

# State of Alaska

## Department of Transportation and Public Facilities

Southeast Region Design and Engineering Services Division

KETCHIKAN, ALASKA

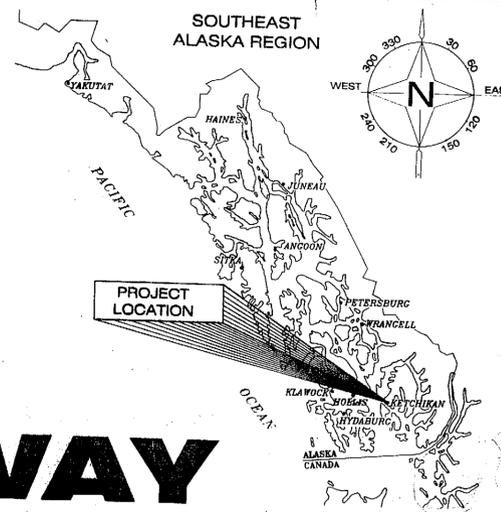
# NORTH TONGASS HIGHWAY

## WARD COVE TO WHIPPLE CREEK

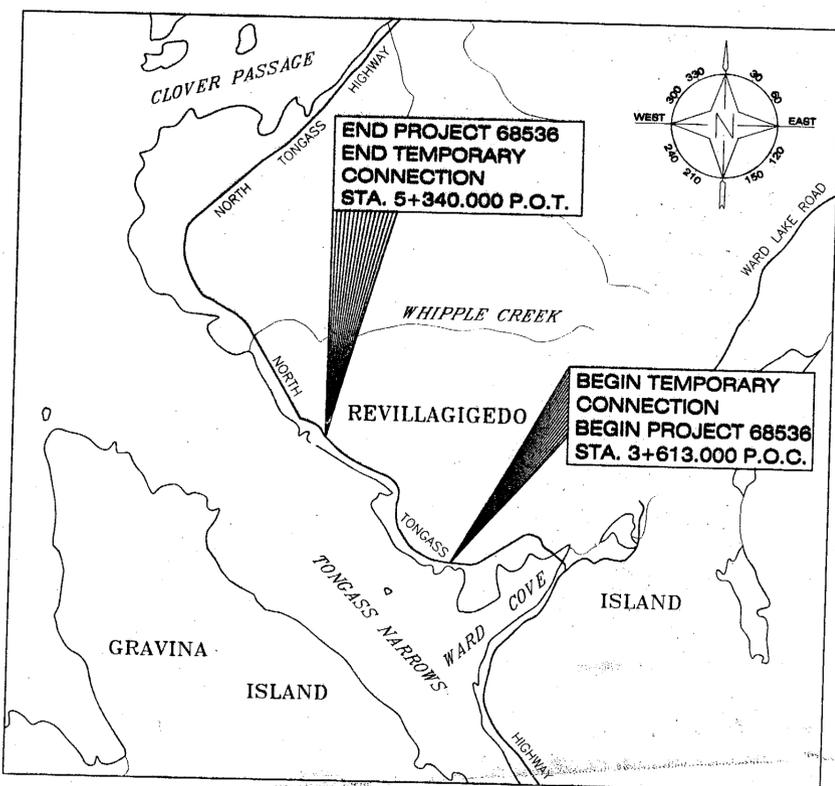
STAGE I ~ REFUGE COVE TO TOTEM BIGHT

# GRADING, DRAINAGE, AND PAVING

PROJECT No. STP-0920(19) ~ 68536



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	AS Built Plans
	Project Engineer: Mark Engley
	Start: June 10, 2004
	End: July 25, 2005



VICINITY MAP

### DESIGN DESIGNATION

A.D.T. 2000	=	5,770
A.D.T. 2023	=	7,250
D.H.V. 2023	=	770
% T	=	2.0%
V	=	90kph
E.A.L.	=	400,000

### PROJECT SUMMARY

LENGTH OF TEMPORARY CONNECTIONS	=	168.340m
LENGTH OF GRADING	=	1.7km
LENGTH OF PAVING	=	1.7km
WIDTH OF PAVING	=	10.8m
LENGTH OF PROJECT	=	1.7km

### THE FOLLOWING STANDARD DRAWINGS APPLY TO THIS PROJECT:

A-1(M)	D-04.20(M)	G-00.01(M)	I-81.00(M)	M-23.12(M)	T-21.02(M)
C-03.10(M)	D-06.10(M)	G-04.07W(M)	L-03.10	S-00.10(M)	T-22.03(M)
C-04.12	D-07.00(M)	G-10.01(M)	M-13.01(M)	S-05.01(M)	T-32.10(M)
C-05.10(M)	D-36.01(M)	G-20.10(M)	M-16.01(M)	S-20.10(M)	T-34.01(M)
D-01.02(M)	E-13.00(M)	G-25.20W(M)	M-20.13(M)		

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STATE OF ALASKA  
 DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES  
 SOUTHEAST REGION DESIGN & ENGINEERING SERVICES DIVISION



APPROVED: *[Signature]* 4/13/04  
 REGIONAL PRE-CONSTRUCTION ENGINEER  
 PATRICK J. KEMP, P.E. DATE

APPROVED: *[Signature]* 4/13/04  
 DIRECTOR, SOUTHEAST REGION  
 GARY L. PAXTON DATE

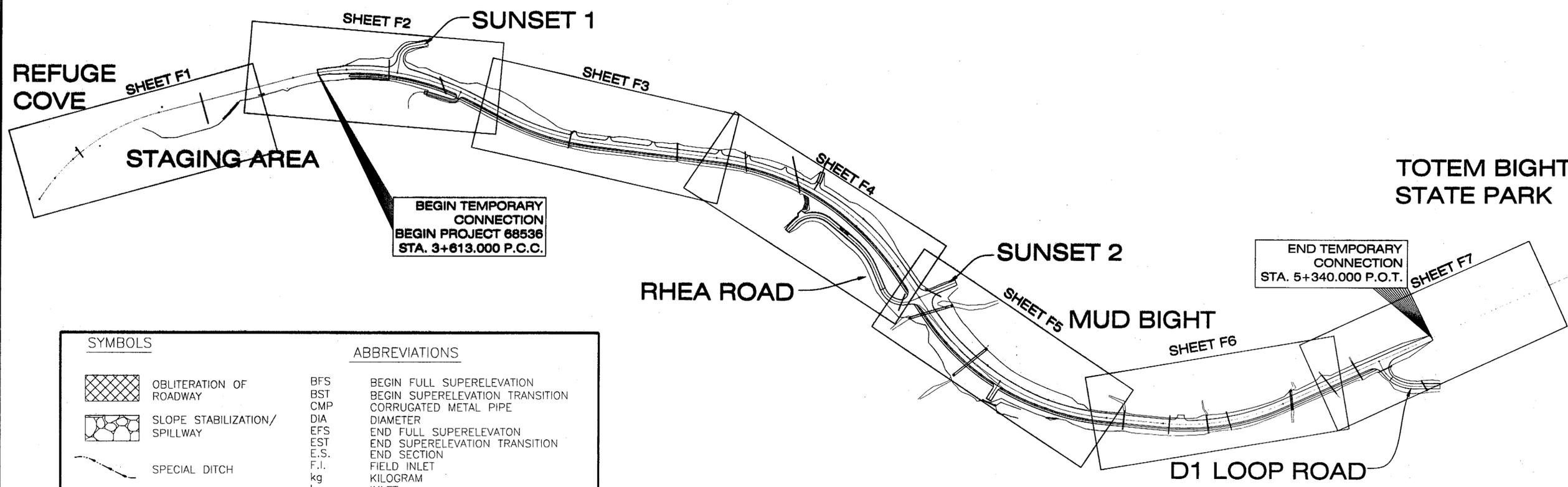
CERTIFIED TRUE & CORRECT AS-BUILT OF ACTUAL FIELD CONDITION:

CONSTRUCTION PROJECT MANAGER

STATE	PROJECT DESIGNATION	YEAR
ALASKA	STP-0920(19) / (68536)	2004

TAB: A2

ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION



KETCHIKAN  
 N. TONGASS HIGHWAY  
 WARD TO WHIPPLE STAGE 1  
 PROJECT NO. 68536

Legend

SYMBOLS		ABBREVIATIONS	
	OBLITERATION OF ROADWAY	BFS	BEGIN FULL SUPERELEVATION
	SLOPE STABILIZATION/ SPILLWAY	BST	BEGIN SUPERELEVATION TRANSITION
	SPECIAL DITCH	CMP	CORRUGATED METAL PIPE
	FISH STREAM	DIA	DIAMETER
	ROCKERY WALL	EFS	END FULL SUPERELEVATION
		EST	END SUPERELEVATION TRANSITION
		E.S.	END SECTION
		F.I.	FIELD INLET
		kg	KILOGRAM
		I	INLET
		LT	LEFT
		m	METER
		m <sup>2</sup>	SQUARE METER
		m <sup>3</sup>	CUBIC METER
		mm	MILLIMETER
		NIC	NOT IN CONTRACT
		PC	POINT OF CURVATURE
		PCC	POINT OF COMPOUND CURVE
		PCSP	PERFORATED CORRUGATED STEEL PIPE
		PT	POINT OF TANGENCY
		POT	POINT ON TANGENT
		PRC	POINT OF REVERSE CURVATURE
		R	RADIUS
		RPM	RECESS PAVEMENT MARKER
		RT	RIGHT
		STA.	STATION (1000 m)
		S	SUPER ELEVATION RATE

SEE STANDARD DRAWING A-1[M] FOR ADDITIONAL SYMBOLS

CHECKED BY:

DESIGNED BY: Russell Kraemer  
 DRAWN BY: Leonard Robertson

STATE OF ALASKA  
 DEPARTMENT OF TRANSPORTATION  
 & PUBLIC FACILITIES  
 STATEWIDE DESIGN & ENGINEERING  
 SERVICES DIVISION  
**KETCHIKAN**  
**N. TONGASS HIGHWAY**  
**WARD TO WHIPPLE**  
**STAGE 1**

**Legend**

PROJECT DESIGNATION NUMBER	
<b>STP - 0920(19) / 68536</b>	
STATE	YEAR
<b>ALASKA</b>	<b>2004</b>
SHEET NUMBER	TOTAL SHEETS
<b>A2</b>	<b>65</b>

**HORIZONTAL CONTROL**

THE BASIS OF HORIZONTAL CONTROL FOR THIS PROJECT WAS DERIVED FROM GPS OBSERVATIONS PERFORMED BY DOT/PF ON PAIRS OF CENTERLINE MONUMENTS AT REVILLA ROAD AND AT WHIPPLE CREEK. A TRAVERSE WAS RUN BY TONER-NORDLING AND ASSOCIATES BETWEEN SAID PAIRS AND ADJUSTED BY TNA. CONTROL TRAVERSE WAS THEN SCALED TO GROUND DISTANCES AND ROTATED TO GEODETIC BEARINGS.

FOR THIS PHASE OF THIS PROJECT THE CONTROL BASE IS OUTLINED IN COORDINATE TABLES. THESE COORDINATES ARE NOT TRUE STATE PLANE BUT RATHER A LOCAL SYSTEM NEAR STATE PLANE VALUES.

TRANSFORMATION PARAMETERS RELATING THE LOCAL GROUND BASED COORDINATE SYSTEM TO ALASKA STATE PLANE ZONE 1 WERE COMPUTED POST TRAVERSE BY DOT/PF. OPUS WAS USED TO CONTROL THE BASE STATION ON POINT #435 AND SIX GPS TIES TO NETWORK CONTROL CONFIRMED THE FOLLOWING TRANSFORMATION VALUES.  
 GRID SCALE FACTOR : 0.99990085  
 ROTATION TO GRID NORTH : 1°35'14"  
 LOCAL NORTHING: 401131.9559m  
 LOCAL EASTING: 938642.1866m  
 AKSPC GRID NORTHING: 401040.1968m  
 AKSPC GRID EASTING: 938605.5206m

**VERTICAL CONTROL**

THE BASIS OF VERTICAL CONTROL IS A BRASS CAP MONUMENT FOUND IN THE NE BRIDGE ABUTMENT OF WHIPPLE CREEK BRIDGE. THE ACCEPTED ELEVATION OF THIS POINT IS 41.390m ABOVE MLLW.

LEVELS WERE RUN THROUGH THE CONTROL NETWORK AND AS SUCH ALL CONTROL MONUMENTS HAVE VALID ELEVATIONS REFERENCED IN THE CONTROL TABLE.

**CENTERLINE MONUMENTS**

POINT	STATION	OFFSET	NORTHING (m)	EASTING (m)	DESCRIPTION
503	4+575.664	7.988R	400462.8611	939390.3114	BC MON
513	N/A	N/A	399445.0534	940240.0260	POT 24C(BP)
514	N/A	N/A	399420.9967	940072.8846	POT 24D(BC)
515	3+846.388	6.319R	399792.9650	939567.7389	CL MON BP
519	4+022.080	0.197L	399954.3604	939499.4588	CL MON
520	4+213.080	3.744L	400112.3132	939391.6043	CL MON
521	3+402.837	0.269L	399473.4752	939848.9435	CL MON

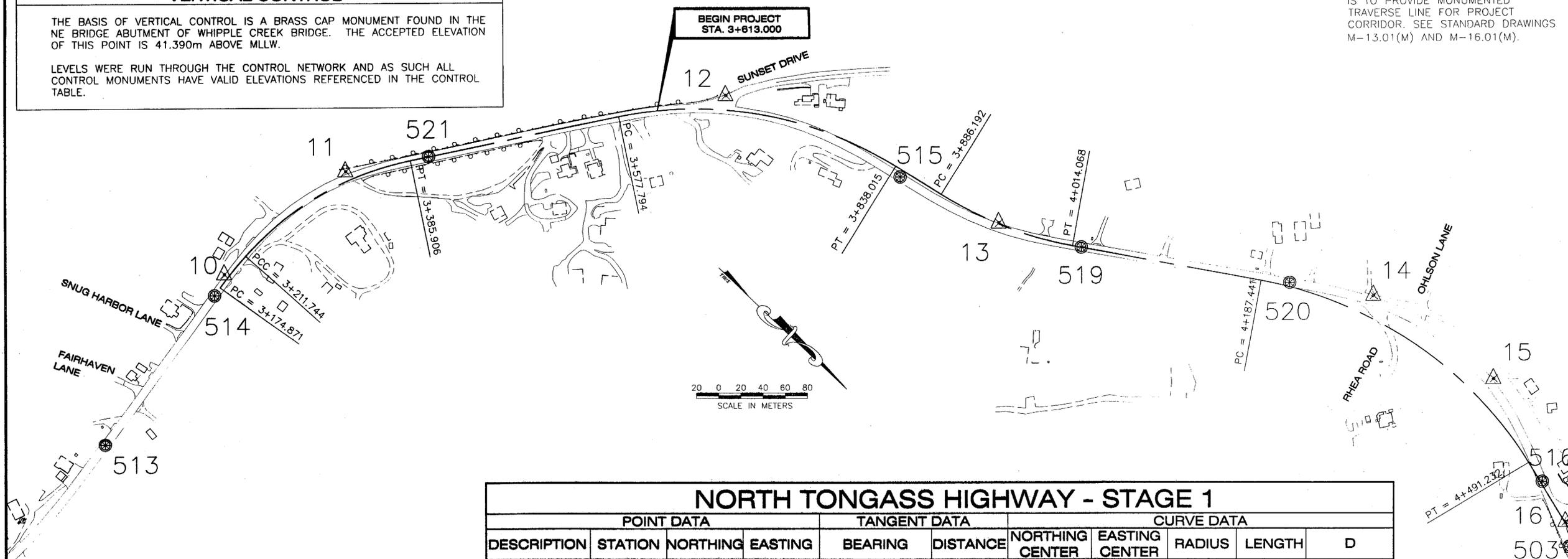
**EXISTING CONTROL MONUMENTS**

POINT	STATION	OFFSET	NORTHING (m)	EASTING (m)	ELEVATION (m)	DESCRIPTION
10	3+186.845	4.124L	399414.1887	940052.8255	11.255	ALCAP2"/REBAR_NT-10
11	3+328.240	8.547L	399428.9111	939910.4884	8.337	ALCAP2"/REBAR_NT-11
12	3+673.959	13.315L	399628.6571	939623.6617	10.125	ALCAP2"/REBAR_NT-12
13	3+944.371	1.036L	399885.7911	939535.4035	19.545	ALCAP2"/REBAR_NT-13
14	4+286.194	19.286L	400175.1516	939347.2731	22.984	ALCAP2"/REBAR_NT-14
15	4+412.420	21.935L	400306.4049	939326.9449	21.860	ALCAP2"/REBAR_NT-15
16	4+554.774	1.040L	400444.8791	939376.1960	14.356	ALCAP2"/REBAR_NT-16

**PROPOSED CONTROL MONUMENTS**

STATION	QUANTITY
3+340 LT	1
3+680 LT	1
3+840 LT	1
3+960 RT	1
4+240 LT	1
4+380 LT	1
4+660 RT	1
4+840 RT	1
5+060 RT	1
5+460 LT	1

THE LOCATIONS OF THE PROPOSED CONTROL MONUMENTS ARE APPROXIMATE. SET PRIMARY MONUMENTS AND CASES IN THE PAVEMENT SHOULDER IN LINE-OF-SIGHT WITH EACH OTHER AND APPROXIMATELY ONE METER FROM THE EDGE OF PAVEMENT. THE INTENT IS TO PROVIDE MONUMENTED TRAVERSE LINE FOR PROJECT CORRIDOR. SEE STANDARD DRAWINGS M-13.01(M) AND M-16.01(M).



**NORTH TONGASS HIGHWAY - STAGE 1**

DESCRIPTION	POINT DATA			TANGENT DATA		CURVE DATA				
	STATION	NORTHING	EASTING	BEARING	DISTANCE	NORTHING CENTER	EASTING CENTER	RADIUS	LENGTH	D
PC	3+174.871	399419.7736	940064.2648			399766.2783	940014.9240	350.000	36.873	06° 02' 10.4"
PCC	3+211.744	399416.5062	940027.5537			399690.1903	940017.6714	273.862	174.161	36° 26' 12.9"
PT	3+385.906	399464.1389	939863.0706	N 55° 37' 51.7" W	191.889					
PC	3+577.794	399572.4640	939704.6819			399854.6404	939897.6677	341.858	260.220	43° 36' 47.3"
PT	3+838.015	399783.4598	939563.3020	N 12° 01' 04.4" W	48.178					
PC	3+886.192	399830.5815	939553.2707			399759.7019	939220.3189	-340.413	127.876	21° 31' 23.2"
PT	4+014.068	399947.7913	939504.0497	N 33° 32' 27.6" W	173.373					
PC	4+187.441	400092.2960	939408.2554			400290.4376	939707.1500	358.606	303.791	48° 32' 16.4"
PT	4+491.232	400383.2329	939360.7584	N 14° 59' 48.8" E	78.919					
PC	4+570.152	400459.4642	939381.1801			400546.1511	939057.5903	-335.000	294.239	50° 19' 27.5"
PT	4+864.390	400739.8642	939330.9038	N 35° 19' 38.7" W	78.851					
PC	4+943.242	400804.1959	939285.3082			400610.4828	939011.9947	-335.000	170.822	29° 12' 57.5"
PT	5+114.063	400912.9581	939155.9869	N 64° 32' 36.2" W	694.927					
PC	5+808.990	401211.6565	938528.5299			402042.3347	938923.9710	920.000	483.674	30° 07' 20.0"
PT	6+292.664	401522.2848	938165.0586	N 34° 25' 16.2" W	120.343					
PC	6+413.007	401621.5567	938097.0318			401406.7535	937783.5680	-380.000	234.521	35° 21' 38.4"
PT	6+647.528	401763.3391	937914.8946	N 69° 46' 54.4" W	99.793					
POT		401797.8272	937821.2507							

NOTE:  
 WHETHER LISTED OR NOT, ALL MONUMENTS OR PROPERTY MARKERS OR ACCESSORIES WHICH WILL BE DISTURBED OR BURIED SHALL BE REFERENCED PRIOR TO BEING DISTURBED AND REESTABLISHED IN THEIR ORIGINAL POSITION AND A RECORD OF MONUMENT FORM SHALL BE SUBMITTED TO THE CONSTRUCTION ENGINEER FOR REVIEW PRIOR TO RECORDING.  
 COORDINATE VALUES LISTED ARE FOR INFORMATIONAL PURPOSES AND SHOULD BE USED TO RESET MONUMENTS ONLY AS A LAST RESORT.  
 IF ANY PAIR OF CONTROL POINTS DISAGREES FROM PUBLISHED VALUE BY MORE THAN 1:10,000 HORIZONTALLY OR VERTICALLY THEN A THIRD NETWORK POINT MUST BE TIED TO ASCERTAIN WHICH POINT IS IN ERROR OR HAS BEEN DISTURBED.

