROSION, SEDIMENT AND POLLUTION CONTROL ADDITIVES	CONTINGENT SUM	ALL REQUIRED
641(6)	WITHHOLDING	CONTINGENT SUM	ALL REQUIRED
642(1)	CONSTRUCTION SURVEYING	LUMP SUM	ALL REQUIRED
642(3)	THREE PERSON SURVEY PARTY	HOUR	40
643(2)	TRAFFIC MAINTENANCE	LUMP SUM	ALL REQUIRED
643(23)	TRAFFIC PRICE ADJUSTMENT	CONTINGENT SUM	ALL REQUIRED
643(25)	TRAFFIC CONTROL	CONTINGENT SUM	ALL REQUIRED
644(1)	FIELD OFFICE	LUMP SUM	ALL REQUIRED
644(6)	VEHICLES	LUMP SUM	ALL REQUIRED
802(8)	ASBESTOS COMPLIANCE PLAN	LUMP SUM	ALL REQUIRED

**GENERAL NOTES:**

1. MAINTAIN ACCESS TO SEWAGE LAGOON AND UTILITIES DURING CONSTRUCTION FOR MAINTENANCE ACTIVITIES AND EMERGENCY SERVICES. FULL CLOSURES MAY BE AUTHORIZED BY THE ENGINEER..
2. THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF THE NOA MATERIAL SALES AGREEMENT IN APPENDIX D WHEN WORKING IN THE SUBJECT LANDS AS DEFINED WITHIN THE AGREEMENT. ALL MATERIAL EXTRACTION WITHIN THE SUBJECT LANDS MUST BE COMPLETE PRIOR TO THE DATE OF COMPLETION IN THE AGREEMENT.
3. THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF THE TITLE 9 PERMIT IN APPENDIX A WHEN WORKING IN THE SUBJECT LANDS AS DEFINED WITHIN THE PERMIT.
4. REMOVAL OF FOUR EXISTING 24" CMP CULVERTS AND ONE EXISTING 7" INSULATED PVC CULVERT FROM THE EXISTING ROADWAY IS SUBSIDIARY TO SECTION 603 PAY ITEMS.

ESTIMATE OF QUANTITIES  
& GENERAL NOTES

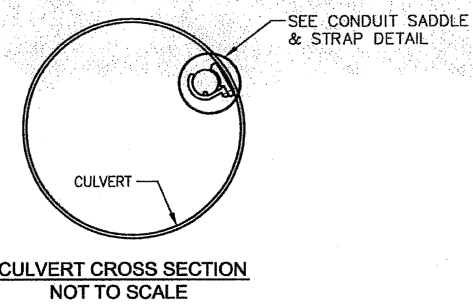
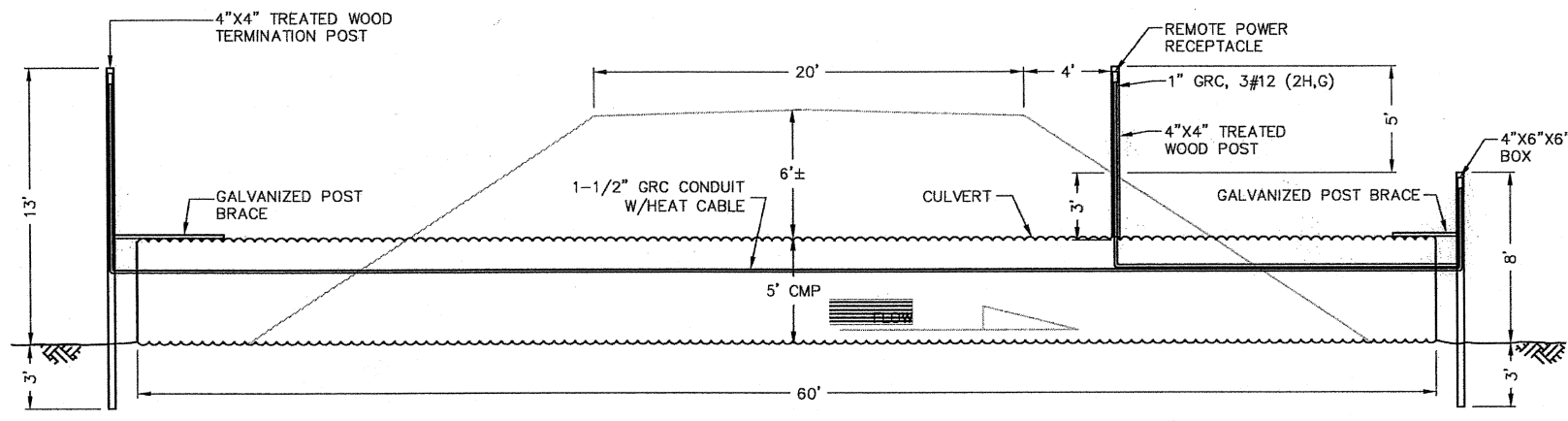
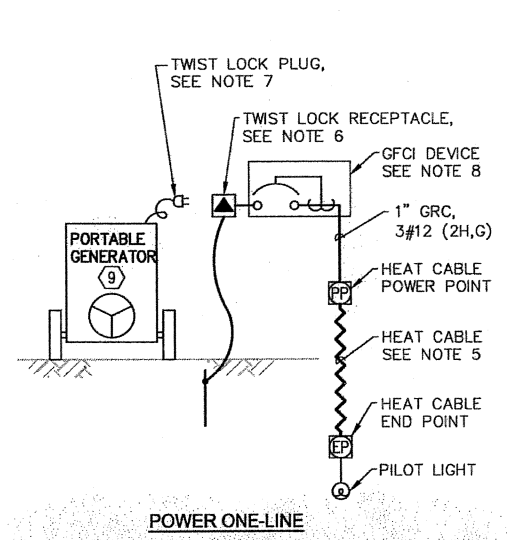