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ADDENDUM NUMBER

ATTACHMENT NUMBER

RECORD OF REVISIONS

No.	DATE	DESCRIPTION

**Survey Control Plan**

CHECKED BY:

DESIGNED BY: Russell Kraemer  
 DRAWN BY: Leonard Robertson

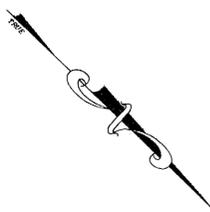
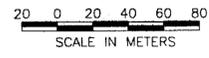
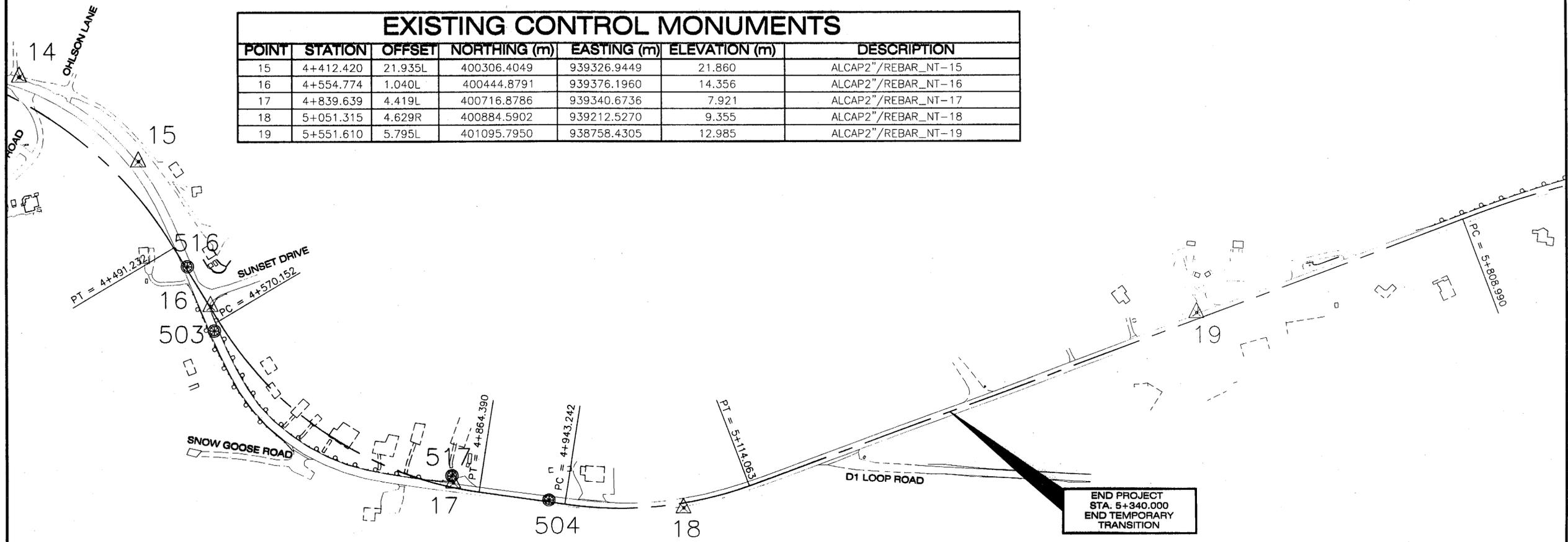
STATE OF ALASKA  
 DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES  
 STATEWIDE DESIGN & ENGINEERING SERVICES DIVISION  
**KETCHIKAN N. TONGASS HIGHWAY WARD TO WHIPPLE STAGE 1**  
**Survey Control Plan**  
 PROJECT DESIGNATION NUMBER  
**STP - 0920(19) / 68536**

STATE	YEAR
<b>ALASKA</b>	<b>2004</b>

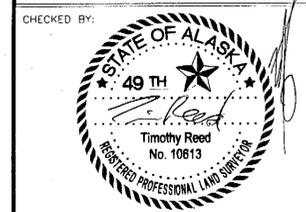
SHEET NUMBER	TOTAL SHEETS
<b>A3</b>	<b>65</b>

CENTERLINE MONUMENTS					
POINT	STATION	OFFSET	NORTHING (m)	EASTING (m)	DESCRIPTION
503	4+575.664	7.988R	400462.8611	939390.3114	BC MON
504	4+928.353	1.771L	400791.0246	939292.4729	BC MON
516	4+512.367	1.669L	400404.0796	939364.6148	CL MON(BC)
517	4+836.735	10.376L	400711.3853	939337.0150	DNR PRM

EXISTING CONTROL MONUMENTS						
POINT	STATION	OFFSET	NORTHING (m)	EASTING (m)	ELEVATION (m)	DESCRIPTION
15	4+412.420	21.935L	400306.4049	939326.9449	21.860	ALCAP2"/REBAR_NT-15
16	4+554.774	1.040L	400444.8791	939376.1960	14.356	ALCAP2"/REBAR_NT-16
17	4+839.639	4.419L	400716.8786	939340.6736	7.921	ALCAP2"/REBAR_NT-17
18	5+051.315	4.629R	400884.5902	939212.5270	9.355	ALCAP2"/REBAR_NT-18
19	5+551.610	5.795L	401095.7950	938758.4305	12.985	ALCAP2"/REBAR_NT-19



Survey Control Plan



CHECKED BY: Russell Kraemer  
 DRAWN BY: Leonard Robertson

STATE OF ALASKA  
 DEPARTMENT OF TRANSPORTATION  
 & PUBLIC FACILITIES  
 STATEWIDE DESIGN & ENGINEERING  
 SERVICES DIVISION  
**KETCHIKAN  
 N. TONGASS HIGHWAY  
 WARD TO WHIPPLE  
 STAGE 1**

**Survey Control  
 Plan**

PROJECT DESIGNATION NUMBER  
**STP - 0920(19) / 68536**

STATE	YEAR
<b>ALASKA</b>	<b>2004</b>
SHEET NUMBER	TOTAL SHEETS
<b>A4</b>	<b>65</b>

**Typical Section Notes:**

1. NO EXISTING ROADWAY PAVEMENT SHALL BE REMOVED WITHOUT WRITTEN APPROVAL.
2. ORGANIC MATERIAL THAT IS SUITABLE FOR TOPSOIL PER SECTION 726 SHALL BE STOCKPILED IN APPROVED LOCATIONS AWAITING USE AS TOPSOIL FOR SEEDING. SEE ENVIRONMENTAL COMMITMENTS & "P" SHEETS FOR HANDLING REQUIREMENTS OF INVASIVE PLANTS.
3. ALL NON-ROCK CONSTRUCTION SLOPES THAT ARE 2:1(H:V) OR FLATTER SHALL BE COVERED WITH 50mm COMPACTED TOPSOIL. ALL NON-ROCK CONSTRUCTION SLOPES THAT ARE 1.5:1(H:V) OR FLATTER SHALL BE SEEDED AND MULCHED. DISTURBED AREAS SHALL BE SEEDED. ALL NON-ROCK SLOPES 1.5:1(H:V) OR STEEPER WILL BE EVALUATED FOR SLOPE STABILIZATION MEASURES. ALL TOPSOILING, SEEDING, AND STABILIZATION SHALL BE IN ACCORDANCE WITH SECTIONS 618 AND 619 OF THE SPECIFICATIONS AND SPECIAL PROVISIONS.
4. CLEARING AND GRUBBING LIMITS SHALL BE DETERMINED FROM THE EDGE OF MAINTAINED DITCH/FORESLOPE, TO THE LIMITS BELOW OR AS DIRECTED. SEE ENVIRONMENTAL COMMITMENTS & "P" SHEETS FOR HANDLING REQUIREMENTS OF INVASIVE PLANTS.

CLEARING LIMITS SHALL BE:

CLEARING LIMITS SHALL BE 1.5m BEYOND THE SLOPE LIMITS OR TO THE RIGHT-OF-WAY LINE, WHICHEVER IS CLOSER TO CENTERLINE.

GRUBBING LIMITS SHALL BE:

- A. ALL AREAS OF CUT.
- B. TO THE SELECTED MATERIAL TYPE "B" (OR "D") CATCH POINT IN THE EMBANKMENT AREAS.

5. EXTEND DITCH FORESLOPE FOR SPECIAL DITCHES, PROFILE SHALL GOVERN OVER TYPICAL SECTION.
6. THE AVERAGE THICKNESS OF EXISTING PAVEMENT IS 75mm.
7. RIPRAP WILL BE PLACED WHEREVER THE EMBANKMENT IS CONSTRUCTED BELOW ELEVATION 6.7m(MLLW DATUM).
8. BENCH SELECTED MATERIAL TYPE A AS SHOWN WHERE EXISTING ROAD BED IS ENCOUNTERED. IN AREAS OF REALIGNMENT, CONSTRUCT 600mm OF SELECTED MATERIAL, TYPE A FULL WIDTH. MINIMUM NEW PAVEMENT SECTION CONSISTS OF 50mm ASPHALT CONCRETE, 75mm ATB, 100mm SUBBASE GRADING C. SUBBASE GRADING C MAY BE PLACED DIRECTLY ON EXISTING ROADWAY EMBANKMENT AS GRADE AND ALIGNMENT ALLOW.
9. THE 1.70m PATH SEPARATION SHALL BE FLATTENED AT DRIVEWAYS AND WHEN APPROACHING AND RECEDING FROM DRIVEWAYS AND INTERSECTIONS. A SHALLOW SWALE SHALL BE CONSTRUCTED AND GRADED TO CONVEY WATER AWAY FROM THE ROAD SURFACE.
10. THE MAXIMUM PROFILE GRADE OF THE ADJACENT PAVED PATHWAY SHALL BE 5%, UNLESS THE ROADWAY CENTERLINE GRADE EXCEEDS 5%, IN WHICH CASE THE PATH SHALL MATCH THE ROADWAY CENTERLINE PROFILE.
11. FILL SLOPE RATIOS DEPICTED ON ALL "B" SHEETS ARE THE MINIMUM. SLOPES MAY BE CONSTRUCTED FLATTER IF APPROVED. DITCHES ADJACENT TO ROCK CUTS SHALL BE CONSTRUCTED AS SHOWN ON THE TYPICAL SECTIONS, NO FLATTENING OF FORE SLOPES WILL BE ALLOWED.
12. SEE SLOPE TABLE FOR MODIFICATION OF TYPICAL CUT AND FILL SLOPE RATIOS.
13. TEMPORARY PAVEMENT SECTION IS SHOWN ON SHEET B3.

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TAB: B1		
ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION

**KETCHIKAN**  
**N. TONGASS HIGHWAY**  
**WARD TO WHIPPLE STAGE 1**  
**PROJECT NO. 68536**

**Typical Sections**  
**of Improvement**

CHECKED BY:

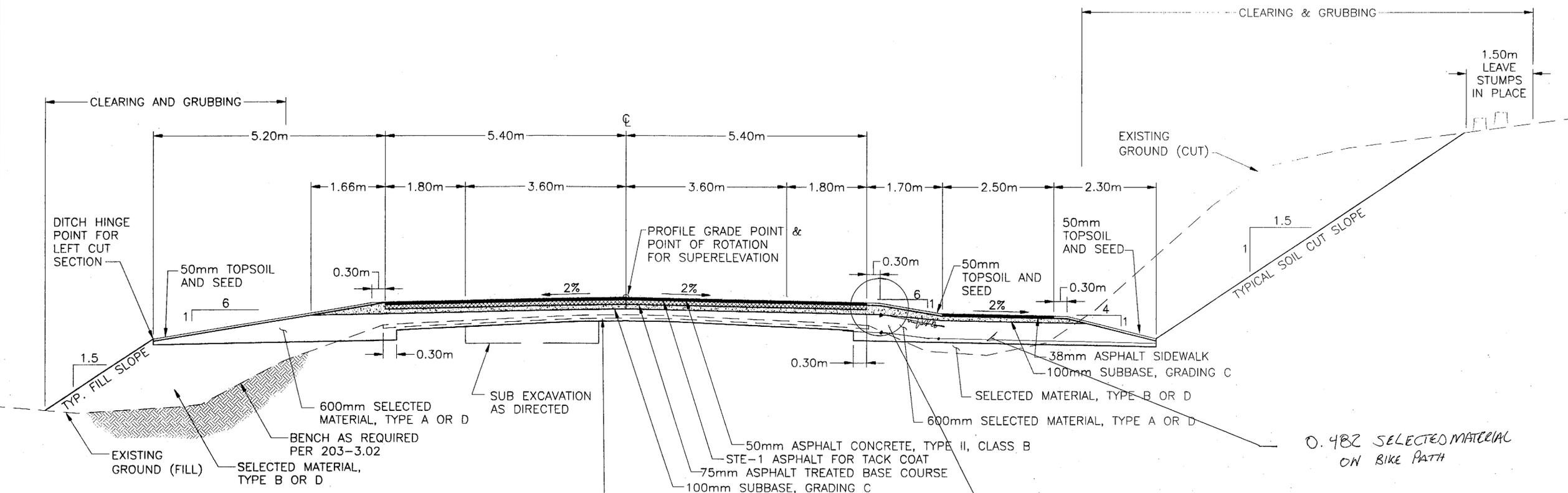
DESIGNED BY: Russell Kraemer  
 DRAWN BY: Leonard Robertson

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 DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES  
 STATEWIDE DESIGN & ENGINEERING SERVICES DIVISION

**KETCHIKAN**  
**N. TONGASS HIGHWAY**  
**WARD TO WHIPPLE**  
**STAGE 1**

**Typical Sections of Improvement**

PROJECT DESIGNATION NUMBER	
STP - 0920(19) / 68536	
STATE	YEAR
ALASKA	2004
SHEET NUMBER	TOTAL SHEETS
B1	65



EXISTING ASPHALT PAVEMENT TO BE INCORPORATED INTO THE TYPICAL SECTION EITHER THROUGH IN PLACE PROCESSING (ASPHALT GRINDING) OR REMOVAL, CRUSHING AND BLENDED WITH NATIVE AGGREGATE FOR THE VARIOUS PROJECT SURFACING AND BASE COURSE MATERIALS. SEE SECTIONS 203, 304, 306, AND 401 OF THE SPECIFICATIONS.

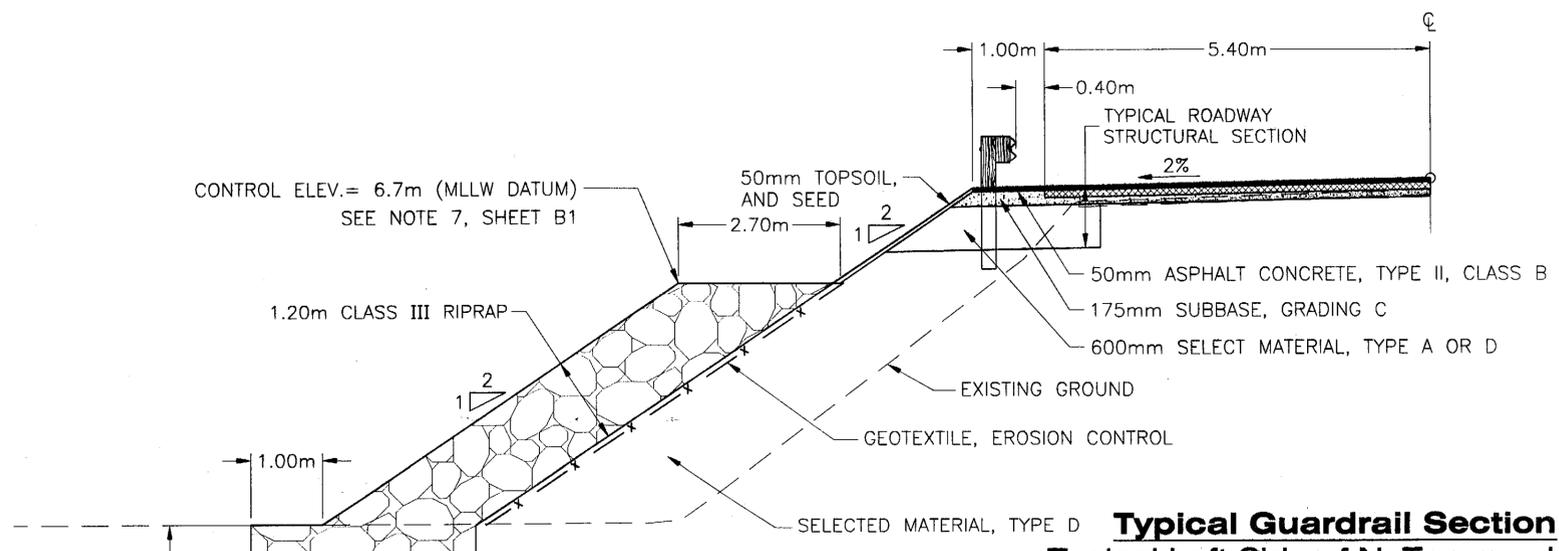
0.482 SELECTED MATERIAL ON BIKE PATH

topsoil .3m from edge of pavement to match left side.

**Typical Section Of All Paved Improvements**  
**Station 3+723.670 Station 5+309**  
 (Except Where Modified By Other Typical Sections)

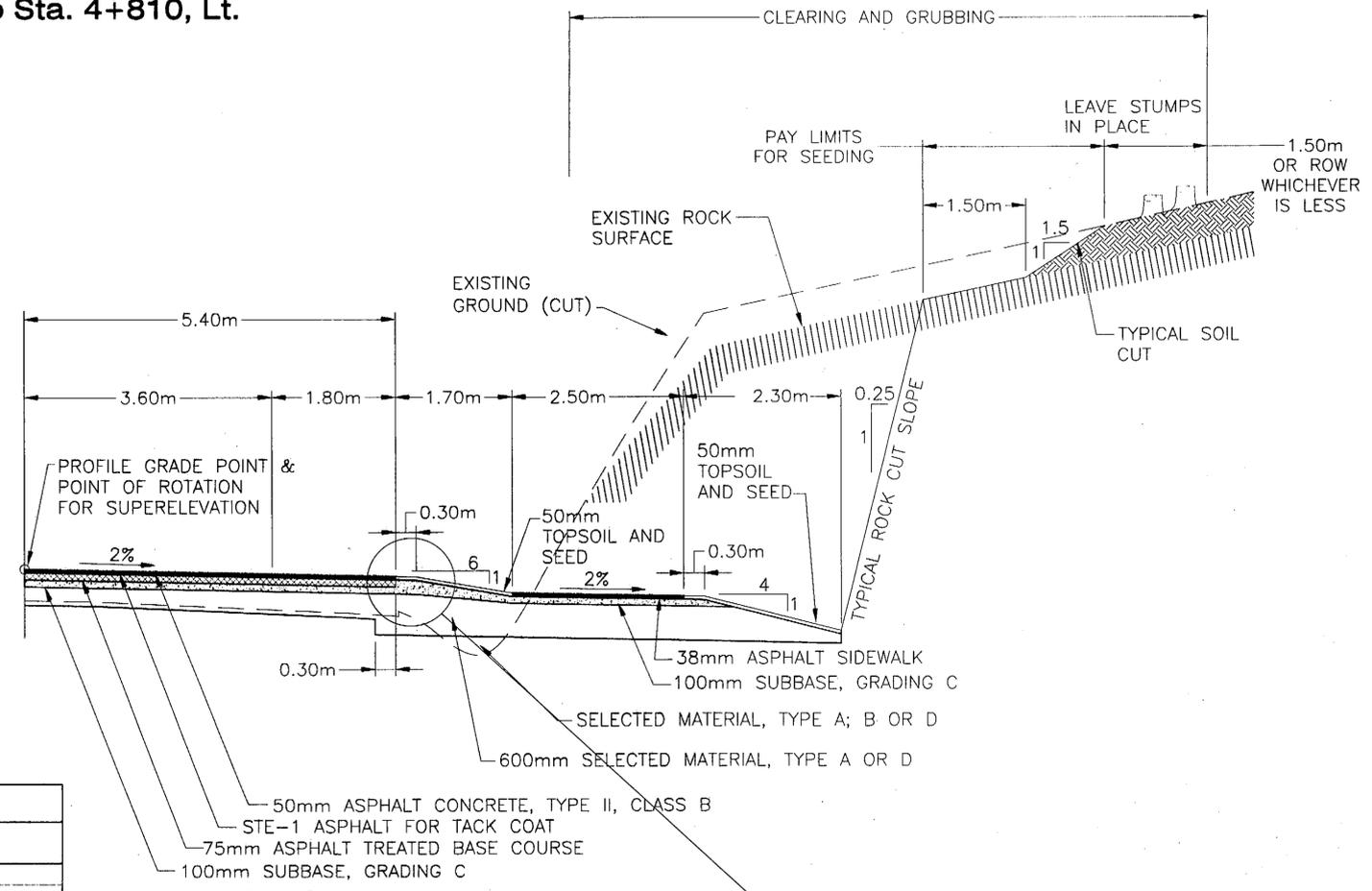
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ADDENDUM NUMBER		
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RECORD OF REVISIONS		
No.	DATE	DESCRIPTION



**Typical Guardrail Section**  
**Typical Left Side of N. Tongass Hwy.**  
 See Summaries For Guardrail Locations

**Typical RipRap Section**  
 Approximate Stations  
 Sta. 4+560, Lt. To Sta. 4+810, Lt.



**Typical Rock Cut Section**  
 Approximate Stations:  
 Sta. 3+900 To Sta. 4+500 Rt

NOTE:  
 SLOPE TABLE SHOWS SLOPES THAT VARY FROM THE TYPICAL SLOPES SHOWN.

LEFT		STATION TO STATION	RIGHT		REMARKS
CUT	FILL		FILL	CUT	
1:1		3+800 TO 4+000			ROCK CUT LEFT SIDE
	2:1	3+340 TO 3+650			USE GUARDRAIL & RIPRAP TYPICAL
VERTICAL		4+460 TO 4+510			SEE SPECIAL ROCK EXCAVATION DETAIL
	2:1	4+560 TO 4+810			USE GUARDRAIL & RIPRAP TYPICAL
		4+600 TO 4+700		3:1	SEE WETLAND RESTORATION DETAIL

KETCHIKAN  
 N. TONGASS HIGHWAY  
 WARD TO WHIPPLE STAGE 1  
 PROJECT NO. 68536

**Typical Sections of Improvement**

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DESIGNED BY: Russell Kroemer  
 DRAWN BY: Leonard Robertson

STATE OF ALASKA  
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 STATEWIDE DESIGN & ENGINEERING SERVICES DIVISION

**KETCHIKAN  
 N. TONGASS HIGHWAY  
 WARD TO WHIPPLE  
 STAGE 1**

**Typical Sections of Improvement**

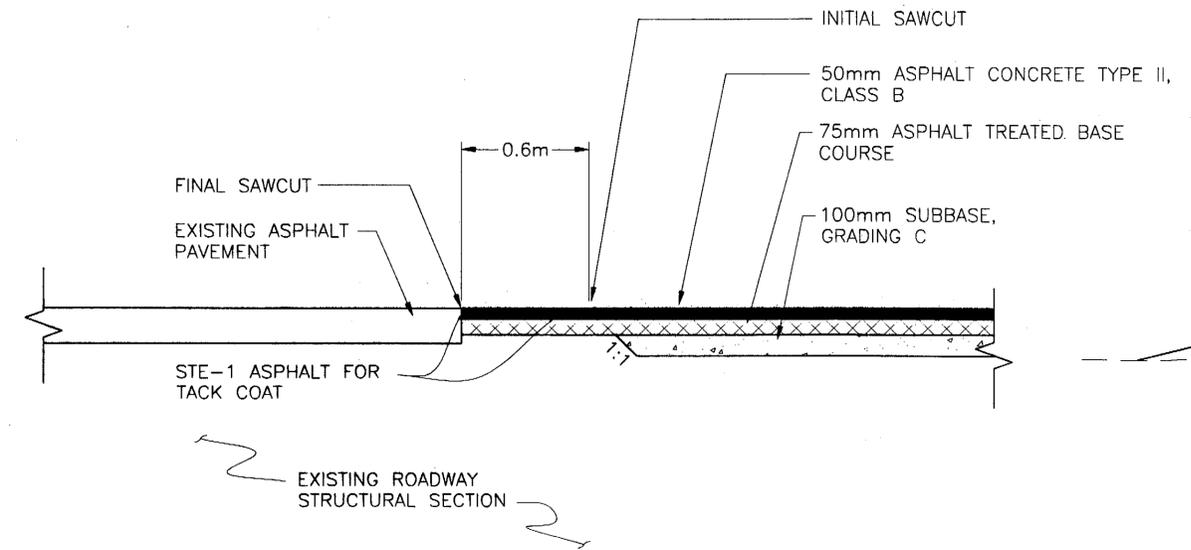
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**STP - 0920(19) / 68536**