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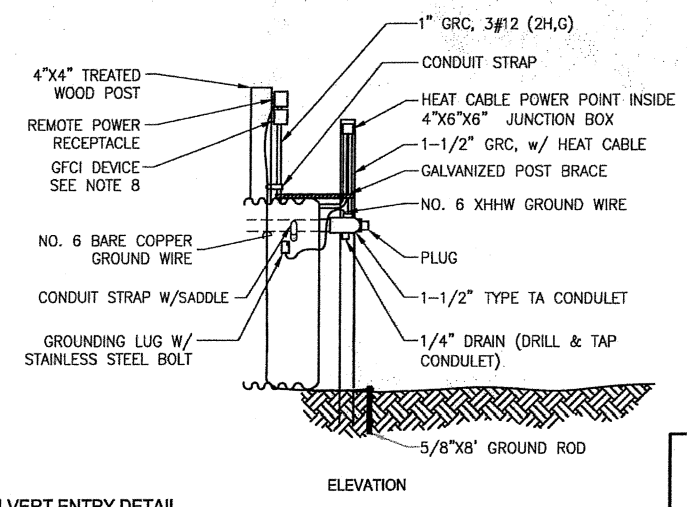
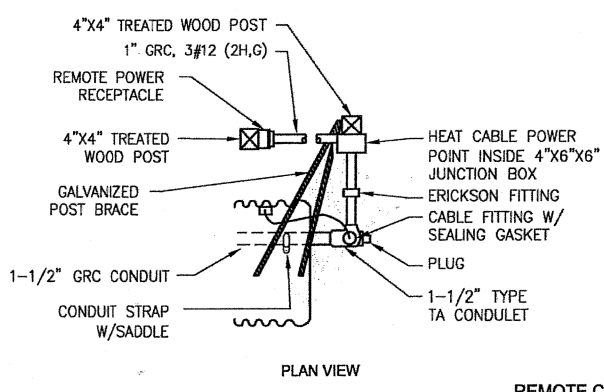
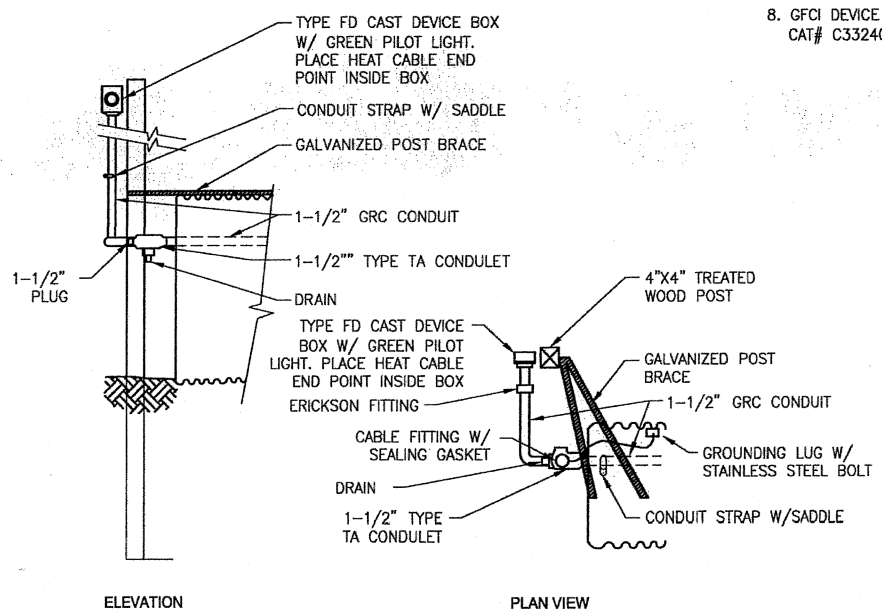
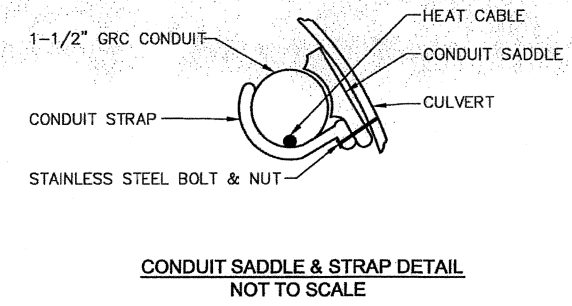


STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	MGS-STP-0002(119)	2005	4	9



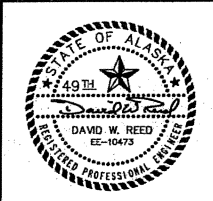
**NOTES:**

1. GALVANIZED POST BRACES SHALL BE 1/4" X 2" X 2" GALVANIZED STEEL ANGLE.
2. POST BRACES SHALL BE ATTACHED TO THE TOP OF THE CULVERT AND SIDE OF WOOD POSTS USING 1/2" DIAMETER GALVANIZED BOLTS.
3. ATTACH GALVANIZED POST BRACE ENDS TO CULVERT A MINIMUM OF 2 FEET APART.
4. ALL HARDWARE IS GALVANIZED.
5. HEAT CABLE SHALL BE 240VAC, SELF-LIMITING TYPE, PARALLEL CIRCUIT, #16 AWG BUS SIZE MIN, AND BE UL OR FM LISTED SPECIFICALLY FOR CULVERT DEICING IN CONDUIT.
6. REMOTE POWER TWIST LOCK RECEPTACLE 30A, 240V, WITH A NEMA L6-30R CONFIGURATION. LEVITON CAT# 26CM-20 OR EQUAL, WITH WEATHER RESISTANT FLIP LID COVER LEVITON CAT# 740-CR OR EQUAL.
7. TWIST LOCK PLUG 30A, 240V, WITH A NEMA L6-30P CONFIGURATION. LEVITON CAT# 26CM-21 OR EQUAL.
8. GFCI DEVICE MOUNTED IN NEMA 3R ENCLOSURE 20A, 240V, 30mA TRIP SETTING. ARCTIC TRACE CAT# C33240EPD OR EQUAL.