STATE	YEAR
ALASKA	2004
SHEET NUMBER	TOTAL SHEETS
<b>B2</b>	<b>65</b>

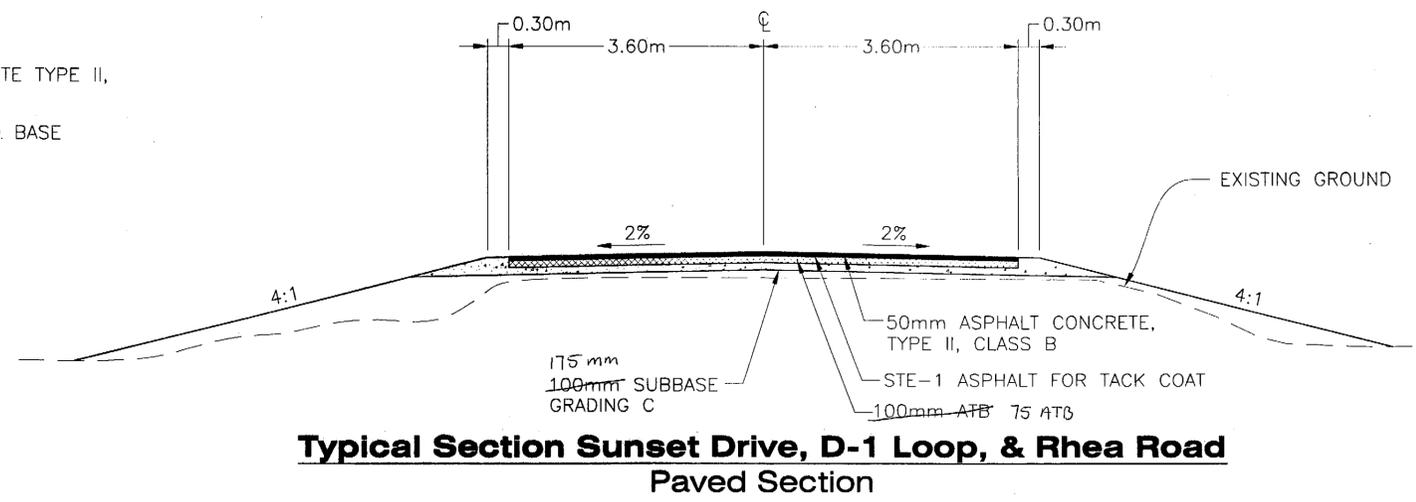
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ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION

KETCHIKAN  
 N. TONGASS HIGHWAY  
 WARD TO WHIPPLE STAGE 1  
 PROJECT NO. 68536

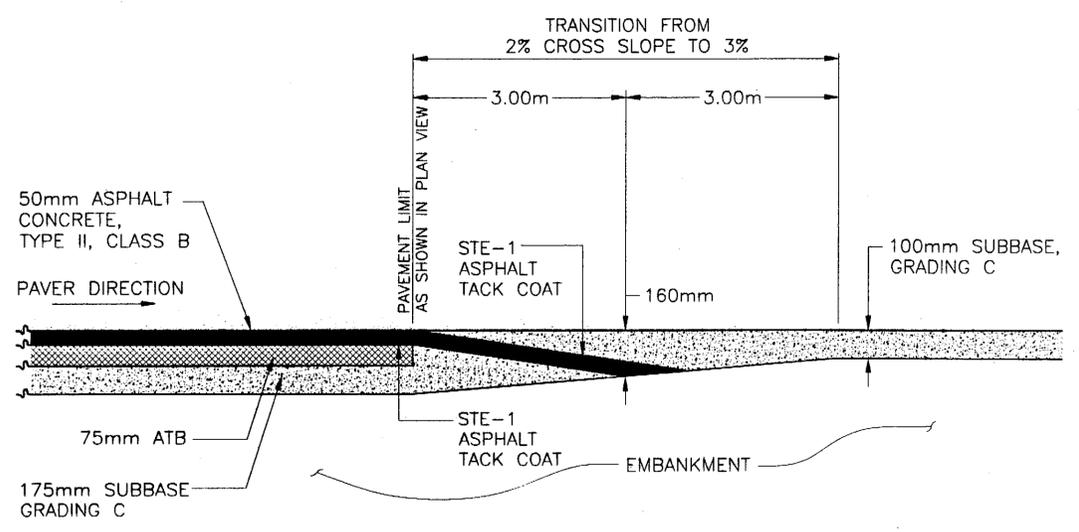
**Typical Sections  
 of Improvement**



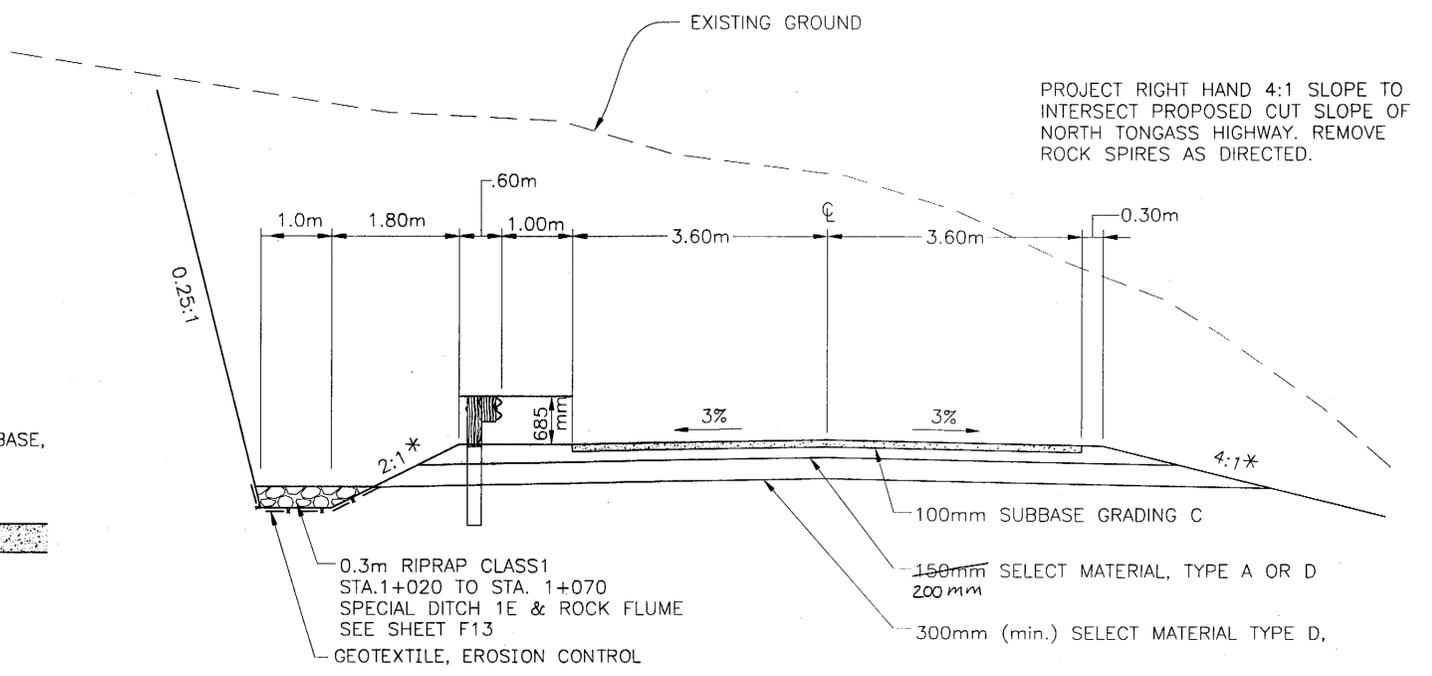
**Match Joint Detail & Temporary Pavement Section**  
 Sta. 3+613  
 Sta. 5+340



**Typical Section Sunset Drive, D-1 Loop, & Rhea Road**  
**Paved Section**



**Rhea Road Paved To Unpaved Transition**  
**Profile View**



\* SLOPE RATIO IS PREDICATED ON GUARDRAIL OR NO GUARDRAIL  
**Typical Section Rhea Road**  
**End Of Pavement To New Alignment End**  
 Sta. "F" 1+059 to Sta. "F" 1+235  
 Transition from 1+235 to End with Subbase Grading 'C'

PROJECT RIGHT HAND 4:1 SLOPE TO INTERSECT PROPOSED CUT SLOPE OF NORTH TONGASS HIGHWAY. REMOVE ROCK SPIRES AS DIRECTED.

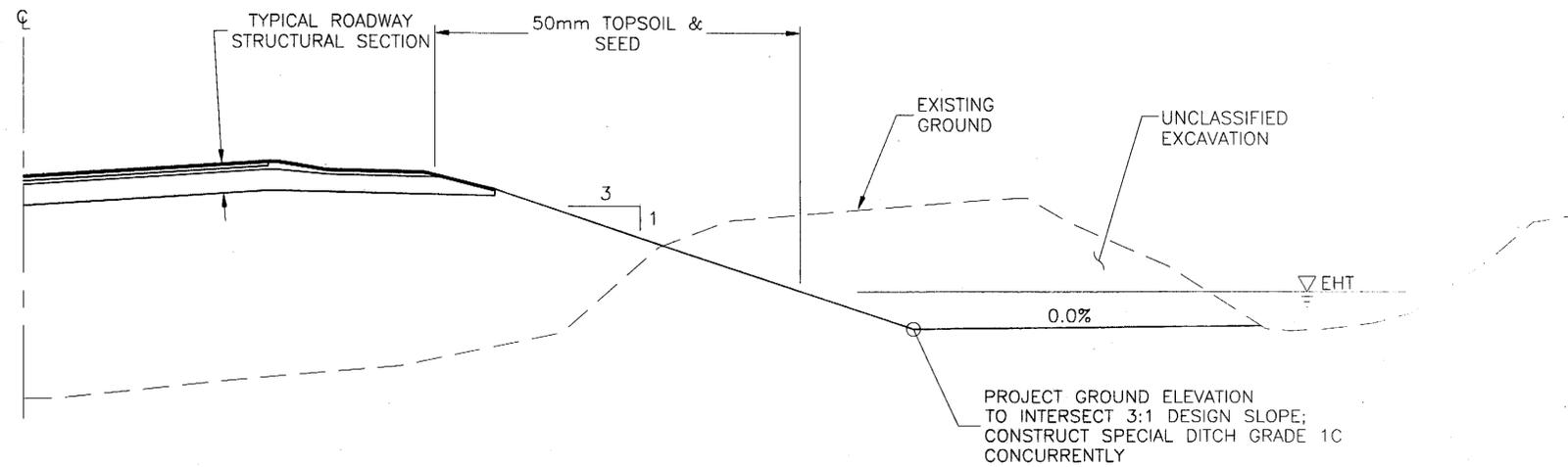
CHECKED BY:

DESIGNED BY: Russell Kraemer  
 DRAWN BY: Leonard Robertson

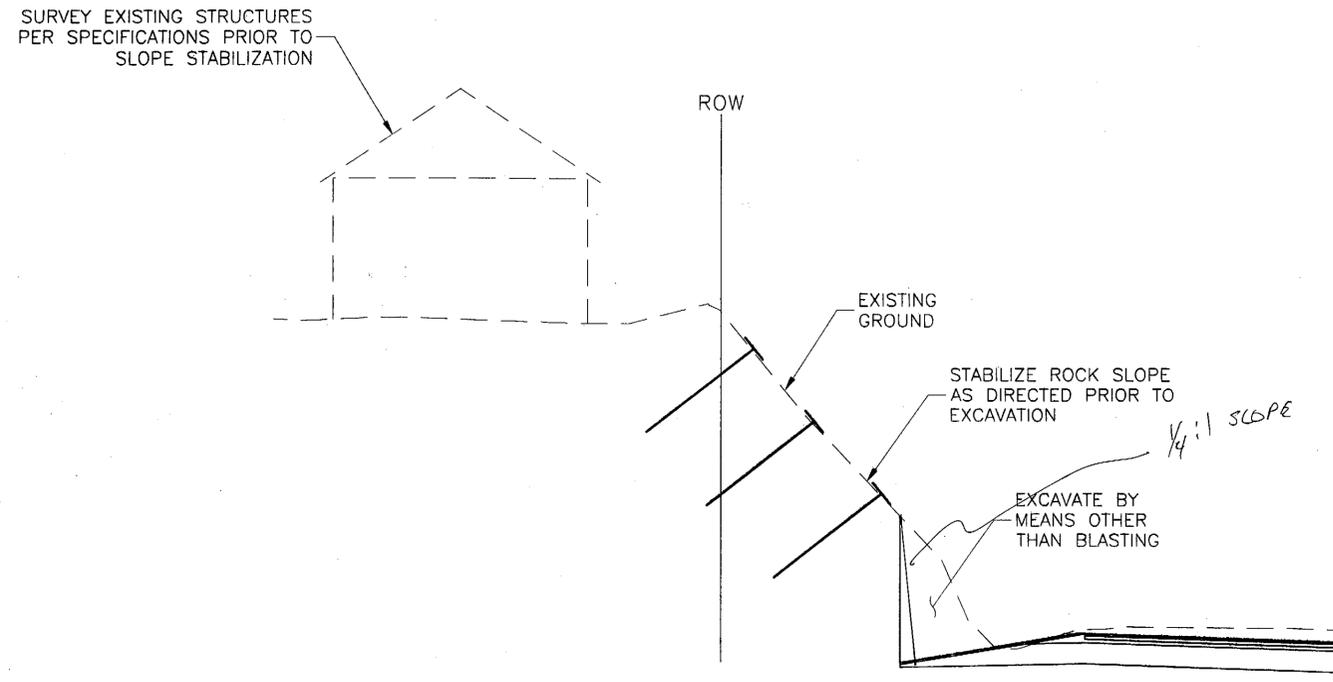
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 DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES  
 STATEWIDE DESIGN & ENGINEERING SERVICES DIVISION  
**KETCHIKAN**  
**N. TONGASS HIGHWAY**  
**WARD TO WHIPPLE**  
**STAGE 1**

**Typical Sections of Improvement**

PROJECT DESIGNATION NUMBER	
STP - 0920(19) / 68536	
STATE	YEAR
ALASKA	2004
SHEET NUMBER	TOTAL SHEETS
B3	65



**Wetland Restoration Typical**  
**Station 4+600 Station 4+700 RIGHT**



**Special Rock Excavation Detail**  
**Station 4+660 Station 5+010 LEFT**

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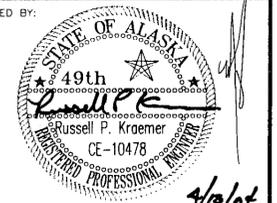
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ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION

KETCHIKAN  
 N. TONGASS HIGHWAY  
 WARD TO WHIPPLE STAGE 1  
 PROJECT NO. 68536

**Typical Sections  
 of Improvement**

CHECKED BY:



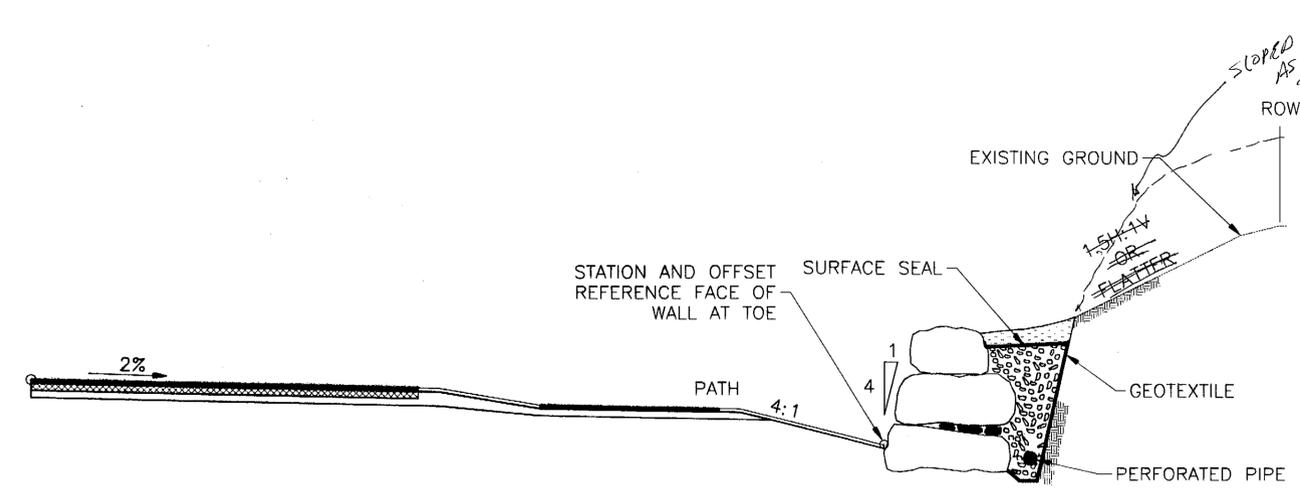
DESIGNED BY: Russell Kroemer  
 DRAWN BY: Leonard Robertson

STATE OF ALASKA  
 DEPARTMENT OF TRANSPORTATION  
 & PUBLIC FACILITIES  
 STATEWIDE DESIGN & ENGINEERING  
 SERVICES DIVISION  
 KETCHIKAN  
 N. TONGASS HIGHWAY  
 WARD TO WHIPPLE  
 STAGE 1

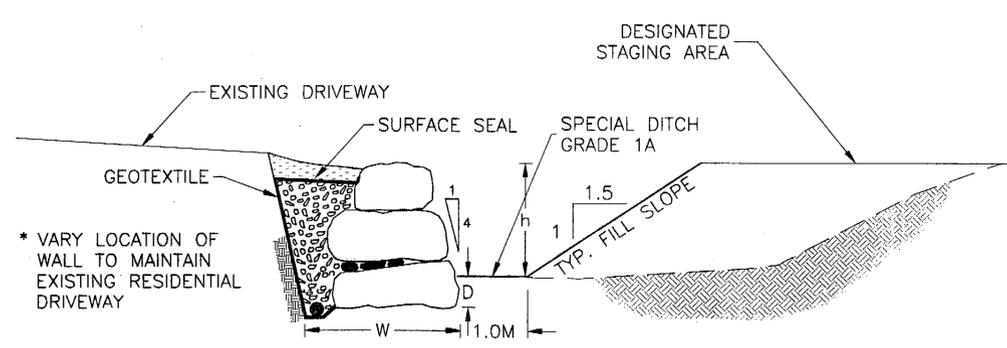
**Typical Sections  
 of Improvement**

PROJECT DESIGNATION NUMBER  
**STP - 0920(19) / 68536**

STATE	YEAR
ALASKA	2004
SHEET NUMBER	TOTAL SHEETS
<b>B4</b>	<b>65</b>



**ROCKERY WALL**  
 Sta. 3+690 TO 3+760



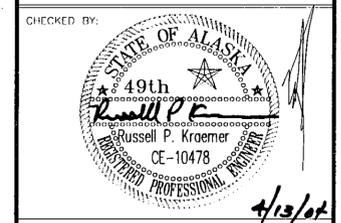
**ROCKERY WALL**  
 AT STAGING AREA

*NOT USED THIS PROJECT.*

- A) SURFACE SEAL: MAY CONSIST OF IMPERVIOUS SOIL OR A FINE FREE DRAINING GRANULAR MATERIAL.
  - B) FREE DRAINING ROCK FILTER LAYER. MINIMUM WIDTH BEHIND WALL IS 300mm. ROCK SHOULD CONSIST OF 4-50mm SIZED QUARRY SPALLS OR OTHER APPROVED MATERIAL.
  - C) USE ANGULAR ROCK SPALLS TO LEVEL ROCKS AND FILL VOIDS TO RETAIN BACKFILL.
  - D) BASAL ROCKS MUST HAVE A MINIMUM 300mm EMBEDMENT, 'D', BELOW THE EXISTING GROUND AND SHOULD BE PLACED WITH THE LONG AXIS DIRECTED INTO THE SLOPE TO PROVIDE MAXIMUM STABILITY.
  - E) THE MINIMUM WIDTH OF THE WALL FOUNDATION, 'W', SHOULD EQUAL THE LENGTH OF THE BASAL ROCK PLUS 'B'.
  - G) INSTALL PERFORATED OR SLOTTED DRAIN PIPE WITH MINIMUM DIAMETER OF 100mm. SEE ALSO NOTE A.
  - H) INSTALL APPROVED NON-WOVEN GEOTEXTILE TO PREVENT FINES FROM INFILTRATING DRAIN ROCK.
  - I) WALL FACE SHALL BE CONSTRUCTED WITH A BATTER OF 4V:1H.
  - J) WALL HEIGHT SHALL NOT EXCEED 6 FEET. WALLS OVER 2m SHALL BE APPROVED BY THE ENGINEER.
  - K) ALL ROCKS USED FOR CONSTRUCTION OF THE WALL SHOULD BE ANGULAR. SMOOTH, ROUNDED BOULDERS, EVEN IF BROKEN ON ONE OR MORE FACES, ARE NOT ACCEPTABLE.
  - M) DAYLIGHT PERFORATED PIPE THROUGH FACE OF WALL TO DRAIN
- \* SEE SECTION 515 FOR ROCK SIZE REQUIREMENT.