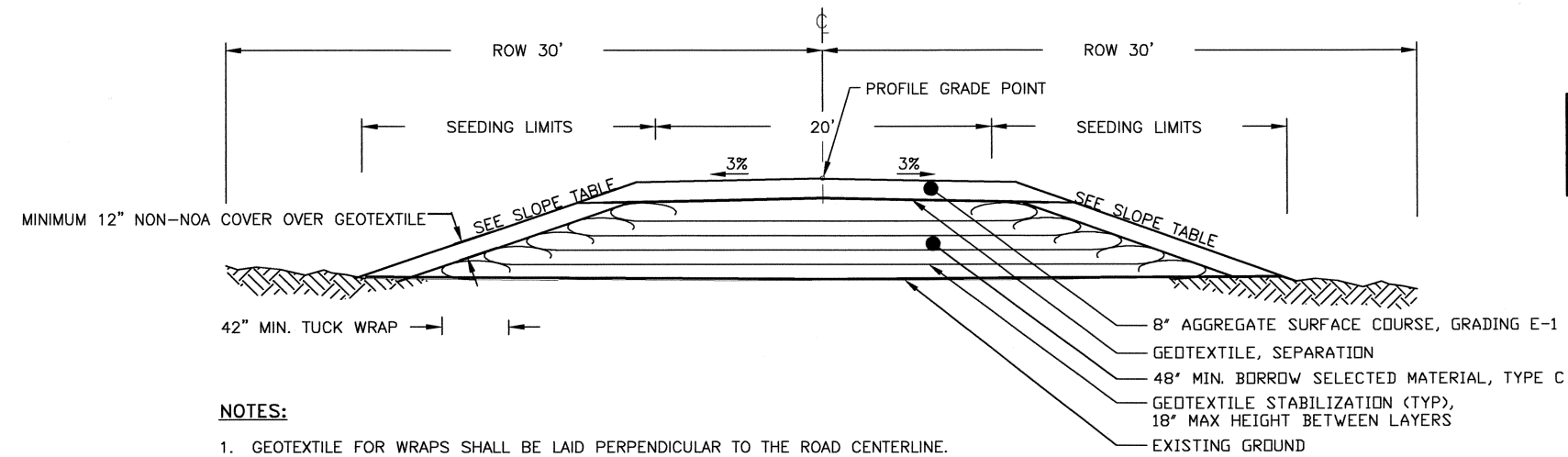


**REMOTE CULVERT ENTRY DETAIL**  
NOT TO SCALE

**REMOTE THAW WIRE INSTALLATION**



STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	STP-0002(119)/61056	2013	5	9

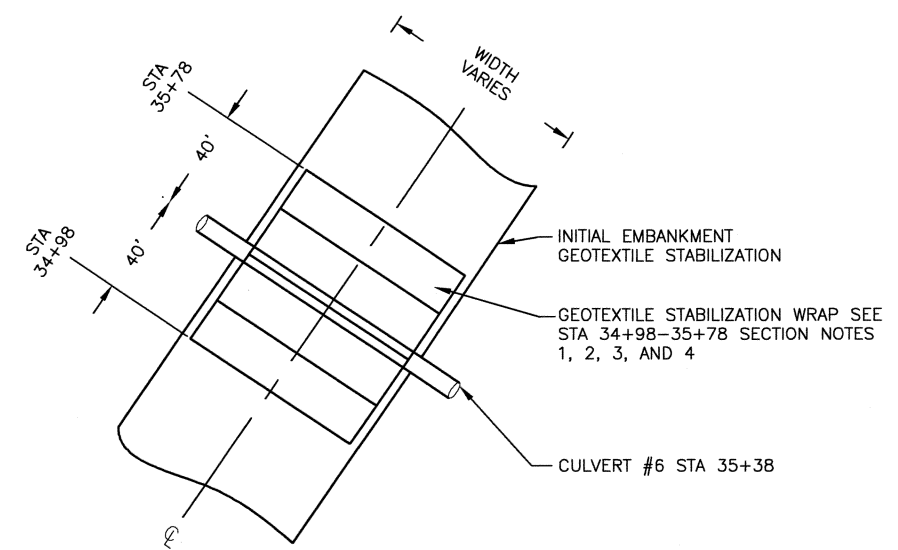


**NOTES:**

1. GEOTEXTILE FOR WRAPS SHALL BE LAID PERPENDICULAR TO THE ROAD CENTERLINE.
2. JOIN GEOTEXTILE FOR STABILIZATION BY SEWING IAW MANUFACTURERS RECOMMENDATIONS.
3. END SEAMS SHALL NOT BE WITHIN 10- FEET HORIZONTALLY OF EACH OTHER ON THE SAME OR ADJACENT LAYERS.
4. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR THE EMBANKMENT WRAP. EMBED 42" OF STABILIZATION GEOTEXTILE WRAP INTO NEXT LAYER OF FILL. COMPACT FILL WITHIN WRAP IN 6-INCH LIFTS TO 95% OPTIMUM DENSITY. DENSITY TESTING OF EACH 18" WRAP IS REQUIRED PRIOR TO COVERING WITH NEXT LIFT.
5. CUT GEOTEXTILE STABILIZATION LAYERS WHICH INTERSECT CULVERTS SUCH THAT GEOTEXTILE TERMINATES WITHIN 6" OF CULVERT.

**TYPICAL SECTION  
STA 34+98 - 35+78**

SLOPE TABLE	
STATION	NOTES
10+00 TO 35+25	3.5:1
32+50 TO 33+50	TRANSITION 3.5:1 @ STATION 35+25 TO 1.5:1 @ STATION 36+25
34+03 TO 38+00	1.5:1, HOLD 1FT INSIDE ROW

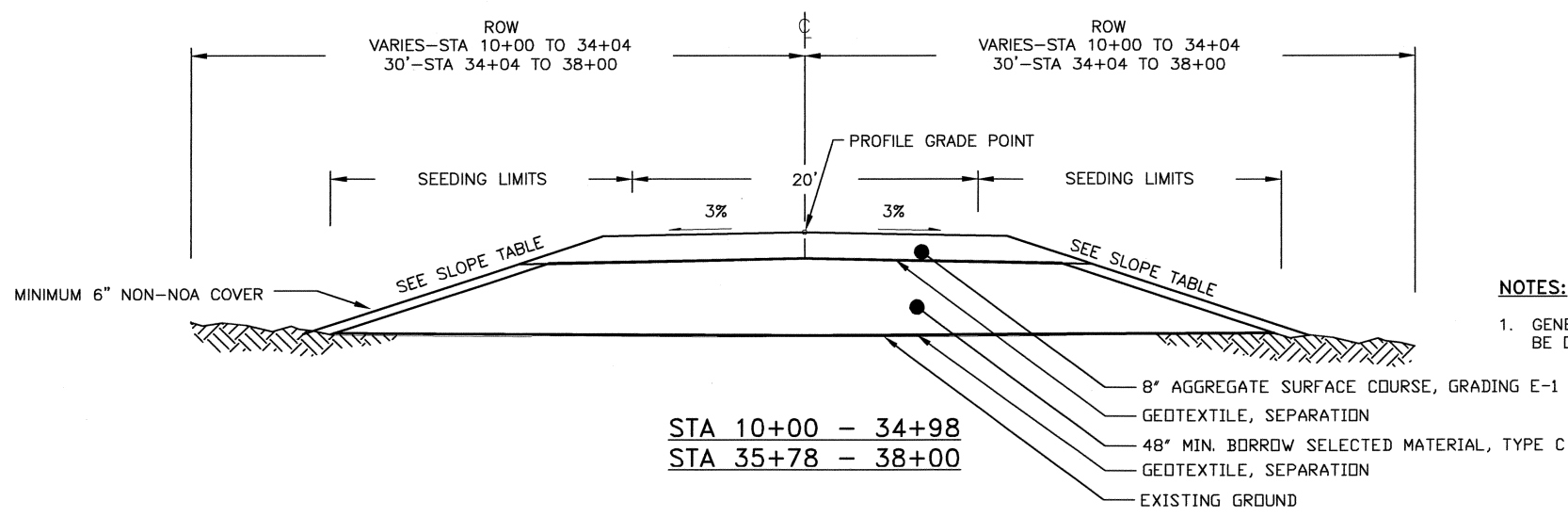


**PLAN VIEW**

**GEOTEXTILE STABILIZATION WRAP LAYOUT  
STA 34+98 - 35+78**

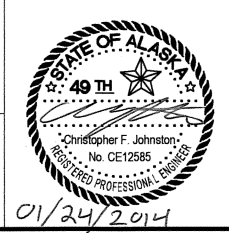
**NOTES:**

1. GENERAL LOCATION OF GEOTEXTILE STABILIZATION IS IN AREAS NEAR THE CULVERTS. EXACT LOCATION WILL BE DETERMINED BY THE FIELD ENGINEER.