TAB: B5		
ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION

KETCHIKAN  
 N. TONGASS HIGHWAY  
 WARD TO WHIPPLE STAGE 1  
 PROJECT NO. 68536  
**Typical Sections  
 of Improvement**



DESIGNED BY: Russell Kraemer  
 DRAWN BY: Leonard Robertson

STATE OF ALASKA  
 DEPARTMENT OF TRANSPORTATION  
 & PUBLIC FACILITIES  
 STATEWIDE DESIGN & ENGINEERING  
 SERVICES DIVISION  
**KETCHIKAN**  
**N. TONGASS HIGHWAY**  
**WARD TO WHIPPLE**  
**STAGE 1**

**Typical Sections  
 of Improvement**

PROJECT DESIGNATION NUMBER  
**STP - 0920(19) / 68536**

STATE	YEAR
<b>ALASKA</b>	<b>2004</b>
SHEET NUMBER	TOTAL SHEETS
<b>B5</b>	<b>65</b>

## ESTIMATE OF QUANTITIES

ITEM	PAY ITEM	UNIT	QTY.
201 (3B)	CLEARING AND GRUBBING	LUMP SUM	ALL REQUIRED
202 (1)	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LUMP SUM	ALL REQUIRED
202(10)	SINGLE MAIL BOX INSTALLATION	EACH	7 8
202(12)	DOUBLE MAIL BOX INSTALLATION	EACH	3 1
203 (3)	UNCLASSIFIED EXCAVATION	CUBIC METER	107597.60
203(10)	CONTROLLED BLASTING	METER	5403.5 8500
203(11)	EMBANKMENT	CUBIC METER	62751.0
203(12)	ROCK BOLTS	EACH	8 25
203(14)	DRAIN HOLES	EACH	228 120
203(15)	PRE-BLAST SURVEY	EACH	35 20
203(16)	FLYROCK PRICE ADJUSTMENT	CONTINGENT SUM	ALL REQUIRED
203(17)	INVASIVE PLANT CONTAINMENT	LUMP SUM	ALL REQUIRED
304 (1)	SUBASE, GRADING C	MEGAGRAM	10596.54 9500
306 (1)	ATB	MEGAGRAM	3946.75 4800
401 (1)	ASPHALT CONCRETE, TYPE II; CLASS B	MEGAGRAM	3742.18 3000
401 (2)	ASPHALT CEMENT, GRADE PG 58-28	MEGAGRAM	369.53 380
401 (6)	ASPHALT PRICE ADJUSTMENT	CONTINGENT SUM	ALL REQUIRED
402 (1)	STE-1 ASPHALT FOR TACK COAT	MEGAGRAM	6.57 -
515 (1)	ROCKERY WALL	SQUARE METER	207.03 125
602 (1)	STRUCTURAL PLATE PIPE DIAMETER 3000MM, THICKNESS 3.81MM	METER	116.7 116
603 (17 - 1200)	1200 MM HDPE CULVERT PIPE	METER	51.2 52
603 (17-1240x840)	1240 X 840 MM CORRUGATED ALUMINUM PIPE ARCH	METER	27.43 28
603 (17-1850x1400)	1850 X 1400 MM CORRUGATED ALUMINUM PIPE ARCH	METER	33.7 34
603 (17-2060x1500)	2060 X 1500 MM CORRUGATED ALUMINUM PIPE ARCH	METER	29.8 30
603 (17 - 450)	450 MM HDPE CULVERT PIPE	METER	23.83 20 15 80
603 (17 - 600)	600 MM HDPE CULVERT PIPE	METER	342.98 380
603 (17 - 750)	750 MM HDPE CULVERT PIPE	METER	51 54
603 (17 - 900)	900 MM HDPE CULVERT PIPE	METER	130.76 117
603 (20 - 1200)	END SECTION FOR 1200 MM PIPE	EACH	0.2
603 (20 - 600)	END SECTION FOR 600 MM PIPE	EACH	0.4
604 (1)	STORM SEWER MANHOLE	EACH	0.1
606 (1)	W - BEAM GUARDRAIL	METER	718.19 708
606 (6)	REMOVING AND DISPOSING OF GUARDRAIL	METER	756.51 460
606 (9)	CONTROLLED RELEASE TERMINAL (CRT)	EACH	3 5
606 (11)	EXTRUDER TERMINAL (ET-2000 )	EACH	2
608 (3)	ASPHALT SIDEWALK	SQUARE METER	3998.8 4000
611 (1A)	RIP RAP, CLASS I	CUBIC METER	276.52 500
611 (1B)	RIP RAP, CLASS III	CUBIC METER	4086.6 4500
615 (1)	STANDARD SIGN	SQUARE METER	15.93 16
618 (1)	SEEDING	HECTARE	2.973 4
620 (1)	TOPSOIL	SQUARE METER	10039.05 15700
628 (1)	GUARDRAIL PAVING	METER	439 614
631 (2)	GEOTEXTILE, EROSION CONTROL, CLASS 1	SQUARE METER	2024.97 3000
639 (1)	RESIDENCE DRIVEWAY	EACH	9
639 (2)	COMMERCIAL DRIVEWAY	EACH	1
640 (1)	MOBILIZATION AND DEMOBILIZATION	LUMP SUM	ALL REQUIRED
641 (1)	EROSION AND POLLUTION CONTROL ADMINISTRATION	LUMP SUM	ALL REQUIRED
641 (4)	TEMPORARY EROSION AND POLLUTION CONTROL AMENDMENTS	CONTINGENT SUM	ALL REQUIRED
641 (5)	SILT FENCE	METER	274.26 1200
641 (6)	SETTLING POOL	EACH	4 2

## ESTIMATE OF QUANTITIES

ITEM	PAY ITEM	UNIT	QTY.
641 (7)	PRELIMINARY SEEDING	HECTARE	.689 1
641 (8)	TEMPORARY DITCH CHECK	EACH	48 50
641 (9)	SEDIMENT FILTER BAG	EACH	3 5
642 (1)	CONSTRUCTION SURVEYING	LUMP SUM	ALL REQUIRED
642 (3)	THREE PERSON SURVEY PARTY	HOUR	16.73 80
642 (4)	SET PRIMARY MONUMENT	EACH	8 10
642 (10)	MONUMENT CASE	EACH	8 10
643 (2)	TRAFFIC MAINTENANCE	LUMP SUM	ALL REQUIRED
643 (3)	PERMANENT CONSTRUCTION SIGNS	LUMP SUM	ALL REQUIRED
643 (15)	FLAGGING	CONTINGENT SUM	ALL REQUIRED
643 (23)	TRAFFIC PRICE ADJUSTMENT	CONTINGENT SUM	ALL REQUIRED
643 (25)	TRAFFIC CONTROL	CONTINGENT SUM	ALL REQUIRED
643 (29)	DETOUR PAVING	SQUARE METER	2590.54 1000
643 (30)	PUBLIC INFORMATION PROGRAM	LUMP SUM	ALL REQUIRED
644 (1)	FIELD OFFICE	LUMP SUM	ALL REQUIRED
644 (6)	VEHICLES	LUMP SUM	ALL REQUIRED
646 (1)	CPM SCHEDULING	LUMP SUM	ALL REQUIRED
660 (3)	HIGHWAY LIGHTING SYSTEM COMPLETE	LUMP SUM	ALL REQUIRED
662 (1)	ELECTRICAL SYSTEM COMPLETE	LUMP SUM	ALL REQUIRED
663 (1)	COAXIAL TRUNK AND DISTRIBUTION SYSTEM COMPLETE	LUMP SUM	ALL REQUIRED
663 (2)	FIBER OPTICAL CABLE SYSTEM COMPLETE	LUMP SUM	ALL REQUIRED
669 (2)	AUTOMATED TRAFFIC RECORDER SYSTEM	LUMP SUM	ALL REQUIRED
670 (8)	RECESSED PAVEMENT MARKER	EACH	167 211
670 (10)	METHYL METHACRYLATE PAVEMENT MARKINGS	LUMP SUM	ALL REQUIRED
690 (1)	PLANTINGS	LUMP SUM	ALL REQUIRED
Change Orders			
660(14)	Temporary Street Lights (C.O.4)	Each	4
662(2)	Move Distribution System (C.O.4)	Lump Sum	All Required
662(3)	Guy Stub Replacement (C.O.4)	Lump Sum	All Required
643(27)	Temporary Guardrail (C.O.5)	Lump Sum	All Required
606(14)	Rock Anchor Guardrail (C.O.5)	Lump Sum	All Required

### Basis Of Estimate

ITEM	PAY ITEM	ESTIMATING FACTOR
301 (1)	CRUSHED AGGREGATE BASE COURSE	2.409 Mg/m <sup>3</sup>
*306 (1)	ASPHALT TREATED BASE COURSE	0.0025 Mg/m <sup>2</sup> /mm
401 (1)	ASPHALT CONCRETE, TYPE II, CLASS B	0.0026 Mg/m <sup>2</sup> /mm
401 (2)	ASPHALT CEMENT PG 58-28	5.0% OF ITEM NO. 401(1) & 4% OF 306 (1)
402 (1)	STE-1 ASPHALT FOR TACK COAT	0.45 l/m <sup>2</sup> ; 1.0kl /Mg

#### GENERAL NOTES:

- THE LOCATIONS OF EXISTING TOPOGRAPHY, UTILITIES, BUILDINGS, ETC. AS SHOWN ON THE PLANS ARE APPROXIMATE ONLY AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES.
- THE ALIGNMENT AND GRADES AS SHOWN ON THESE PLANS ARE SUBJECT TO MINOR FIELD REVISIONS BY THE ENGINEER.
- THE ROADWAYS SUPER ELEVATION SHALL ROTATE ABOUT THE CENTERLINE. THE RATES OF SUPER ELEVATION AND THE SUPER ELEVATION TRANSITION POINTS ARE SHOWN ON THE PLAN AND PROFILE SHEETS.
- THE LOCATIONS OF PROPOSED IMPROVEMENTS ARE SUBJECT TO MINOR FIELD REVISIONS BY THE ENGINEER.
- ALL UNCLASSIFIED EXCAVATION THAT IS NOT ROCK IS CONSIDERED TO BE WASTE. THE CONTRACTOR SHALL USE WASTE MATERIAL AS TOPSOIL AS SHOWN ON THE TYPICAL SECTIONS, OR SHALL HAUL WASTE MATERIAL TO THE WASTE AREA WHICH IS APPROVED BY THE ENGINEER. THIS WORK IS CONSIDERED SUBSIDIARY TO OTHER ITEMS OF WORK AND NO SEPARATE MEASUREMENT OR PAYMENT WILL BE MADE.
- CROSS CULVERT LOCATIONS GIVEN ARE APPROXIMATE ONLY. FINAL CROSS CULVERT POSITIONS WILL BE DETERMINED BY THE ENGINEER AFTER CLEARING AND CENTERLINE STAKING IS COMPLETED.

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Tue, 20/Apr/04 09:10AM Robertson

TAB: C1

ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION

KETCHIKAN  
N. TONGASS HIGHWAY  
WARD TO WHIPPLE STAGE 1  
PROJECT NO. 68536

Estimate of Quantities

CHECKED BY:



DESIGNED BY: Russell Kraemer  
DRAWN BY: Leonard Robertson

STATE OF ALASKA  
DEPARTMENT OF TRANSPORTATION  
& PUBLIC FACILITIES  
STATEWIDE DESIGN & ENGINEERING  
SERVICES DIVISION

**KETCHIKAN  
N. TONGASS HIGHWAY  
WARD TO WHIPPLE  
STAGE 1**

### Estimate of Quantities

PROJECT DESIGNATION NUMBER  
**STP - 0920(19) / 68536**

STATE <b>ALASKA</b>	YEAR <b>2004</b>
SHEET NUMBER <b>C1</b>	TOTAL SHEETS <b>65</b>

### 606(6) GUARDRAIL REMOVAL SUMMARY

STATION TO STATION	OFFSET	LENGTH	REMARKS
4+552 TO 4+839	LT	287.3	MUD BIGHT
4+527 TO 4+700	RT	172.4	MUD BIGHT
TOTAL		459.7	

### 606(1) GUARDRAIL INSTALLATION SUMMARY

STATION TO STATION	OFFSET	LENGTH W-BEAM	END SECTIONS	REMARKS
"E"1+020 TO "E"1+080	RT	60	(2) CRT	DRIVEWAY E1
"R"1+010 TO "R"1+080	LT	76	(2) CRT	RHEA ROAD ALIGNMENT
"R"1+080 TO "R"1+216	RT	141	(1) CRT	RHEA ROAD ALIGNMENT
"S1" 1+055 TO 4+951	LT	431	(2) ET-2000	SUNSET DRIVE ALIGNMENT TO NORTH TONGASS HIGHWAY ALIGNMENT
TOTAL		708	(5) CRT (2) ET-2000	

### 515(1) ROCKERY WALL SUMMARY

#	BEGIN STATION	OFFSET	BEGIN STATION	OFFSET	LENGTH	REMARKS
#1	NT 3+466	35.3 RT	NT 3+500	12.3 RT	42	AS REQUIRED TO MAINTAIN ADJACENT DRIVEWAY SURFACE AND ESTABLISH SDG 1A
#2	NT 3+658	11.9 RT	NT 3+780	11.9 RT	52	AS REQUIRED TO CONTAIN CUT SLOPE INSIDE RIGHT-OF-WAY
	3+760	18. RT	3+767	18. RT	7.1	Upper part of Driveway "C"
	3+805	12. RT	3+815	12. RT	13.2	Lower part of Driveway "C" around outlets of P-56 and P-56 A.
TOTAL LENGTH=				94		
ASSUMED HEIGHT=				1.5		
				141	SQUARE METERS	

### 202(1) REMOVAL OF STRUCTURES AND OBSTRUCTIONS

DESCRIPTION	REMARKS
1 RETAINING WALL, TRAILER AND APPURTENANCES NEAR SUNSET 1 INTERSECTION	ADJACENT STRUCTURES TO BE REMOVED OR OBTAINED BY OTHERS
2 HOUSE AND APPURTENANCES ACROSS FROM SUNSET 2 INTERSECTION	
3 FLOAT HOUSES AND DEBRIS IN MUD BIGHT	
4 REMOVAL OF APPROXIMATELY 14500 SQUARE METERS OF PAVEMENT	
5 REMOVAL OF APPROXIMATELY 350 METERS OF EXISTING CULVERTS	
6 MINOR STRUCTURES AS ENCOUNTERED THROUGHOUT THE PROJECT	

NOTE: THIS SUMMARY IS NOT COMPREHENSIVE FOR THE PROJECT. IT REPRESENTS ONLY KNOWN STRUCTURES AND OBSTRUCTIONS THAT ARE REQUIRED TO BE REMOVED AND DISPOSED OF.

515(1) Rockery Wall  
3+980 to 3+991 14m Rt. 11m w Length Rock Wall built for existing path

### 202(10,11,12) MAILBOX SUMMARY

STATION	OFFSET		TYPE		REMARKS
	LEFT	RIGHT	SINGLE	DOUBLE	
3+633.346		8.967		1	
3+633.857		9.481			
3+988.354		5.735	1		
4+036.833		4.254	1		
4+185.941		3.615	1		
4+230.367		0.169	1		
4+277.992	-6.025		1		
4+335.175	-27.215		1		
4+518.533		4.771	1		
4+790.794		14.091	1		
4+986.093	-8.880		1		
Totals:		9	1		

### APPRO CH ROAD SUMMARY

LIN	NAME	INTERSECTING STA.	REMARKS
"A"	NO NAME	3+652.695	View Court
"B"	SUNSET DRIVE	3+723.670	SEE DETAIL SHEET F9
"C"	OLSON LANE	4+332.000	SEE DETAIL SHEET F10
"E"	RHEA ROAD	4+537.890	SEE DETAIL SHEETS F11 & F12
"F"	SUNSET DRIVE	4+537.890	SEE DETAIL SHEETS F11 & F12
"G"	SNOW GOOSE ROAD	4+706.730	SEE DETAIL SHEET F13
"H"	D1 LOOP ROAD	5+260.000	SEE DETAIL SHEET F14

### 639(1,2) DRIVEWAY SUMMARY

STATION	OFFSET		REMARKS
	LT.	RT.	
3+816		X	RESIDENCE
3+986		X	RESIDENCE
3+987	X		RESIDENCE
4+036	X		RESIDENCE
4+097	X		RESIDENCE
4+191	X		RESIDENCE
4+230	X		RESIDENCE
4+282	X		RESIDENCE
4+796		X	RESIDENCE
4+968	X		COMMERCIAL

### 202(10,12) Mailbox Summary

Station	OFFSET		TYPE		Remarks
	Left	right	Single	Double	
3+635		X		X	
4+000		X	X		
4+040		X	X		
4+190		X	X		
4+300		X	X		
4+300				X	
4+500				X	
4+700		X	X		
4+790		X	X		
4+980	X		X		
Total			7	9	

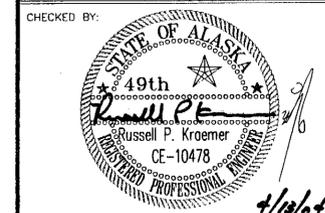
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Mon, 19/Apr/04 01:54PM Robertson

TAB: D1

ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION

KETCHIKAN  
N. TONGASS HIGHWAY  
WARD TO WHIPPLE STAGE 1  
PROJECT NO. 68536

Miscellaneous Summaries



DESIGNED BY: Russell Kraemer  
DRAWN BY: Leonard Robertson

STATE OF ALASKA  
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES  
STATEWIDE DESIGN & ENGINEERING SERVICES DIVISION  
KETCHIKAN  
N. TONGASS HIGHWAY  
WARD TO WHIPPLE  
STAGE 1  
**Miscellaneous Summaries**  
PROJECT DESIGNATION NUMBER  
**STP - 0920(19) / 68536**

STATE	YEAR
ALASKA	2004
SHEET NUMBER	TOTAL SHEETS
D1	65

## 603(Varies) Culvert Installation Summary

PIPE	INLET			OUTLET			SIZE							GRADE	REMARKS	
	STATION	OFFSET	APPROX. INVERT	STATION	OFFSET	APPROX. INVERT	600 mm HDPE	750 mm HDPE	900 mm HDPE	1200 mm HDPE	1250 x 840mm CMPA	1850 x 1400mm CMPA	2060 x 1500mm CMPA			3000mm CMP
P-1A	3+447.71	32.72 RT	5.02	3+447.71	5.31 RT	4.75	27.3								1.00%	
P-1B	3+447.71	5.31 RT	4.72	3+447.71	12.08 LT	4.54	17.5								1.00%	
P-2	XXX	XXX	XXX	XXX	XXX	XXX										NOT IN CONTRACT
P-3	XXX	XXX	XXX	XXX	XXX	XXX										NOT IN CONTRACT
P-4	3+713.44	11.87 RT	10.21	3+710.09	16.33 LT	9.92	28.6 29.1								1.00%	
P-5	3+795.43	11.65 RT	12.97	3+780.34	10.37 LT	12.82		25.9 25.3							0.62%	
P-6	3+982.56	12.50 RT	19.76	3+980.26	9.66 LT	19.32	26.3 22.2								2.01%	
P-7	4+133.59	11.81 RT	20.45	4+130.89	13.80 LT	19.11				25.5 25.9					5.19%	
P-8	4+232.60	11.96 RT	21.18	4+223.76	15.62 LT	20.89	29.0								1.00%	
P-9	4+315.13	12.74 RT	20.92	4+285.26	29.06 LT	20.82			49.9 51.7						0.20%	
P-10	4+559.84	27.61 RT	3.71	4+580.43	31.72 LT	2.09							63.1 62.7		2.58%	SEE NOTES 2,3
P-11	4+653.32	26.30 RT	2.62	4+663.55	25.98 LT	1.61							53.6 53.3		1.91%	SEE NOTES 2,3
P-12	XXX	XXX	XXX	XXX	XXX	XXX										NOT IN CONTRACT
P-13	4+888.01	13.94 RT	7.00	4+888.41	12.57 LT	6.68			25.7 26.5						1.21%	
P-14	4+951.51	14.08 RT	7.99	4+951.82	11.24 LT	7.85		25.1 25.3							0.55%	
P-15	5+005.62	12.38 RT	7.99	5+004.25	14.99 LT	5.64			25.5 25.0						7.99%	
P-16	5+036.29	13.53 RT	7.79	5+033.49	12.49 LT	7.00	24.8 26.3								3.01%	
P-17A	5+123.00	13.40 RT	8.41	5+132.02	12.56 LT	7.10			27.43 27.6						3.66%	SEE NOTES 2
P-17B	5+121.18	12.79 RT	8.41	5+129.89	12.34 LT	7.10	26.0								4.23%	SEE NOTES 2
P-18	5+187.66	17.83 RT	7.13	5+179.21	14.33 LT	6.05					33.7 33.4				3.26%	SEE NOTES 2
P-19	5+228.75	14.69 RT	6.87	5+224.87	14.69 LT	5.96						29.7			3.06%	
ALLOWANCE							60.0									
TOTALS							134.7 237.2	51.0 50.6	75.4 77.6	51.2 51.5	27.43 27.6	33.7 33.4	29.7	116.7 116.0		

## 603(Varies) Approach Culvert Installation Summary\*

PIPE	STATION	OFFSET	SIZE 450mm HDPE	SIZE 600mm HDPE	SIZE 900mm HDPE	GRADE	REMARKS
P-52	3+729.318	-35.252	-	-	18.83466	-	
P-55	3+653.629	11.631	-	9.121.7	-	-	
P-56	3+815.073	12.073	9.411.23	-	-	-	
P-57	3+858.845	12.125	9.8 6.3	-	-	-	
P-57a	3+980	12	6.3	-	-	-	
P-58A	4+036.449	-13.000	-	8.5 12.5	-	-	
P-58B	4+097.443	-13.926	-	11.5 12.6	-	-	3+985 Left.
P-58C	4+190.944	-17.201	-	15.5 14.2	-	-	
P-59	4+535.794	23.603	-	24.7 24.9	-	-	
P-59A	4+549.512	-19.098	-	24.5 37.3	-	30.0%	(37.3)
P-60	4+709.403	33.402	-	-	20.0 20.7	-	
P-61	4+791.945	15.461	-	17.2 18.7	-	-	
P-62	5+262.787	13.737	-	21.2 21.18	-	-	
P-62A	5+303.563	56.818	-	18.7 18.8	-	-	
P-63	4+120	12.	6.3	-	-	-	Traffic Counter
P-56A	1+020			7.7			Driveway "C"
P-58 D	4+280	22.		12.6			Driveway on "F" Line (P-59B)
P-59 B	1+220	6.		6.1			" " " "
ALLOWANCE			60.0				
TOTALS			79.2 23.83	208.28 148.9 207.98	38.8 55.36		

\*INSTALL 100MM BELOW ADJACENT DITCH GRADE UNLESS OTHERWISE INDICATED

### CULVERT INSTALLATION NOTES:

- ALL CULVERTS MUST BE INSTALLED AS PRESCRIBED IN THE ENVIRONMENTAL COMMITMENTS.
- FISH CULVERT; SEE "G" SHEETS FOR ADDITIONAL DETAILS. PIPES MAY REQUIRE BAFFLES AND/OR OUTLET POOL AS SHOWN. SET ROCK WIER HEIGHT TO PROVIDE 0.6 METER BACK WATER EFFECT AT OUTLET OF PIPE. ALL PIPES REQUIRING BAFFLES SHALL BE ALUMINUM STRUCTURAL PLATE.
- ALUMINUM STRUCTURAL PLATE ROUND PIPE, 230 x 63 MILLIMETER CORRUGATION, WITH MINIMUM THICKNESS OF 5 MILLIMETERS. (0.200")

## 604(5) Drainage Structure Summary

STRUCTURE	STATION	OFFSET	FUNCTION	TYPE	GRADE/LID ELEVATION	REMARKS
S-1	3+447.71	5.40 RT	-	CURB INLET	7.13	TYPE II MANHOLE, 600mm SUMP

NO CASTING REQ'D, PARTIAL CONSTRUCTION, INSTALL STEEL PLATE, BACKFILL, AND PAVE AS 643(29) DETOUR PAVEMENT

PATH: Q:\Klin\67600\PlanSet\A1\_G1\_01-3\_P\_Summary.dwg  
Mon, 19/Apr/04 01:54PM Irobertson

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ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION

**KETCHIKAN**  
**N. TONGASS HIGHWAY**  
**WARD TO WHIPPLE STAGE 1**  
**PROJECT NO. 68536**

**Miscellaneous Summaries**

CHECKED BY:



DESIGNED BY: Russell Kraemer

DRAWN BY: Leonard Robertson

STATE OF ALASKA  
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES  
STATEWIDE DESIGN & ENGINEERING SERVICES DIVISION