**STA 10+00 - 34+98  
STA 35+78 - 38+00**

TYPICAL SECTIONS

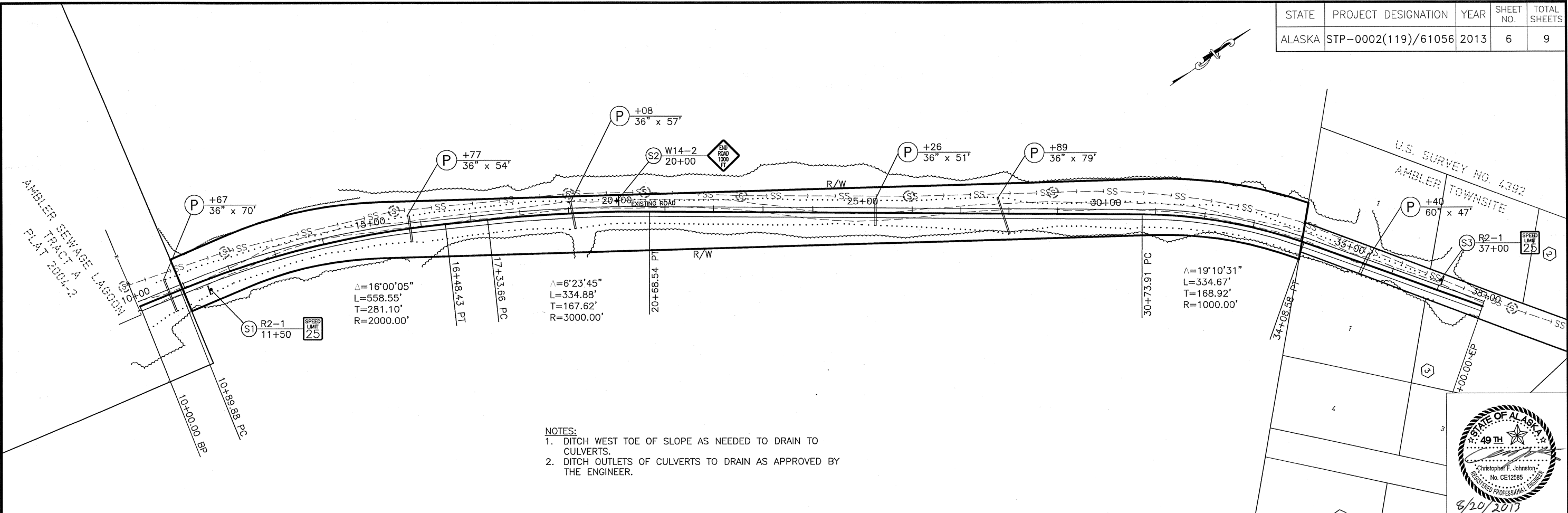


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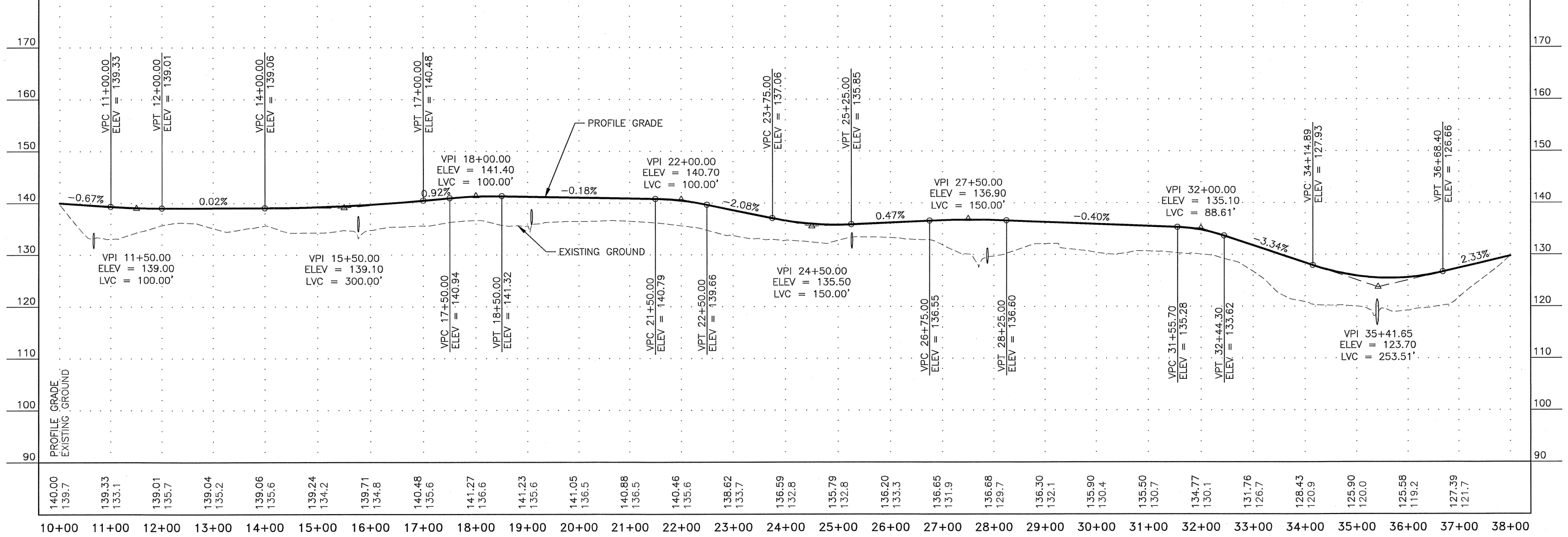
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STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	STP-0002(119)/61056	2013	6	9

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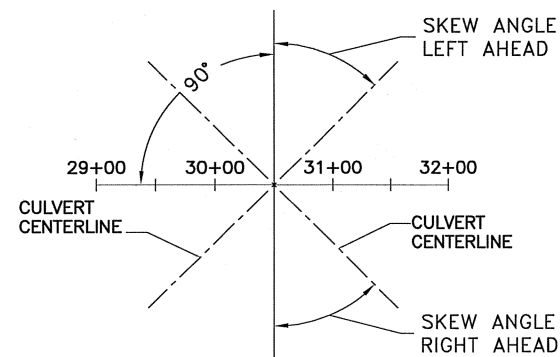
- NOTES:**
- DITCH WEST TOE OF SLOPE AS NEEDED TO DRAIN TO CULVERTS.
  - DITCH OUTLETS OF CULVERTS TO DRAIN AS APPROVED BY THE ENGINEER.



STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	STP-0002(119)/61056	2013	7	9

### CULVERT SUMMARY

STATION @ CL	DIA (IN)	LENGTH (FT)	INLET		OUTLET		SLOPE (FT/FT)	SKEW
			STATION	OFFSET	STATION	OFFSET		
10+67	36.00	70.00	10+67	32 LT	10+67	38 RT	0.001	0
15+77	36.00	54.00	15+77	25 LT	15+77	29 RT	0.016	0
19+08	36.00	57.00	19+05	23 LT	19+13	34 RT	0.059	8.2' RT AHEAD
25+26	36.00	51.00	25+26	25 LT	25+26	26 RT	0.007	9.6' RT AHEAD
27+89	36.00	79.00	27+77	33 LT	28+02	46 RT	0.040	18.5' RT AHEAD
35+40	60.00	47.00	35+43	22 LT	35+38	25 RT	0.021	5.6' LT AHEAD



**CULVERT SKEW ANGLE DETAIL**

**NOTES:**

1. CULVERT LENGTH, ELEVATION, ETC. MEASURED AT INVERT.
2. FLOW IN ALL CULVERTS IS FROM LEFT TO RIGHT.
3. CULVERT POSITIONS SHALL BE VERIFIED BY THE ENGINEER IN THE FIELD PRIOR TO FINAL PLACEMENT.
4. PLACE 12" MINIMUM TO 36" MAXIMUM BEDDING MATERIAL BELOW EACH CULVERT ON TOP OF ORIGINAL GROUND.

CULVERT SUMMARY



8/20/2013

SIGNING SUMMARY															
LOCATION NUMBER	STATION	OFFSET		ASDS CODE	LEGEND	SIZE HxV (INCHES)	BRACING/FRAMING		AREA (SQ FT)	MOUNTING HEIGHT	DIRECTION	POSTS		REMARKS	
		LT.	RT.				BRACED	FRAMED				TYPE	SIZE (INCHES)		NO.
S1	11+50		X	R2-1	SPEED LIMIT 25	24X30			5.00	-	SW	PST	2.5	1	
S2	20+00	X		W14-101	END ROAD 1000'	30X30	X		6.25	-	NE	PST	2.5	1	
S3	37+00	X		R2-1	SPEED LIMIT 25	24X30			5.00	-	NE	PST	2.5	1	
TOTAL									16.25	SF					

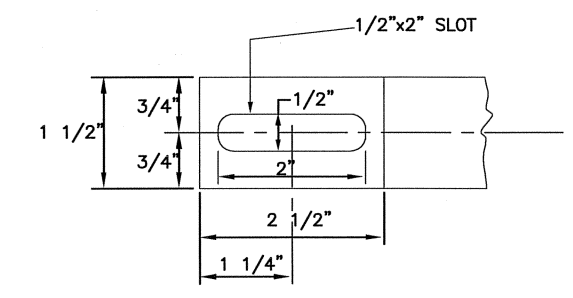
**SIGN SYMBOL KEY**

# SIGN CODE(S)  
+STATION  
SIGNING LOCATION #

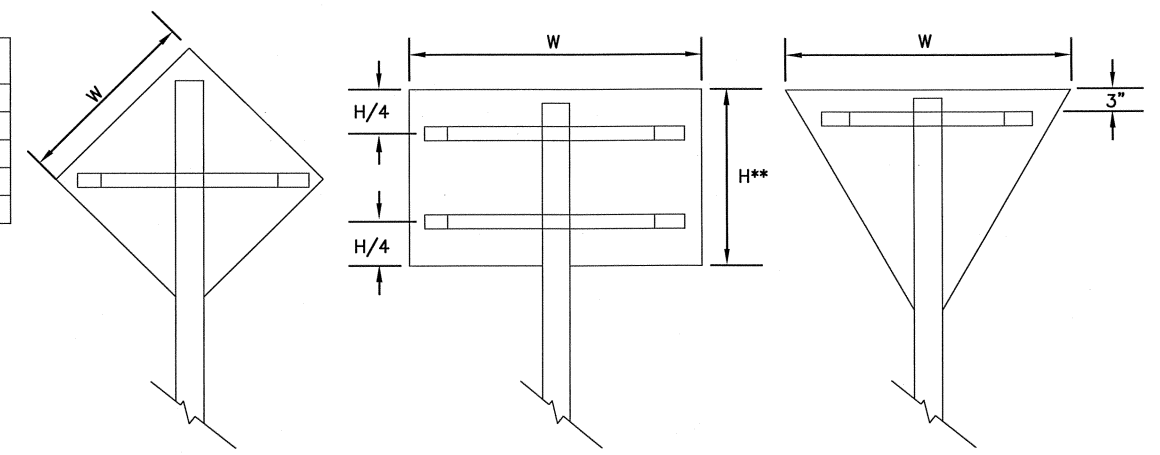
FASTENER SPECIFICATION TABLE		
FASTENERS	STEEL	STAINLESS STEEL
BOLTS	ASTM A 307	ASTM F 593
NUTS	ASTM A 563	ASTM F 594
WASHERS	ASTM F 844	ASTM A 480