**KETCHIKAN**  
**N. TONGASS HIGHWAY**  
**WARD TO WHIPPLE**  
**STAGE 1**

**Miscellaneous Summaries**

PROJECT DESIGNATION NUMBER

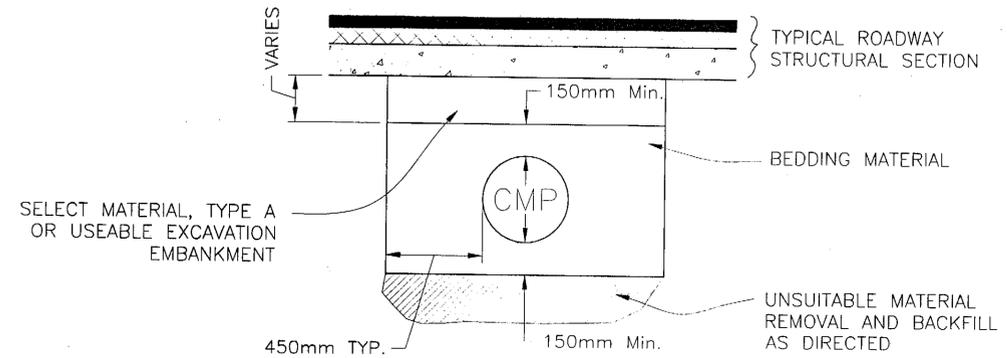
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STATE	YEAR
ALASKA	2004
SHEET NUMBER	TOTAL SHEETS
<b>D2</b>	<b>65</b>

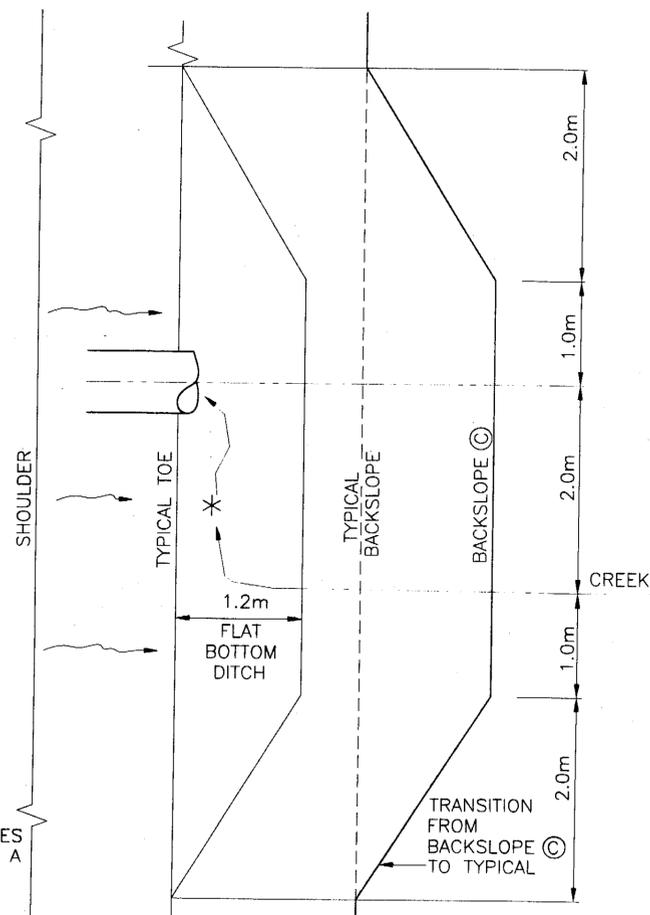
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ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION

**DITCH TRANSITION NOTES:**

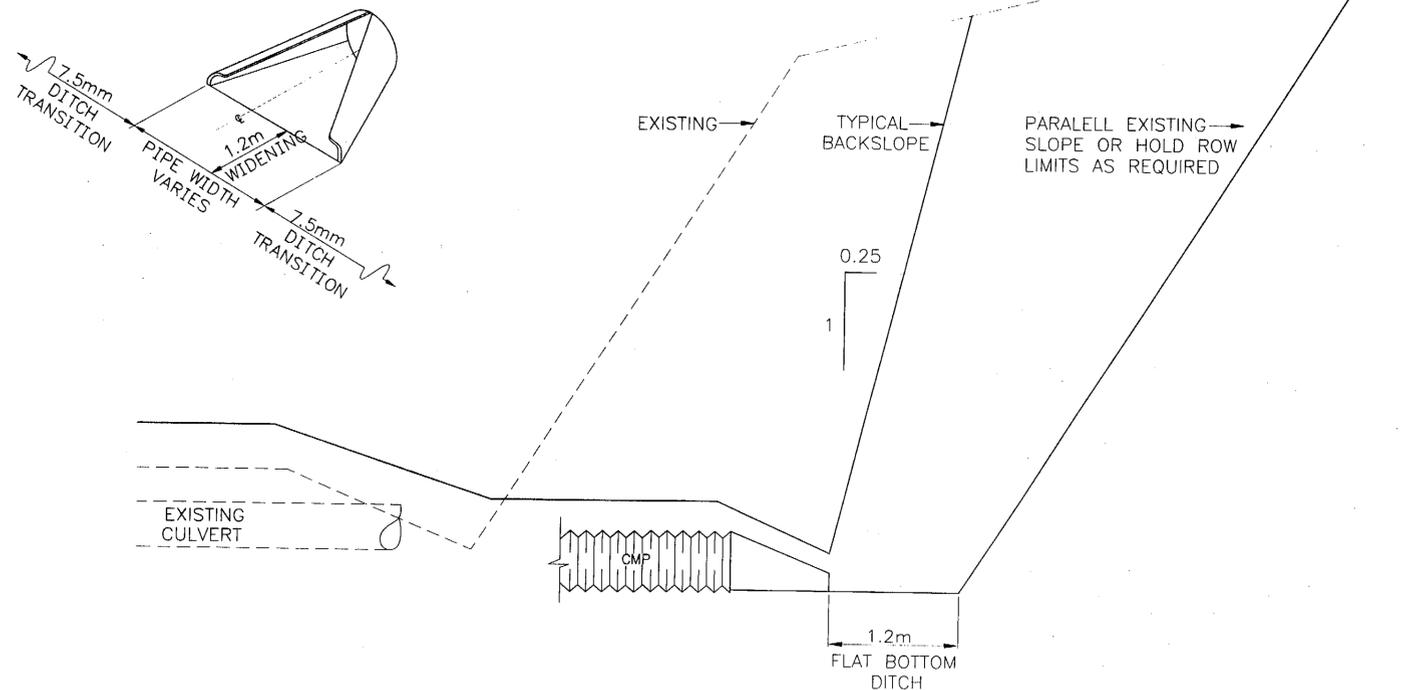
- SEE STANDARD DRAWING D-06.10[M] FOR CULVERT END SECTION DETAIL.
- STANDARD DITCH TRANSITIONS FROM V BOTTOM DITCH TO 1.2m FLAT BOTTOM DITCH 7.5m EITHER SIDE OF PIPE INLET.
- AT THE DIRECTION OF THE ENGINEER, PERMANENT DITCH BLOCKS MAY BE REQUIRED AT LOCATIONS OTHER THAN THOSE SPECIFIED. PERMANENT DITCH BLOCKS ARE CONSIDERED INCIDENTAL TO SECTION 603 AND NO SEPARATE MEASUREMENT OR PAYMENT WILL BE MADE.
- LINE DITCHES WITH CLASS I RIPRAP AS REQUIRED TO CONTROL EROSION AND STABILIZE CHANNEL.
- TRANSITION NEW DITCH SMOOTHLY TO MATCH EXISTING CONDITIONS AS DIRECTED BY THE ENGINEER.
- PIPE END SECTIONS, WHERE SPECIFIED, SHALL BE INSTALLED ON THE INLET END OF PIPES.



**Typical Pipe Trenching  
And Bedding Detail**



**Plan View  
Creek Crossing in Cut Section**



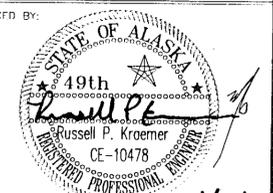
**Section View  
Creek Crossing in Cut Section**

\*CULVERT INLET MAY BE EITHER UP STATION OR DOWN STATION FROM CREEK, WHICH EVER PROVIDES FOR THE BEST INSTALLATION, WITH A MINIMUM 2 METERS SEPARATION.

KETCHIKAN  
 N. TONGASS HIGHWAY  
 WARD TO WHIPPLE STAGE 1  
 PROJECT NO. 68536

**Miscellaneous Details**

CHECKED BY:



DESIGNED BY: Russell Kroemer

DRAWN BY: Leonard Robertson

STATE OF ALASKA  
 DEPARTMENT OF TRANSPORTATION  
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KETCHIKAN  
 N. TONGASS HIGHWAY  
 WARD TO WHIPPLE  
 STAGE 1  
**Miscellaneous  
 Details**

PROJECT DESIGNATION NUMBER  
**STP - 0920(19) / 68536**

STATE	YEAR
ALASKA	2004

SHEET NUMBER	TOTAL SHEETS
E1	65



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RECORD OF REVISIONS		
No.	DATE	DESCRIPTION

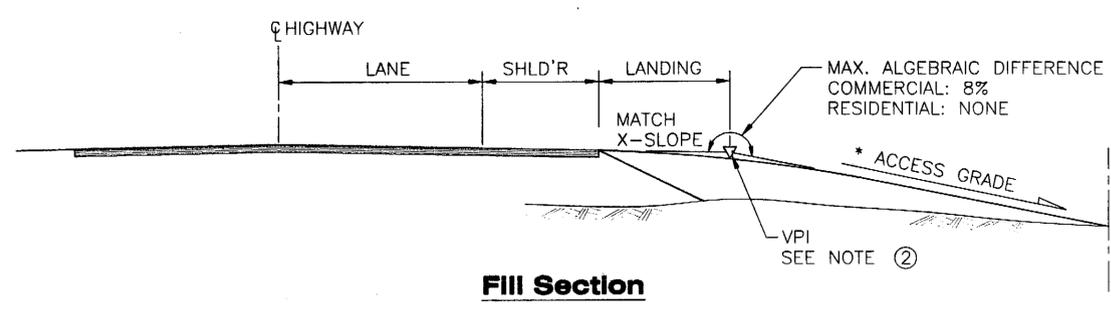
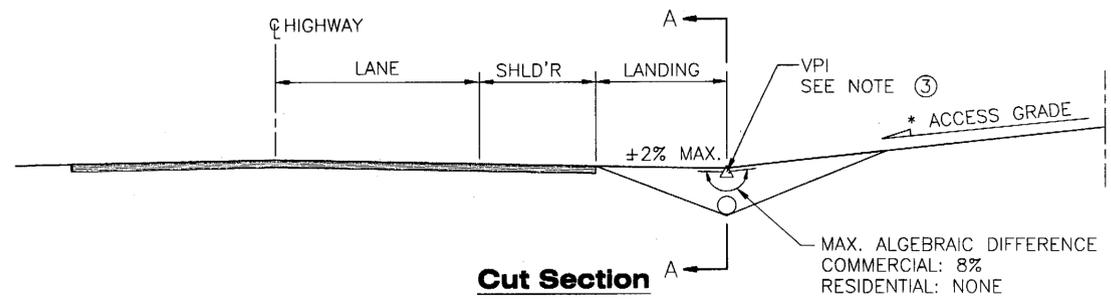
**KETCHIKAN**  
**N. TONGASS HIGHWAY**  
**WARD TO WHIPPLE STAGE 1**  
**PROJECT NO. 68536**  
**Miscellaneous Details**

CHECKED BY:

DESIGNED BY: Russel Kraemer  
 DRAWN BY: Leonard Robertson

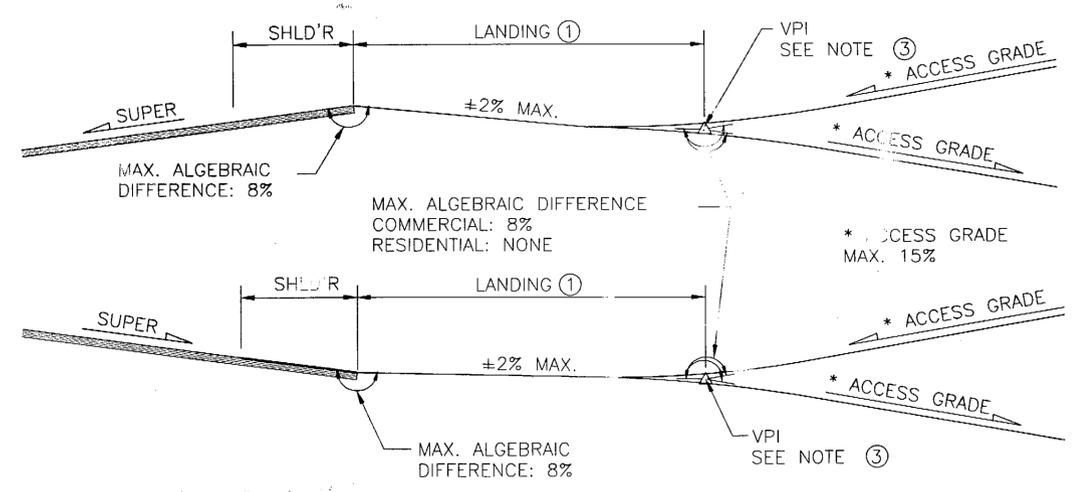
STATE OF ALASKA  
 DEPARTMENT OF TRANSPORTATION  
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 STATEWIDE DESIGN & ENGINEERING  
 SERVICES DIVISION  
**KETCHIKAN**  
**N. TONGASS HIGHWAY**  
**WARD TO WHIPPLE**  
**STAGE 1**  
**Miscellaneous**  
**Details**

PROJECT DESIGNATION NUMBER	
<b>STP - 0920(19) / 68536</b>	
STATE	YEAR
<b>ALASKA</b>	<b>2004</b>
SHEET NUMBER	TOTAL SHEETS
<b>E3</b>	<b>65</b>

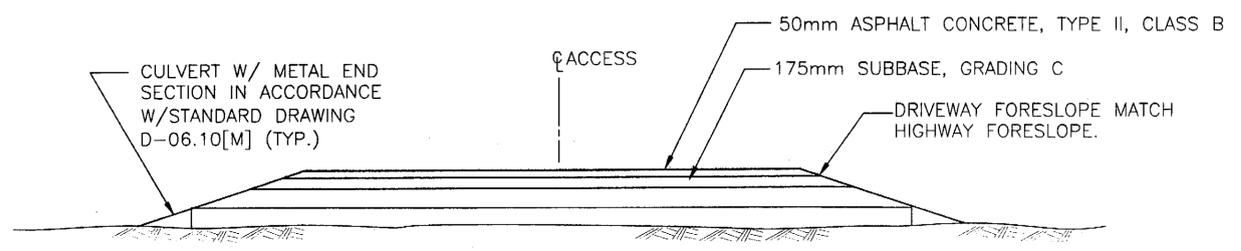


**Rural Driveway Profiles**

\* ACCESS SLOPE  
 MAX. 15%



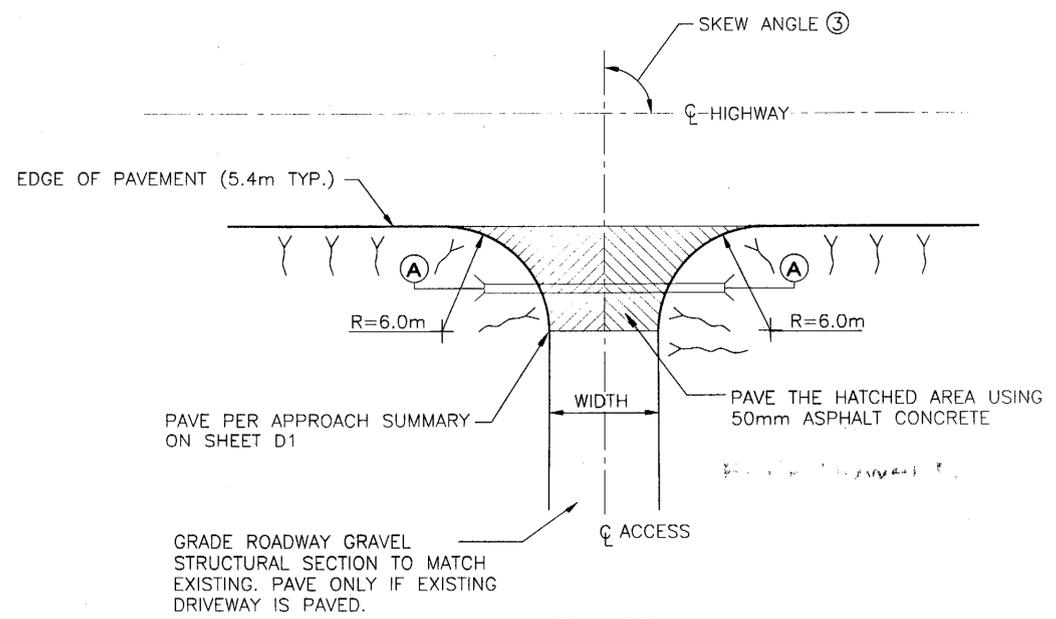
**Driveway Profiles With Super**



**Section A-A**  
**Driveway Typical**

LANDING TABLE	
DRIVEWAY TYPE	LENGTH ①
RESIDENTIAL	3m
COMMERCIAL	9m

- NOTES:**
- SEE PLANS, OTHERWISE USE LANDING TABLE.
  - DRIVEWAY VERTICAL CURVES REQUIREMENTS:  
 CREST- 19mm MAXIMUM HUMP IN 3m CHORD  
 SAG-50.8mm MAXIMUM DEPRESSION IN 3m CHORD
  - THE SKEW ANGLE IS DEFINED AS A RIGHT ANGLE OR THE ACUTE ANGLE OF THE INTERSECTING CENTERLINES. IN NO CASE SHALL THE SKEW ANGLE BE LESS THAN 60 DEGREES.

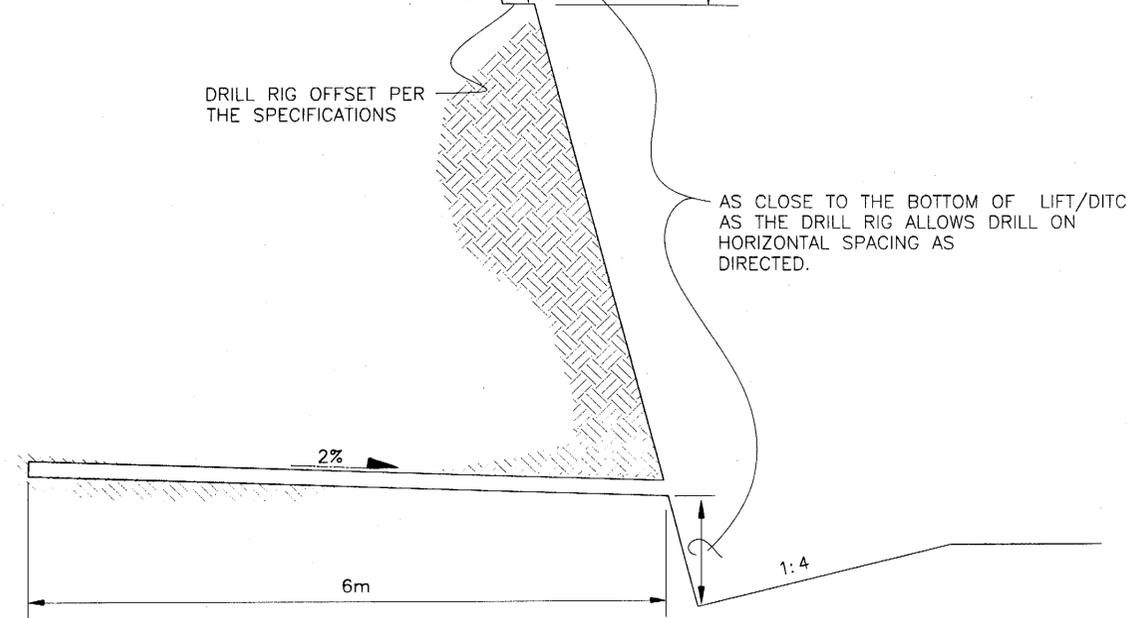
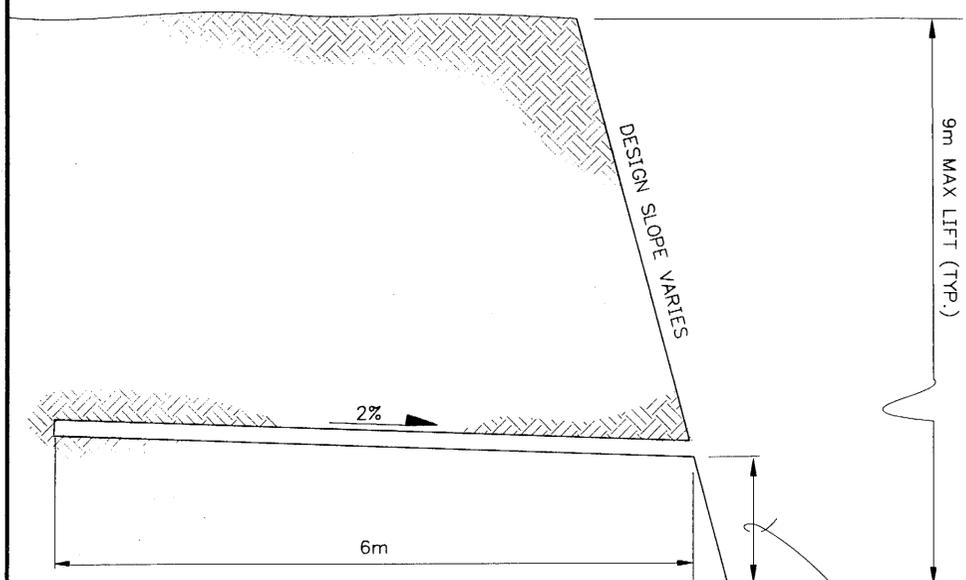