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

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



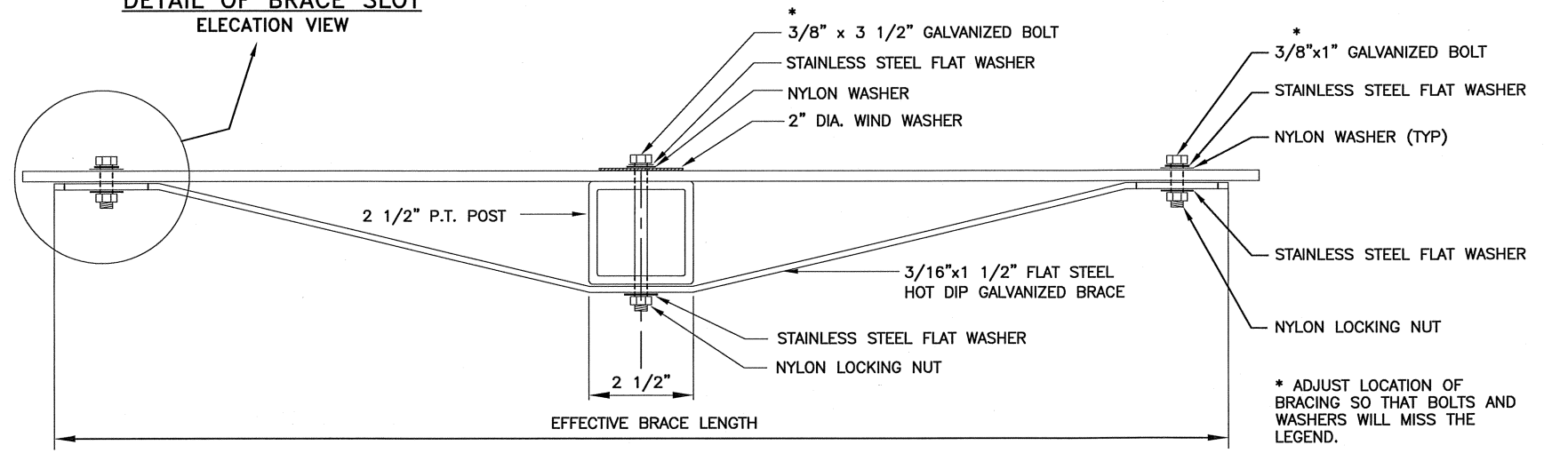
**DETAIL OF BRACE SLOT ELEVATION VIEW**



\*\* USE ONE BRACE WHEN  $H \leq 18"$   
USE TWO BRACES WHEN  $18" < H \leq 48"$   
USE THREE BRACES WHEN  $H > 48"$

**NOTES:**

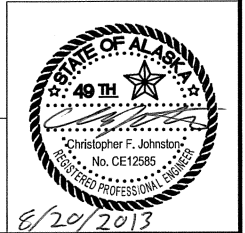
- ALL SIGN LOCATIONS ARE APPROXIMATE AND MAY REQUIRE ADJUSTMENT BY THE ENGINEER.
- MOUNTING HEIGHTS ARE PER STANDARD DRAWING S-05.01 UNLESS OTHERWISE NOTED.
- DETERMINE POST LENGTHS IN THE FIELD. DO NOT EXTEND POSTS ABOVE TOP OF SIGN.
- INSTALL PST SIGN POST WITH SLEEVE TYPE SOIL EMBEDMENT PER STANDARD DRAWING S-30.03. ATTACH THE SIGN POST TO THE SLEEVE USING GALVANIZED 3/8" BOLT, NUT, SPLIT LOCK WASHER AND TWO FLAT WASHERS.
- ATTACH ALL SIGNS TO THEIR SUPPORTS WITH 3/8" BOLTS, EXCEPT ATTACH UNFRAMED SIGNS TO PST POSTS WITH ALUMINUM DRIVE RIVETS. WIND WASHERS ARE NOT REQUIRED WITH DRIVE RIVETS. INCLUDE SPLIT LOCK WASHERS WHEN BOLTS ARE USED.
- ALL FASTENER HARDWARE SHALL MEET THE REQUIREMENTS OF THE "FASTENER SPECIFICATION TABLE" ON THIS SHEET.
- MAINTAIN EXISTING SIGNS UNTIL NEW SIGNS ARE INSTALLED. DO NOT LEAVE DUPLICATE OR CONFLICTING SIGNING UP AT ANY TIME.
- LOCATE AND PROTECT ALL NEW AND EXISTING UNDERGROUND UTILITIES, INCLUDING BUT NOT LIMITED TO: PIPELINES, INTERCONNECT CABLES, SIGNAL SYSTEMS, LIGHTING SYSTEMS, STORM AND SANITARY SEWERS, WATER SYSTEMS, AND TELEPHONE AND ELECTRICAL CABLES, PRIOR TO INSTALLING SIGN POSTS. NOT ALL EXISTING UTILITIES MAY BE SHOWN ON THE PLANS.



**PERFORATED TUBE POST SIGN BRACING PLAN VIEW**

\* ADJUST LOCATION OF BRACING SO THAT BOLTS AND WASHERS WILL MISS THE LEGEND.

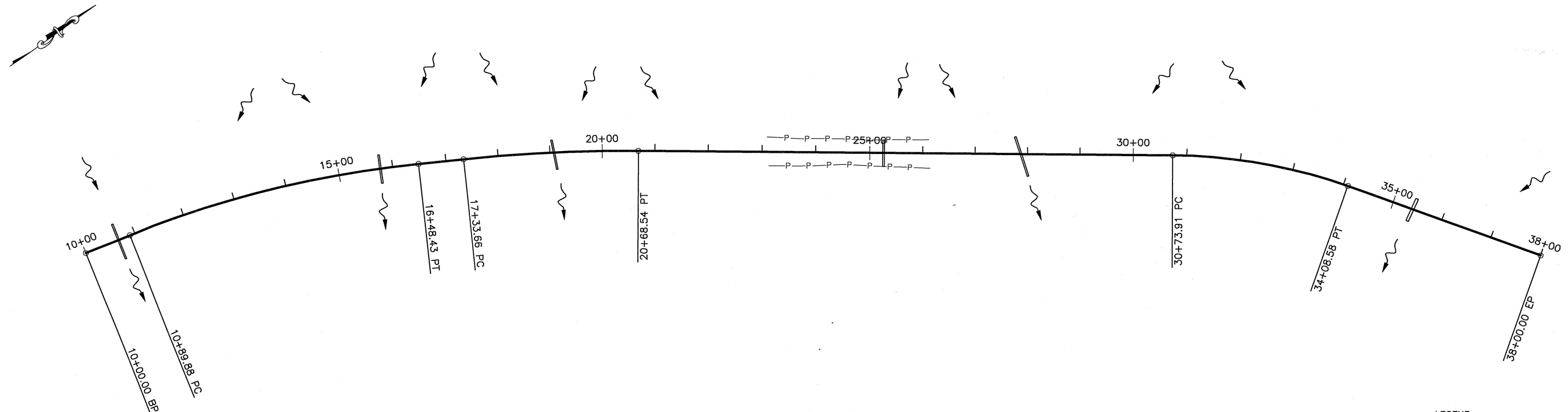
SIGN SUMMARY, NOTES & DETAILS





T:\00 Aviation & Community Risks & Buildings\Ambler Sewage Lagoon Road\04 PS&E\Drafting\SIGN SUMM AND DETAIL\S-SIGN SUMM Tue, Aug/20/13 12:07pm



STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	STP-0002(119)/61056	2013	9	9



**LEGEND**  
 DRAINAGE ARROW  
 PERIMETER CONTROL

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
AVERAGE MAX. TEMPERATURE (F)	0.1	1	13.8	27.7	50.4	69.2	70.6	61.7	48.2	26.9	7.8	5.7	32
AVERAGE MIN. TEMPERATURE (F)	-16.8	-19.3	-10.1	5.3	28.6	43.2	47.2	41.9	32.1	12.7	-5.9	-10.6	12.4
AVERAGE TOTAL PERCIPITATION (in.)	1.22	1.13	1.04	1.34	1.41	1.41	2.91	4.52	4.18	1.73	0.82	1.71	23.42

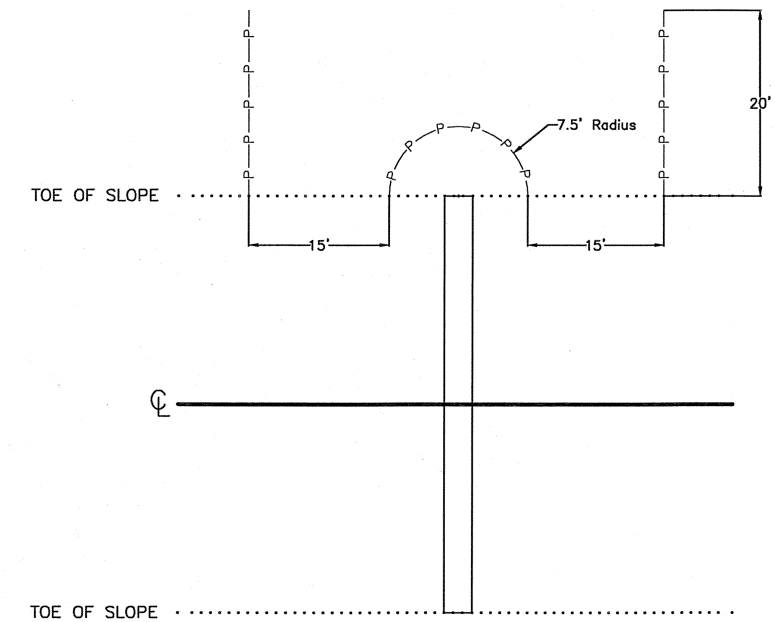
AVERAGE TEPERATURES AND PERCIPITATION ARE GIVIN IN THE TABLE ABOVE (WESTERN REGION CLIMATE CENTER)

**GENERAL SITE INFORMATION:**

1. PROJECT TYPE: ROAD EMBANKMENT CONSTRUCTION AND CULVERT REPLACEMENT.
2. CLIMATE: THE CLIMATE IN AMBLER IS CLASSIFIED AS ARCTIC.
3. 2 YEAR 24 HOUR RAINFALL: 1.41" (NOAA ATLAS 14).
4. HISTORICAL AVERAGE DATES OF FREEZING TEMPERATURES: AUG 8 THRU MAY 3 (WESTERN REGIONAL CLIMATE CENTER).
5. SOIL TYPES; ORGANIC MAT OVER SILTY SAND AND GRAVEL UNDERLIED WITH PERMAFROST.
6. SLOPES ARE MODERATE WITH SOME AREAS OF STANDING WATER. EMBANKMENT FILL SHALL BE GRADE TO DIVERT DRAINAGE TO NEW CULVERTS. DRAINAGE PATTERNS FLOW FROM NORTH TO SOUTH.
7. PROJECT AREA WAS CLEARED OF VEGETATION IN THE 2005 SEWAGELAGOON PROJECT.
8. RECEIVING WATERS: KOBUK RIVER.

**EROSION CONTROL NOTES:**

1. PROJECT AREA IS LOCATED IN WETLANDS. ADJACENT WETLANDS WITH NO STANDING WATER MAY BE USED AS SEDIMENT CONTROL.
2. AREAS WITH STANDING WATER OR INADEQUATE VEGETATIVE BUFFER SHALL HAVE PERIMETER CONTROL USED FOR TEMPORARY SEDIMENT CONTROL ALONG TOE OF SLOPES.
3. NO WORK IS ALLOWED OUTSIDE PERMITTED AREAS. ALL CONSTRUCTION EQUIPMENT SHALL REMAIN ON EXISTING OR NEW GRAVEL SURFACES AT ALL TIMES.
4. REFER AND COMPLY WITH CONDITIONS AND REQUIREMENTS IN THE SECTION 404 USACE PERMIT. SEE APPENDIX A.
5. THE DISCHARGE POINTS FOR THIS PROJECT ARE THE CULVERTS. SEE CULVERT DETAIL ON THIS PAGE FOR TEMPORARY SEDIMENT CONTROLS THAT ARE TO BE IMPLEMENTED ON ALL CULVERTS ASSOCIATED WITH THIS PROJECT.
6. STABILIZED EXISTS ARE NOT REQUIRED FOR THIS PROJECT. ALL ROADS ARE GRAVEL AND TRAFFIC IS NOT ALLOWED OFF OF GR'AVEL ROADS.



**CULVERT DETAIL**  
NTS

**EROSION AND SEDIMENT CONTROL PLAN**



T:\00 Aviation & Community Rds & Buildings\Ambler\61056 Ambler Sewage Lagoon Road\04 PS&E\SCH\_working Files\Civil3D\2013-7-30\Plots\61056\_C Sewage Lagoon RD P&P1-ESCP Tue, Aug/20/13 04:19pm