**Plan View**

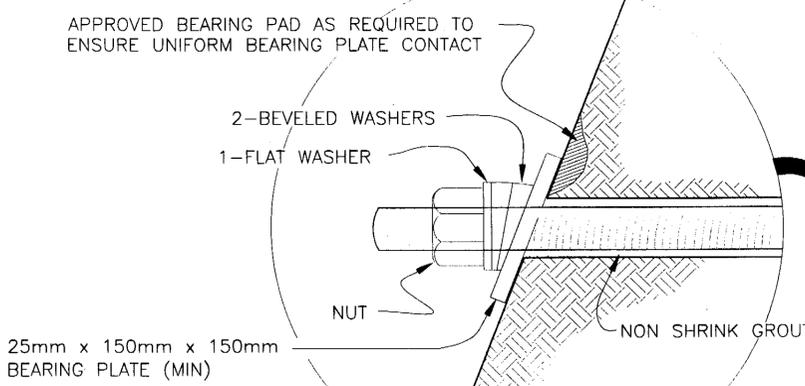
**Residential Driveway Details**

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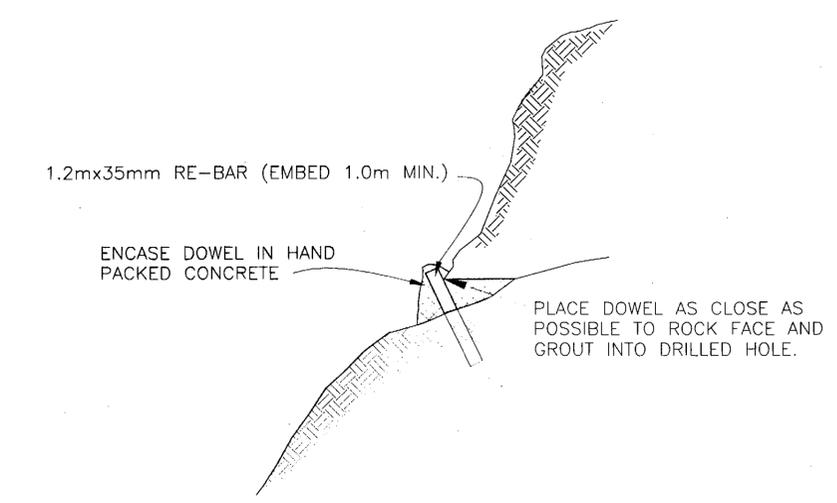
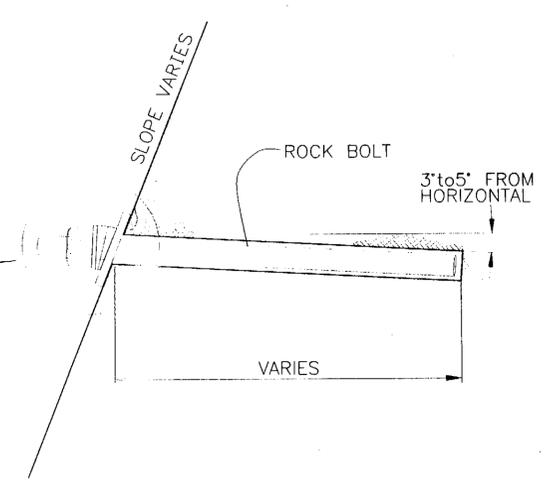
ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION



**Rock Slope Drain Hole Detail**



**Rock Bolt Detail**



**Rock Dowel Typical**

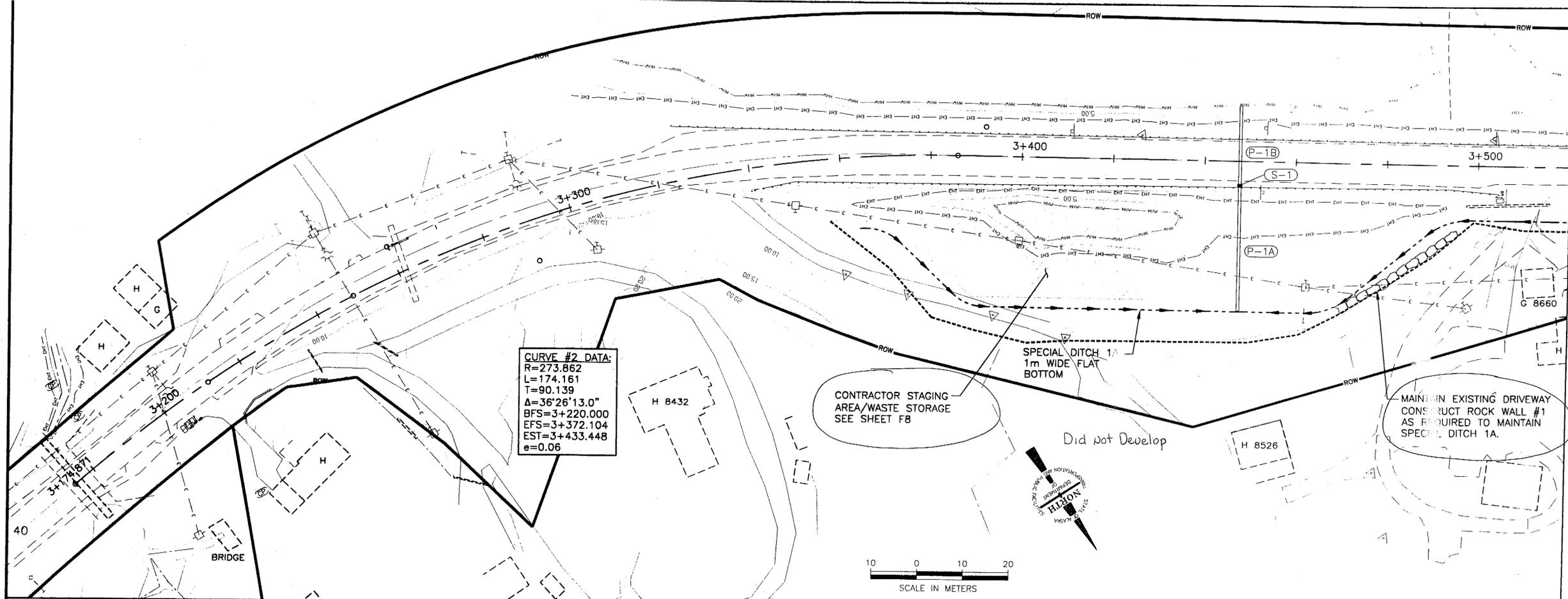
**KETCHIKAN**  
**N. TONGASS HIGHWAY**  
**WARD TO WHIPPLE STAGE 1**  
**PROJECT NO. 68536**  
**Miscellaneous Details**

CHECKED BY:

DESIGNED BY: Russell Kroemer  
 DRAWN BY: Leonard Robertson

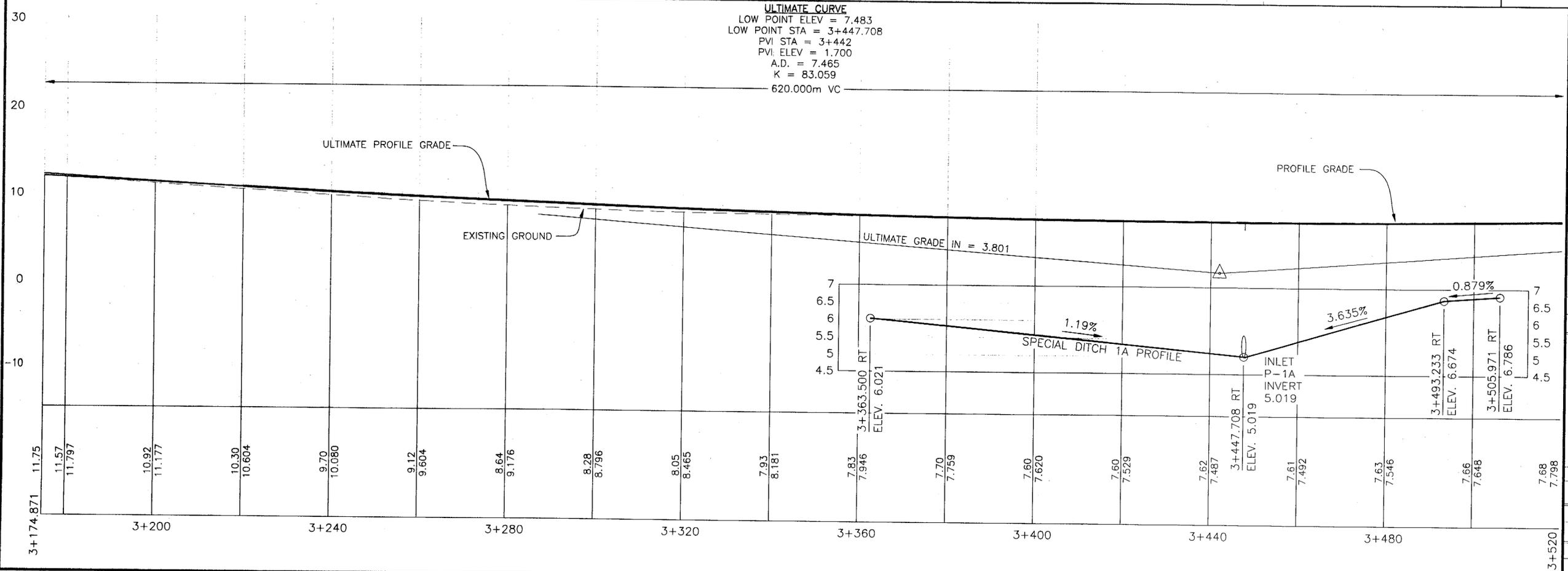
STATE OF ALASKA  
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**KETCHIKAN**  
**N. TONGASS HIGHWAY**  
**WARD TO WHIPPLE**  
**STAGE 1**  
**Miscellaneous**  
**Details**

PROJECT DESIGNATION NUMBER	
STP - 0920(19) / 68536	
STATE	YEAR
ALASKA	2004
SHEET NUMBER	TOTAL SHEETS
E4	65



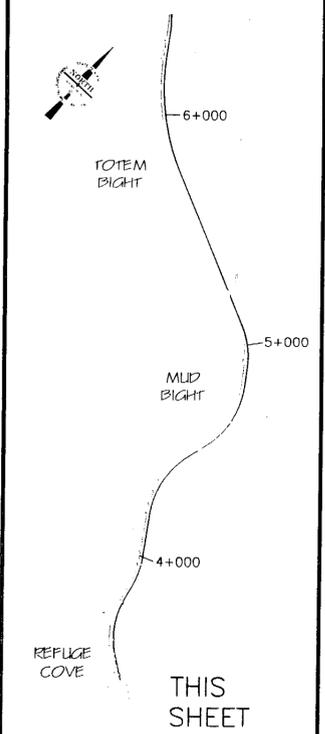
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 L=174.161  
 T=90.139  
 Δ=36°26'13.0"  
 BFS=3+220.000  
 EFS=3+372.104  
 EST=3+433.448  
 e=0.06

**ULTIMATE CURVE**  
 LOW POINT ELEV = 7.483  
 LOW POINT STA = 3+447.708  
 PVI STA = 3+442  
 PVI ELEV = 1.700  
 A.D. = 7.465  
 K = 83.059  
 620.000m VC



Matchline Sta. 3+520

ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION



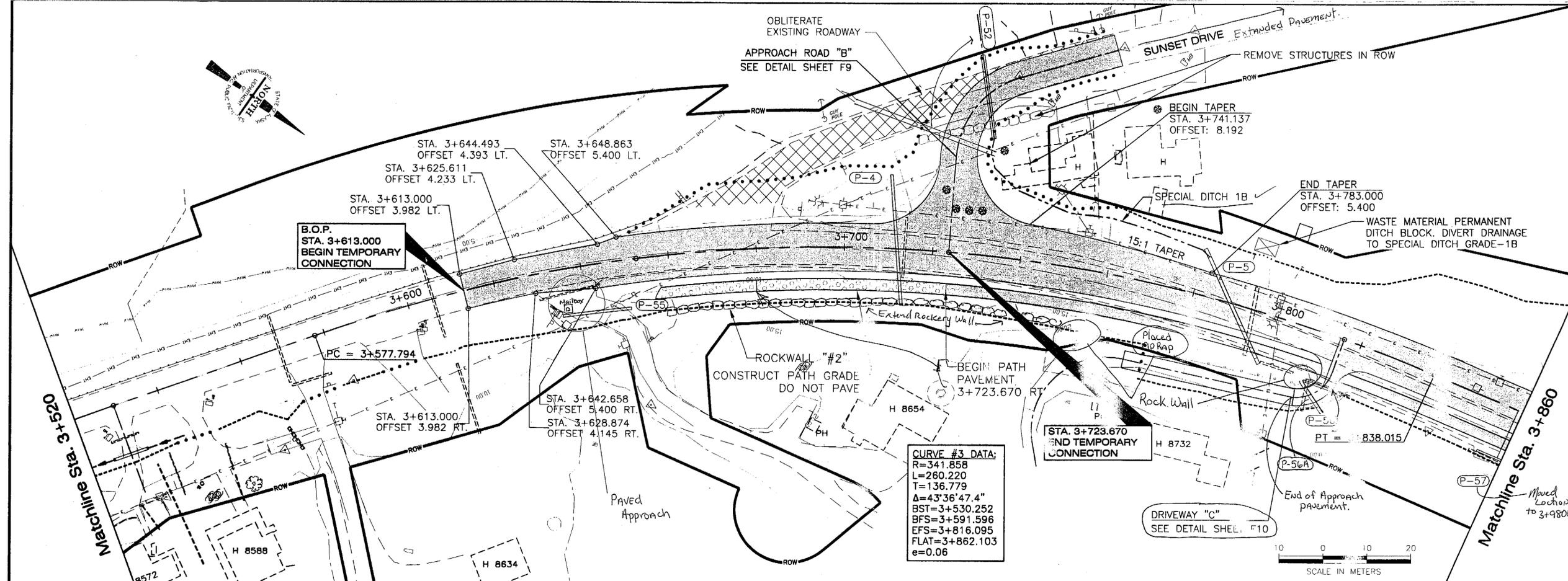
B.O.P. TO 3+520  
 CHECKED BY: *[Signature]*

DESIGNED BY: Russel Kraemer  
 DRAWN BY: Leonard Robertson

STATE OF ALASKA  
 DEPARTMENT OF TRANSPORTATION  
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 STATEWIDE DESIGN & ENGINEERING  
 SERVICES DIVISION  
**KETCHIKAN**  
**N. TONGASS HIGHWAY**  
**WARD TO WHIPPLE**  
**STAGE 1**

**Plan & Profile**

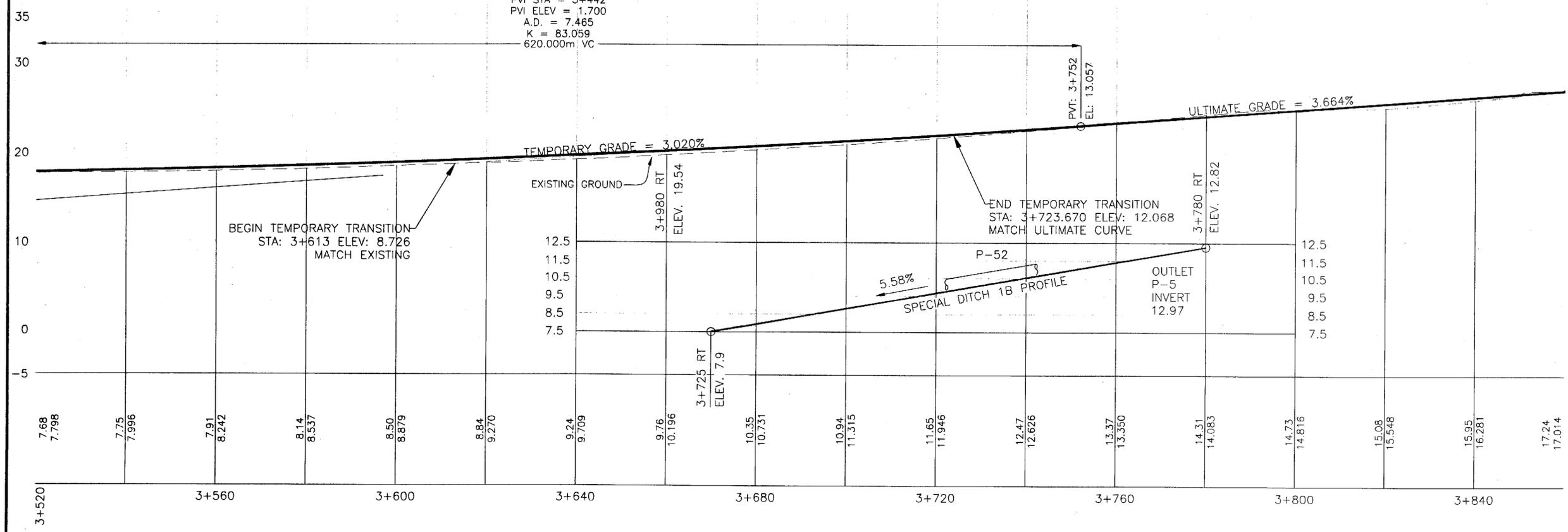
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STATE	YEAR
<b>ALASKA</b>	<b>2004</b>
SHEET NUMBER	TOTAL SHEETS
<b>F1</b>	<b>65</b>



**CURVE #3 DATA:**  
 R=341.858  
 L=260.220  
 T=136.779  
 Δ=43°36'47.4"  
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 e=0.06

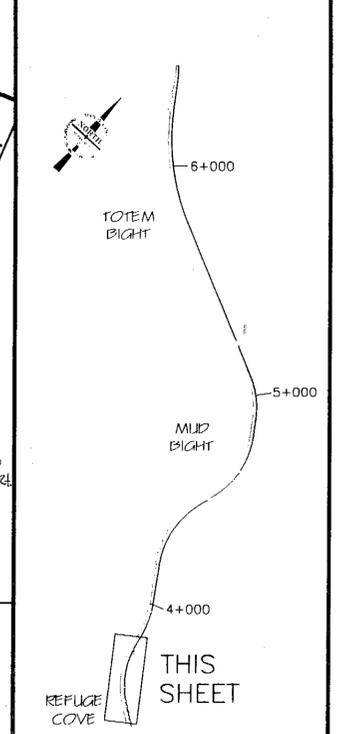
**ULTIMATE CURVE**

LOW POINT ELEV = 7.483  
 LOW POINT STA = 3+447.708  
 PVI STA = 3+442  
 PVI ELEV = 1.700  
 A.D. = 7.465  
 K = 83.059  
 620.000m VC



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ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION



**STA. 3+520 TO 3+860**

CHECKED BY:

DESIGNED BY: Pussell Kraemer  
 DRAWN BY: Leonard Pobertson

STATE OF ALASKA  
 DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES  
 STATEWIDE DESIGN & ENGINEERING SERVICES DIVISION  
**KETCHIKAN  
 N. TONGASS HIGHWAY  
 WARD TO WHIPPLE  
 STAGE 1**

**Plan & Profile**

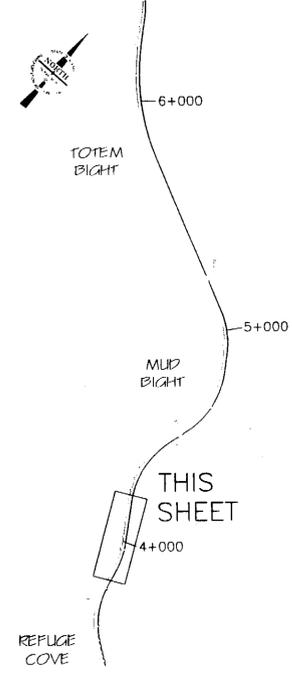
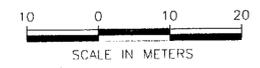
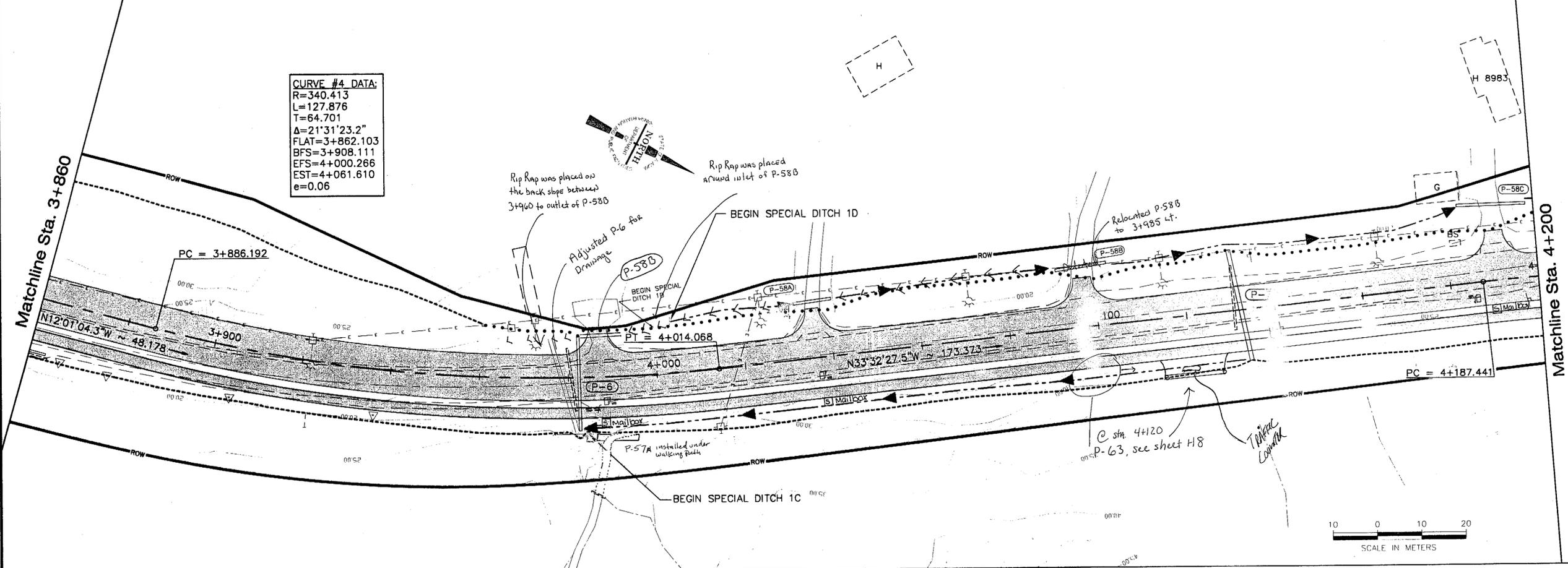
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STATE	YEAR
<b>ALASKA</b>	<b>2004</b>
SHEET NUMBER	TOTAL SHEETS
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No.	DATE	DESCRIPTION

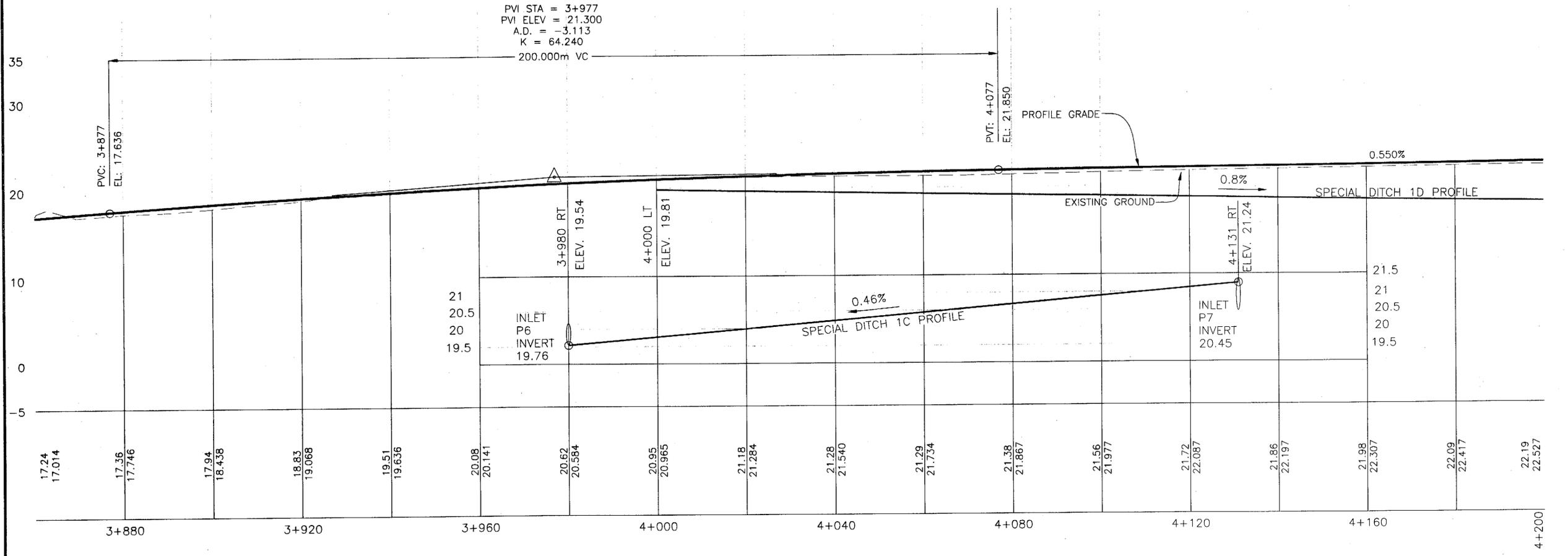
Matchline Sta. 3+860

Matchline Sta. 4+200

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 FLAT=3+862.103  
 BFS=3+908.111  
 EFS=4+000.266  
 EST=4+061.610  
 e=0.06



PVI STA = 3+977  
 PVI ELEV = 21.300  
 A.D. = -3.113  
 K = 64.240



STA. 3+860 TO 4+180

CHECKED BY:

4/13/04

DESIGNED BY: Russell Kroemer

DRAWN BY: Leonard Robertson

STATE OF ALASKA  
 DEPARTMENT OF TRANSPORTATION  
 & PUBLIC FACILITIES  
 STATEWIDE DESIGN & ENGINEERING  
 SERVICES DIVISION

**KETCHIKAN  
 N. TONGASS HIGHWAY  
 WARD TO WHIPPLE  
 STAGE 1**

**Plan & Profile**

PROJECT DESIGNATION NUMBER

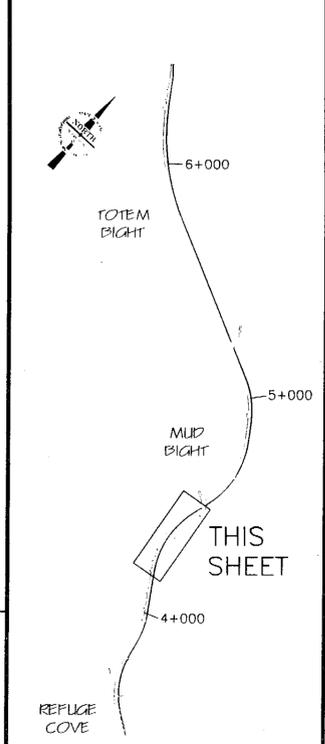
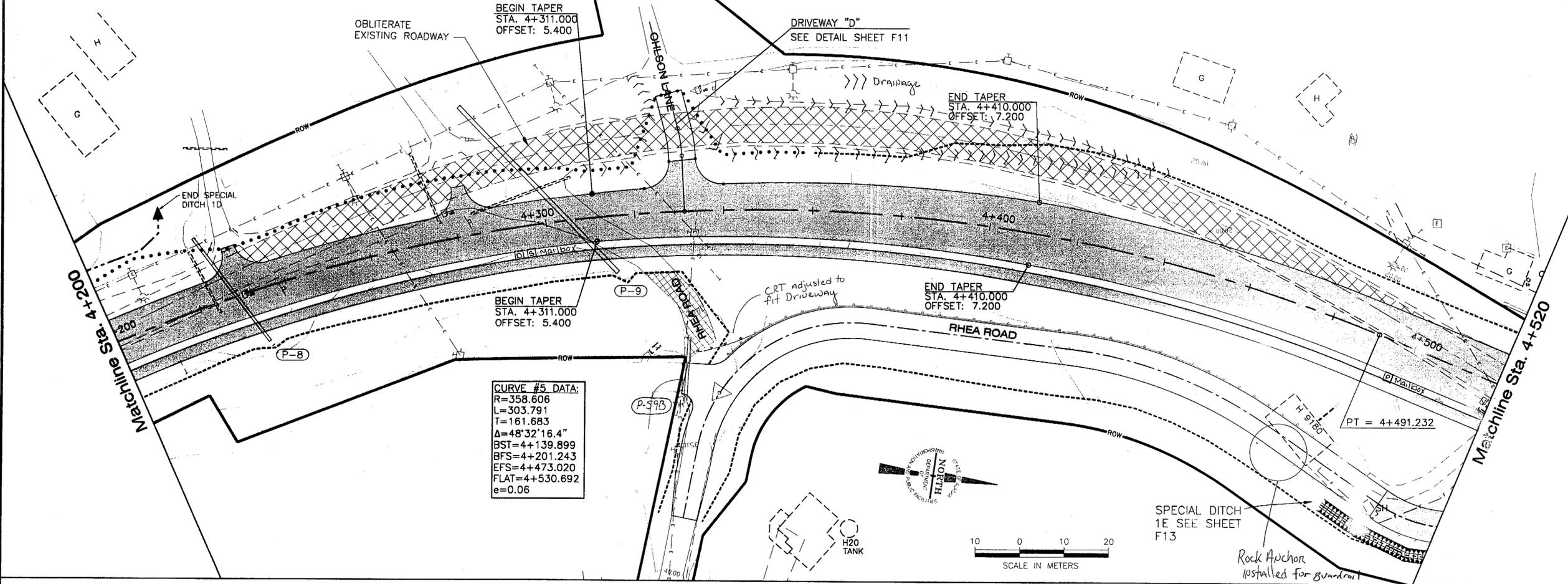
**STP - 0920(19) / 68536**

STATE	YEAR
<b>ALASKA</b>	<b>2004</b>

SHEET NUMBER	TOTAL SHEETS
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RECORD OF REVISIONS		
No.	DATE	DESCRIPTION



STA. 4+180 TO 4+520

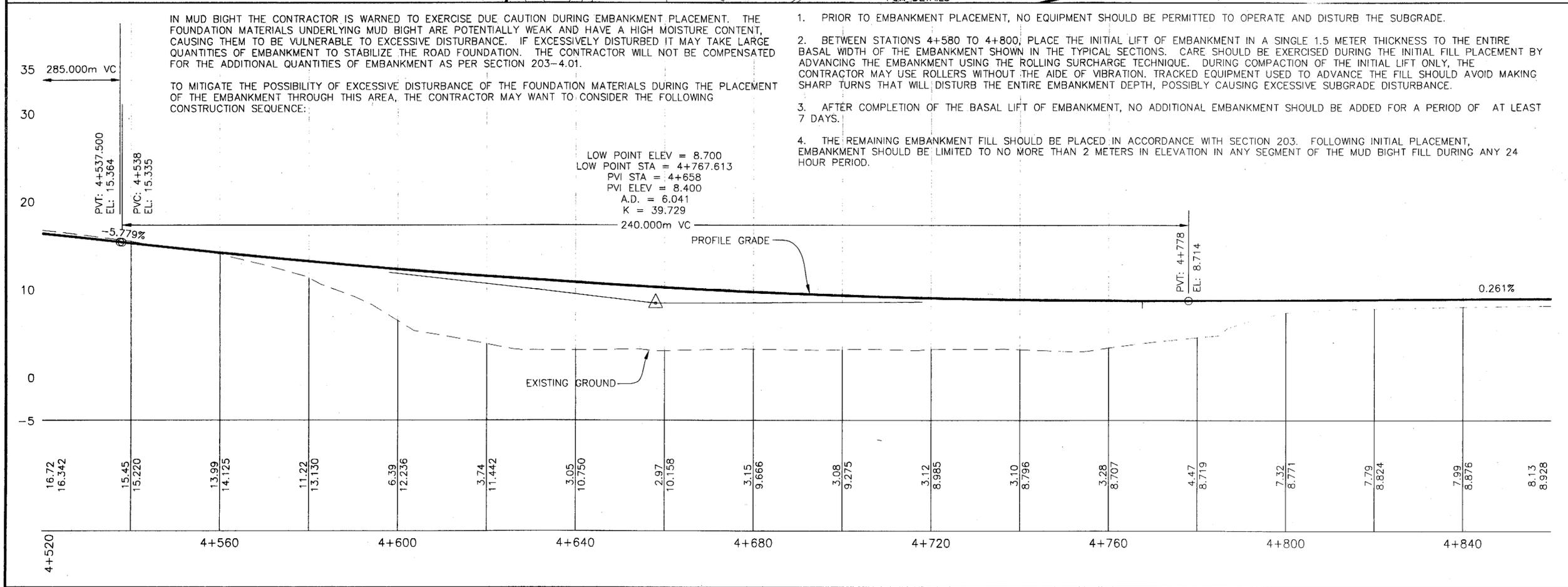
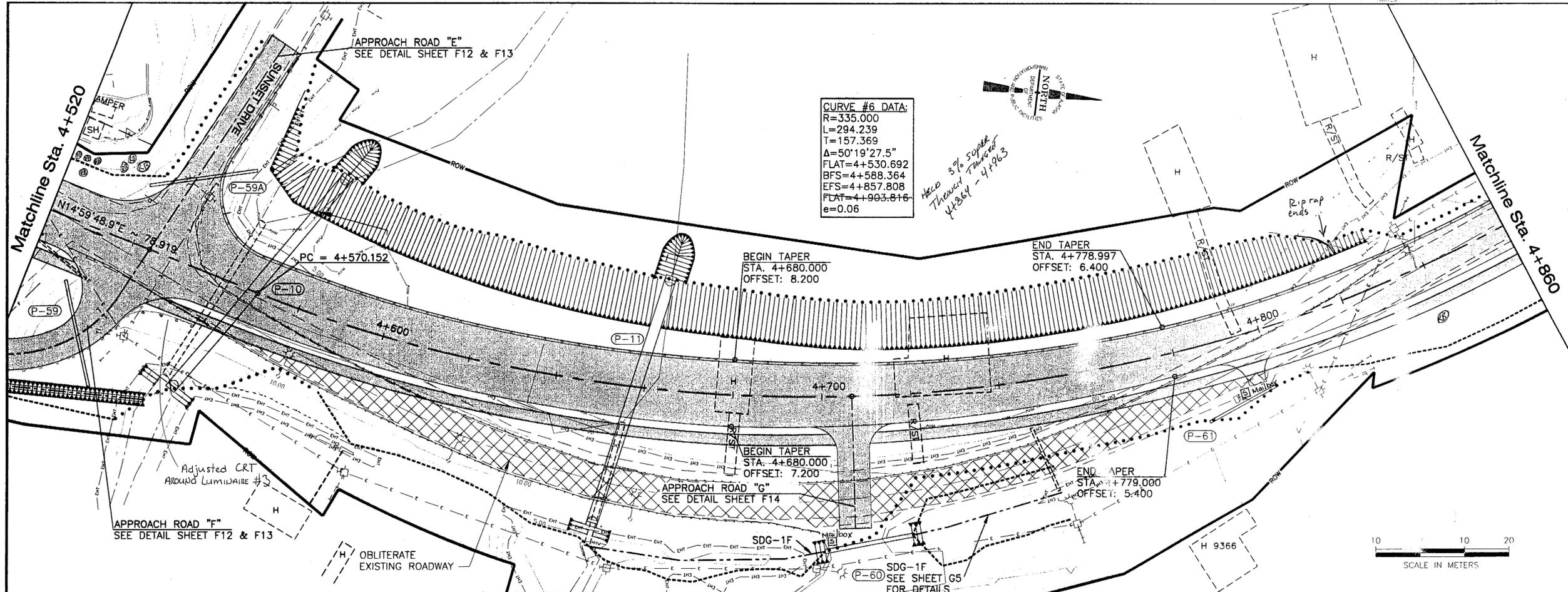
CHECKED BY:

DESIGNED BY: Russell Kroemer  
 DRAWN BY: Leonard Robertson

STATE OF ALASKA  
 DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES  
 STATEWIDE DESIGN & ENGINEERING SERVICES DIVISION  
**KETCHIKAN**  
**N. TONGASS HIGHWAY**  
**WARD TO WHIPPLE**  
**STAGE 1**

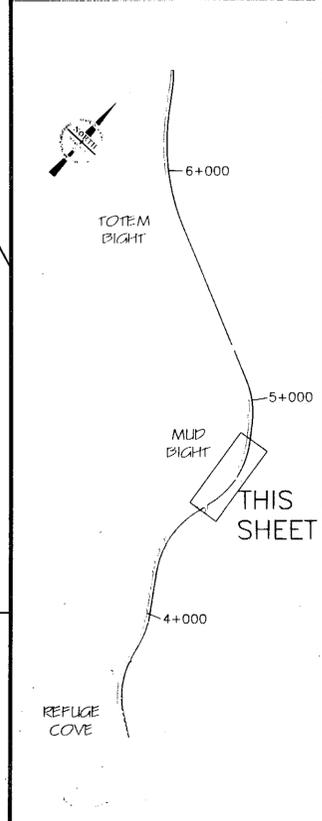
**Plan & Profile**

PROJECT DESIGNATION NUMBER	
STP - 0920(19) / 68536	
STATE	YEAR
ALASKA	2004
SHEET NUMBER	TOTAL SHEETS
F4	65



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ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION



**STA. 4+520 TO 4+860**

CHECKED BY:

DESIGNED BY: Russell Kraemer  
 DRAWN BY: Leonard Robertson

STATE OF ALASKA  
 DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES  
 STATEWIDE DESIGN & ENGINEERING SERVICES DIVISION

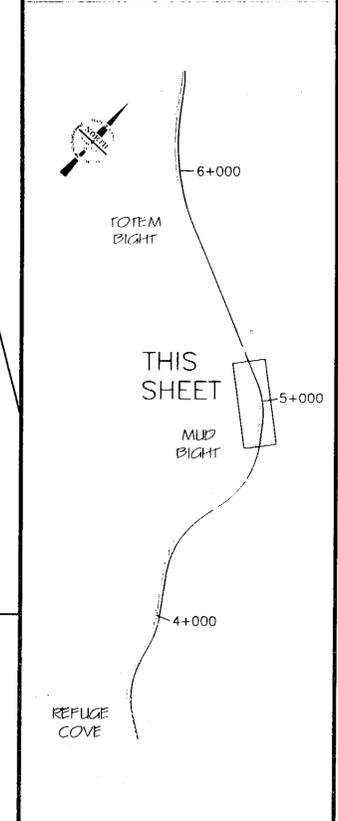
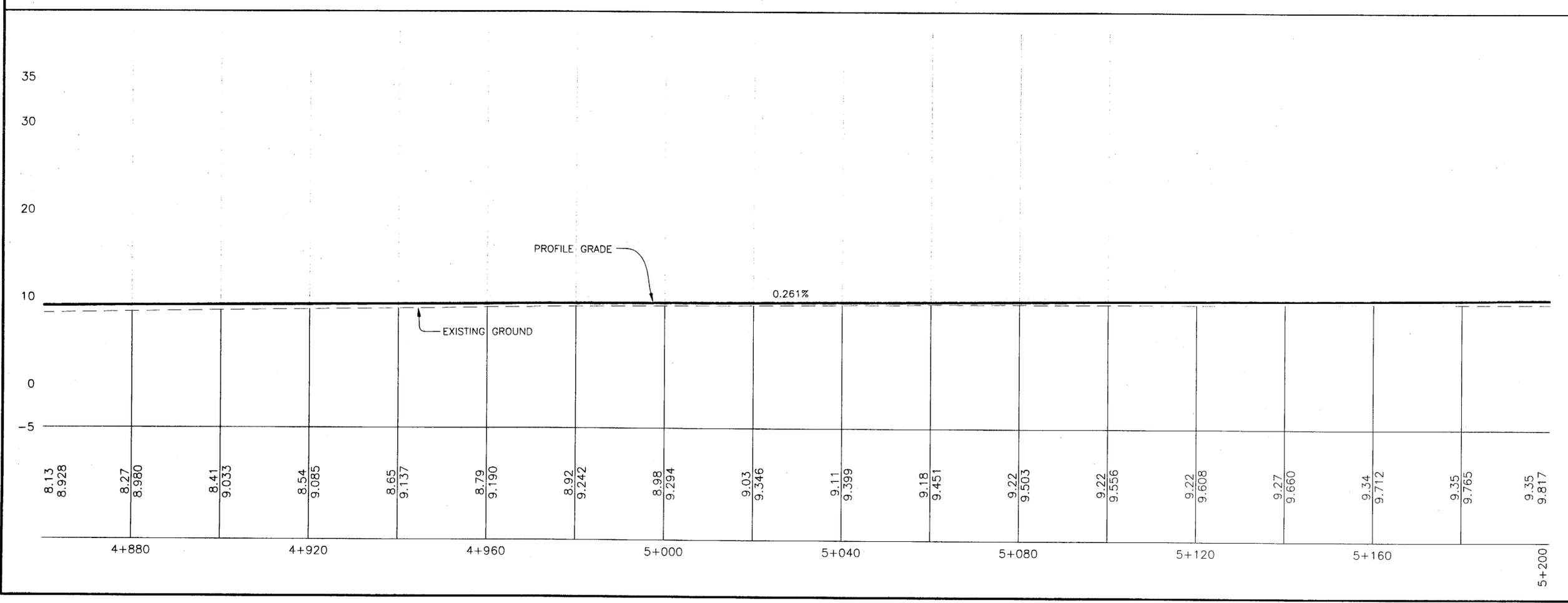
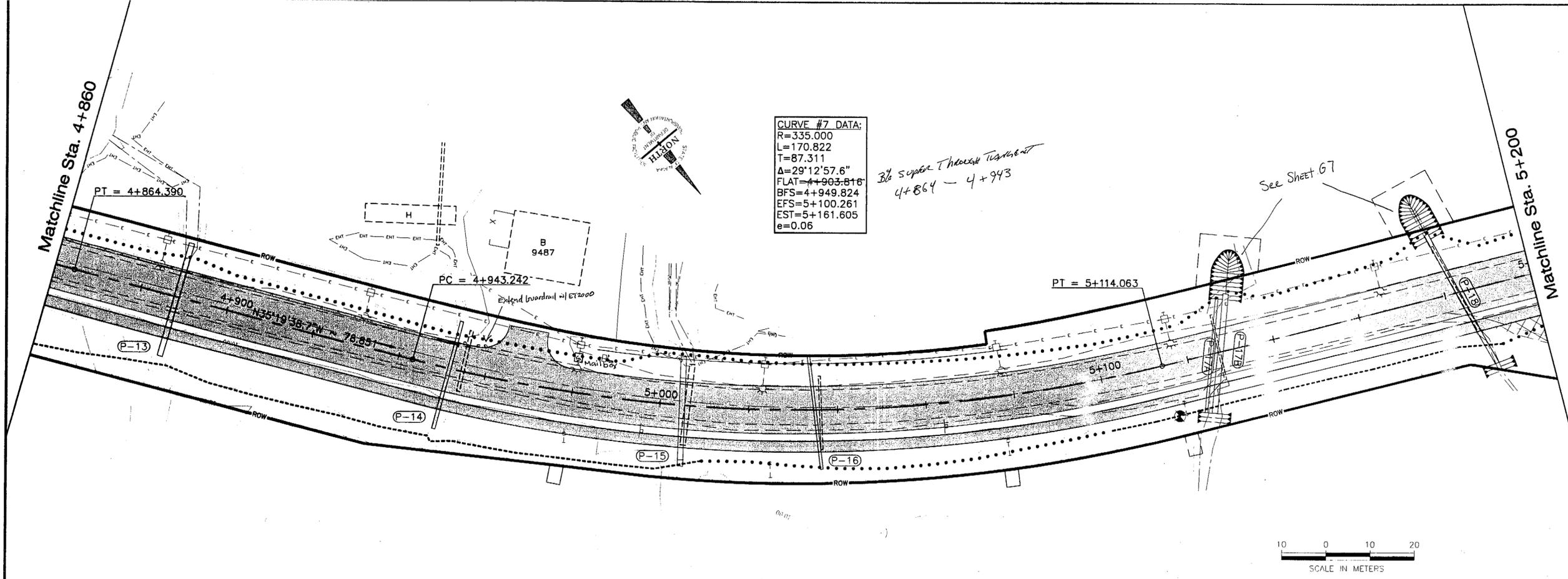
**KETCHIKAN**  
**N. TONGASS HIGHWAY**  
**WARD TO WHIPPLE**  
**STAGE 1**

**Plan & Profile**

PROJECT DESIGNATION NUMBER	
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<b>ALASKA</b>	<b>2004</b>
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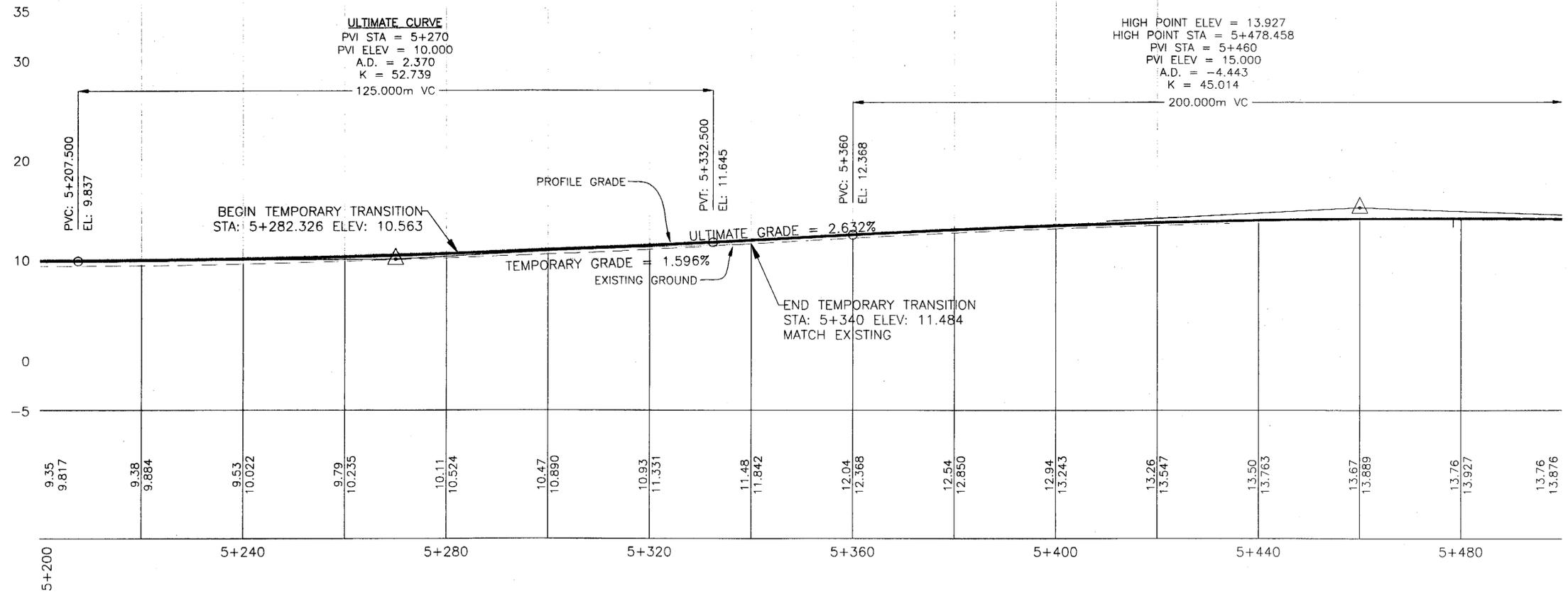
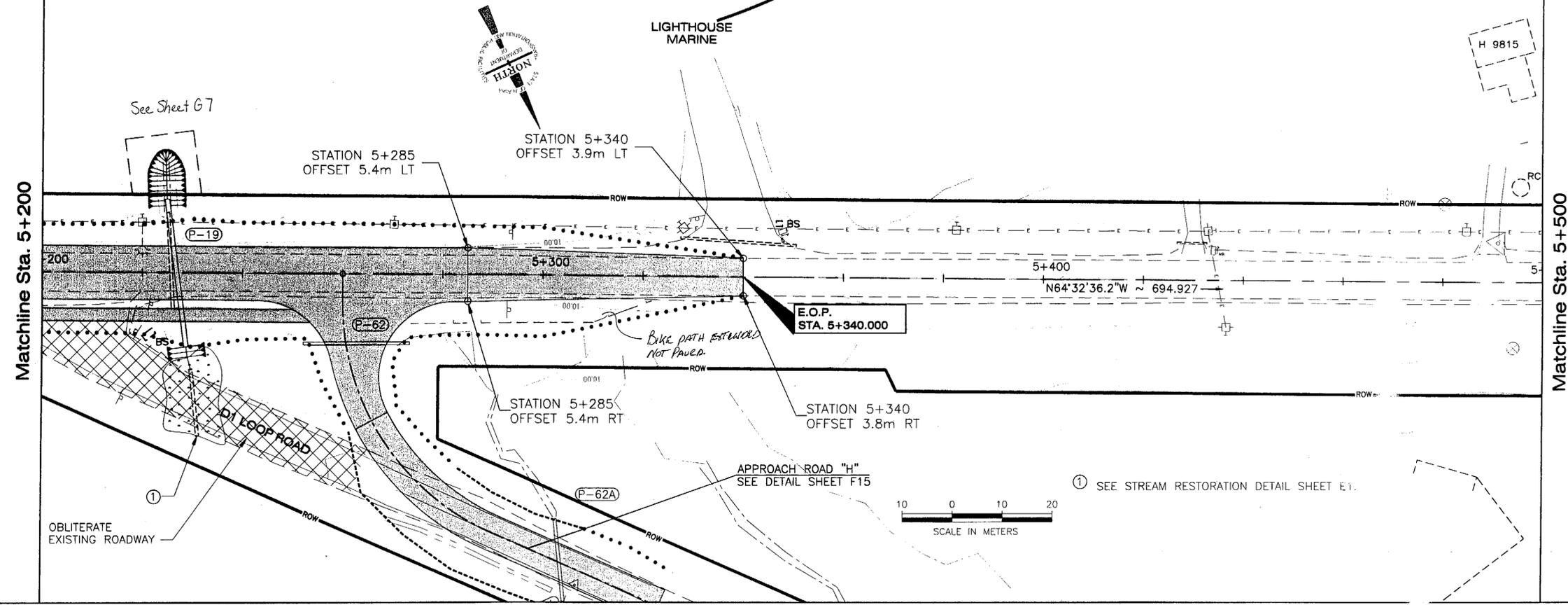
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RECORD OF REVISIONS		
No.	DATE	DESCRIPTION



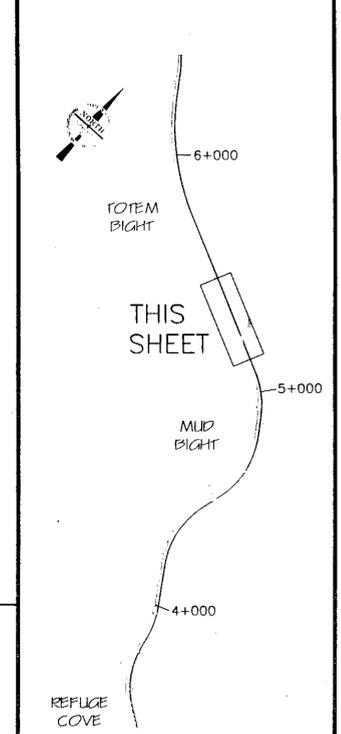
**STA. 4+860 TO 5+180**  
 CHECKED BY: *[Signature]*  
  
 DESIGNED BY: Russell Kraemer  
 DRAWN BY: Leonard Robertson  
 STATE OF ALASKA  
 DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES  
 STATEWIDE DESIGN & ENGINEERING SERVICES DIVISION  
**KETCHIKAN**  
**N. TONGASS HIGHWAY**  
**WARD TO WHIPPLE**  
**STAGE 1**  
**Plan & Profile**  
 PROJECT DESIGNATION NUMBER  
**STP - 0920(19) / 68536**  

STATE	YEAR
ALASKA	2004
SHEET NUMBER	TOTAL SHEETS
F6	65



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 TAB: F7

ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION



REFUGEE COVE  
 STA. 5+180 TO 5+500

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DESIGNED BY: Russell Kraemer  
 DRAWN BY: Leonard Robertson  
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 DEPARTMENT OF TRANSPORTATION  
 & PUBLIC FACILITIES  
 STATEWIDE DESIGN & ENGINEERING  
 SERVICES DIVISION  
**KETCHIKAN**  
**N. TONGASS HIGHWAY**  
**WARD TO WHIPPLE**  
**STAGE 1**

**Plan & Profile**

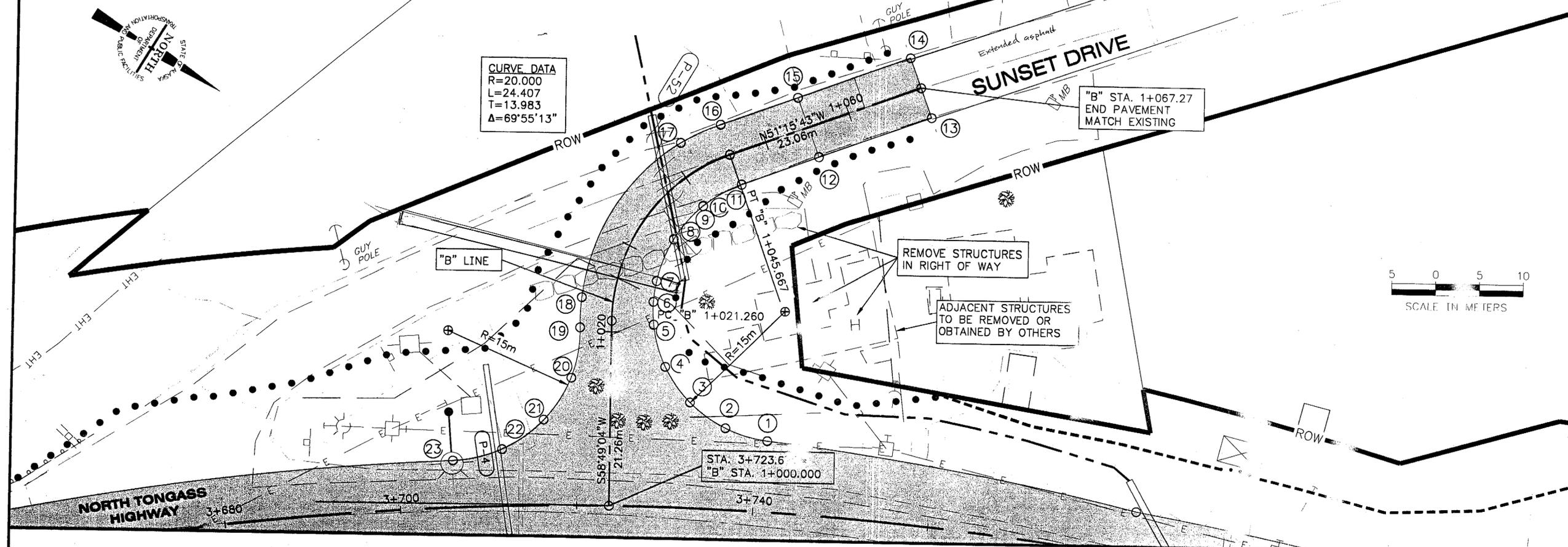
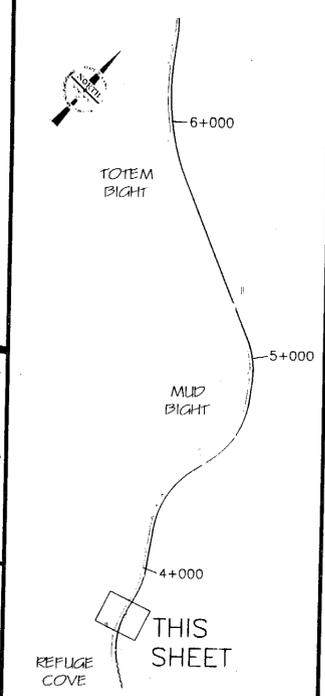
PROJECT DESIGNATION NUMBER

**STP - 0920(19) / 68536**

STATE	YEAR
<b>ALASKA</b>	<b>2004</b>
SHEET NUMBER	TOTAL SHEETS
<b>F7</b>	<b>65</b>



ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION



**CURVE DATA**  
 R=20.000  
 L=24.407  
 T=13.983  
 Δ=69°55'13"

"B" STA. 1+067.27  
 END PAVEMENT  
 MATCH EXISTING

REMOVE STRUCTURES  
IN RIGHT OF WAY

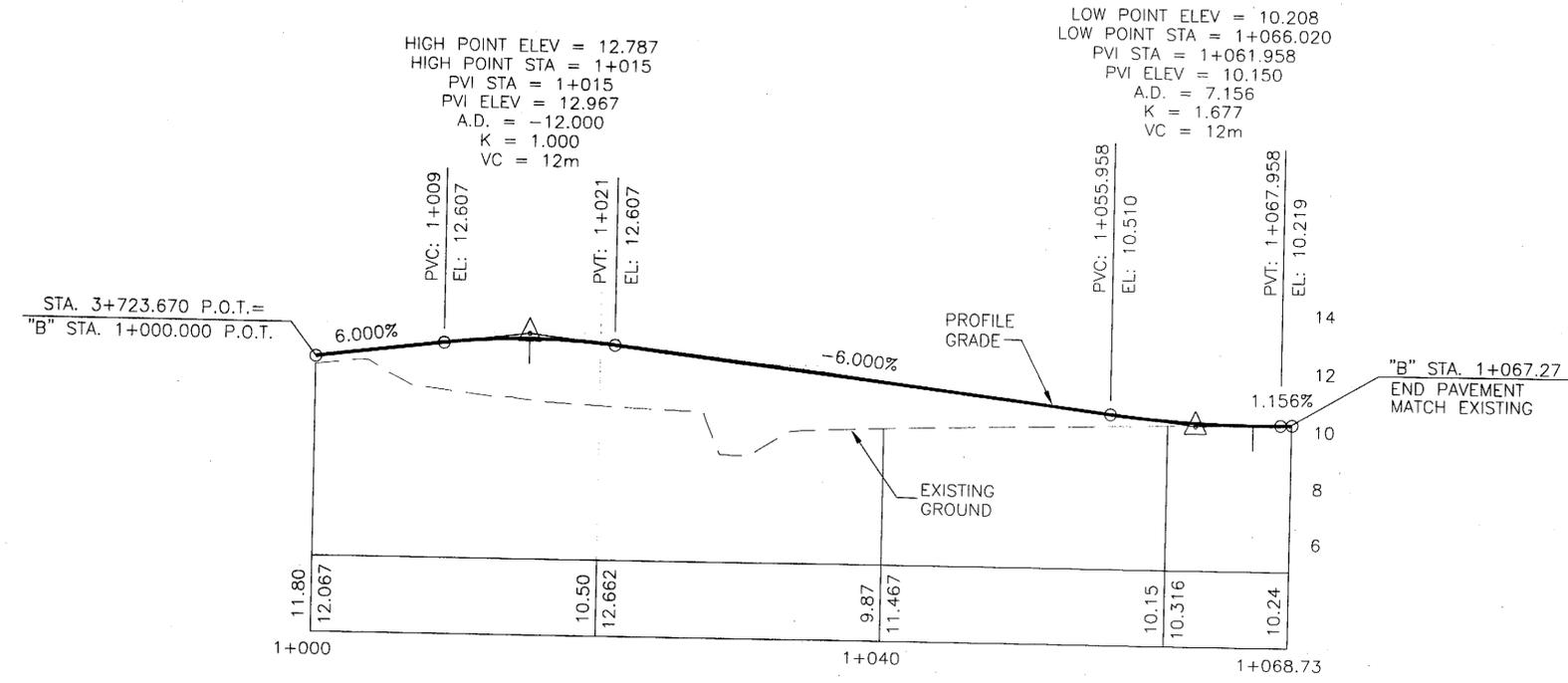
ADJACENT STRUCTURES  
TO BE REMOVED OR  
OBTAINED BY OTHERS

5 0 5 10  
 SCALE IN METERS

**"B" Line Staking Point Table**

OFFSET PT NO.	STATION	OFFSET		ELEV.	REMARKS
		LT.	RT.		
1	"B" 1+007.74		17.89	13.16	BEGIN RETURN
2	"B" 1+009.14		13.10	12.97	1/8
3	"B" 1+012.04		9.04	12.84	1/8
4	"B" 1+016.11		6.16	12.70	1/8
5	"B" 1+020.90		4.78	12.42	1/8
6	"B" 1+024.17		4.53	12.15	FULL SUPER
7	"B" 1+027.24		4.33	11.97	1/8 RETURN
8	"B" 1+033.54		3.97	11.62	1/8 RETURN
9	"B" 1+039.73		3.72	11.26	1/8 RETURN
10	"B" 1+041.56		3.60	11.15	FULL SUPER
11	"B" 1+045.82		3.60	10.95	1/8 RETURN
12	"B" 1+055.14		3.60	10.47	-2%
13	"B" 1+068.73		3.60	10.16	FULL CROWN
14	"B" 1+068.73	3.60		10.16	FULL CROWN
15	"B" 1+061.94	3.60		10.26	0%
16	"B" 1+055.14	3.60		10.63	+2%
17	"B" 1+041.56	3.60		11.59	BEGIN FULL SUPER
18	"B" 1+023.49	3.60		12.67	END FULL SUPER
19	"B" 1+020.44	3.60		12.80	END RETURN
20	"B" 1+014.73	4.50		12.87	1/4 RETURN
21	"B" 1+009.78	7.53		12.62	1/4 RETURN
22	"B" 1+006.35	12.19		12.20	1/4 RETURN
23	"B" 1+004.94	17.80		11.88	BEGIN RETURN

**"B" Line Plan**



HIGH POINT ELEV = 12.787  
 HIGH POINT STA = 1+015  
 PVI STA = 1+015  
 PVI ELEV = 12.967  
 A.D. = -12.000  
 K = 1.000  
 VC = 12m

LOW POINT ELEV = 10.208  
 LOW POINT STA = 1+066.020  
 PVI STA = 1+061.958  
 PVI ELEV = 10.150  
 A.D. = 7.156  
 K = 1.677  
 VC = 12m

**"B" Line Profile**

**APPROACH VIEW**

CHECKED BY:

4/13/04

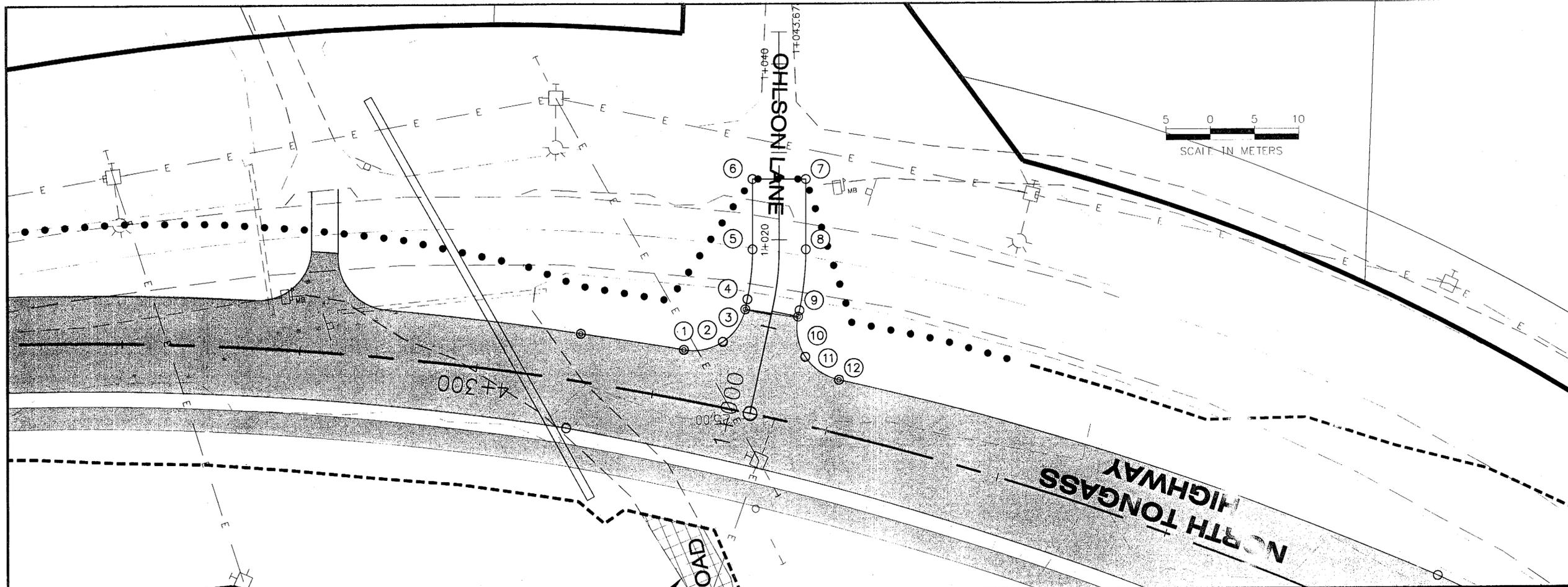
DESIGNED BY: Russell Kraemer  
 DRAWN BY: Leonard Robertson

STATE OF ALASKA  
 DEPARTMENT OF TRANSPORTATION  
 & PUBLIC FACILITIES  
 STATEWIDE DESIGN & ENGINEERING  
 SERVICES DIVISION  
 KETCHIKAN  
 N. TONGASS HIGHWAY  
 WARD TO WHIPPLE  
 STAGE 1  
**"SB" Line  
 Plan & Profile**

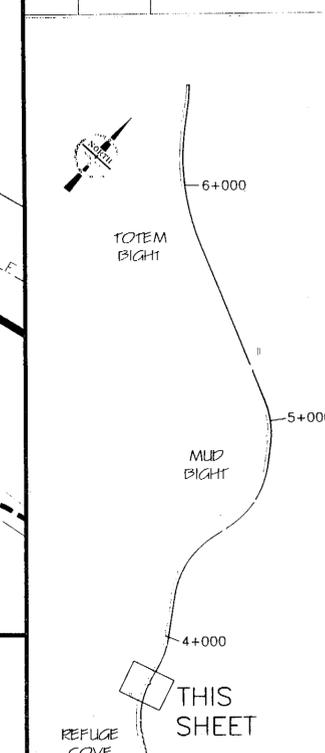
PROJECT DESIGNATION NUMBER  
**STP - 0920(19) / 68536**

STATE	YEAR
ALASKA	2004
SHEET NUMBER	TOTAL SHEETS
<b>F9</b>	<b>65</b>





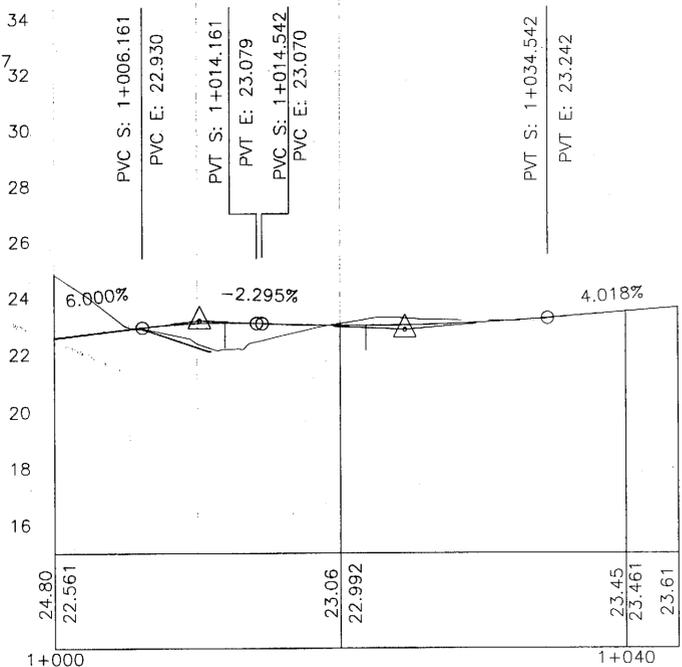
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 Tue, 20/Apr/04 08:37AM  
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 ADDENDUM NUMBER  
 ATTACHMENT NUMBER  
 RECORD OF REVISIONS  
 No. DATE DESCRIPTION



OFFSET PT NO.	STATION	OFFSET		ELEV.	REMARKS
		LT.	RT.		
1	"D" 1+005.768	8.807		22.992	BEGIN RETURN
2	"D" 1+007.346	4.671		23.008	MID-POINT RETURN
3	"D" 1+011.451	3.000		23.043	END RETURN
4	"D" 1+012.617	3.000		23.042	P.C.
5	"D" 1+018.921	3.000		22.940	P.T.
6	"D" 1+027.000	3.000		22.939	END
7	"D" 1+027.000		3.000	22.939	END
8	"D" 1+018.921		3.000	22.940	P.T.
9	"D" 1+012.617		3.000	23.042	P.C.
10	"D" 1+011.866		3.000	23.044	END RETURN
11	"D" 1+005.768		4.757	22.937	MID-POINT RETURN
12	"D" 1+005.768		9.000	22.803	BEGIN RETURN

"D" Line Plan

HIGH POINT ELEV = 23.104  
 HIGH POINT STA = 1+011.947  
 PVI STA = 1+010.161  
 PVI ELEV = 23.170  
 A.D. = -8.296  
 K = 0.964  
 VC = 8.000



"D" Line Profile

LOW POINT ELEV = 22.986  
 LOW POINT STA = 1+021.813  
 PVI STA = 1+024.542  
 PVI ELEV = 22.840  
 A.D. = 6.314  
 K = 3.168  
 VC = 20.000

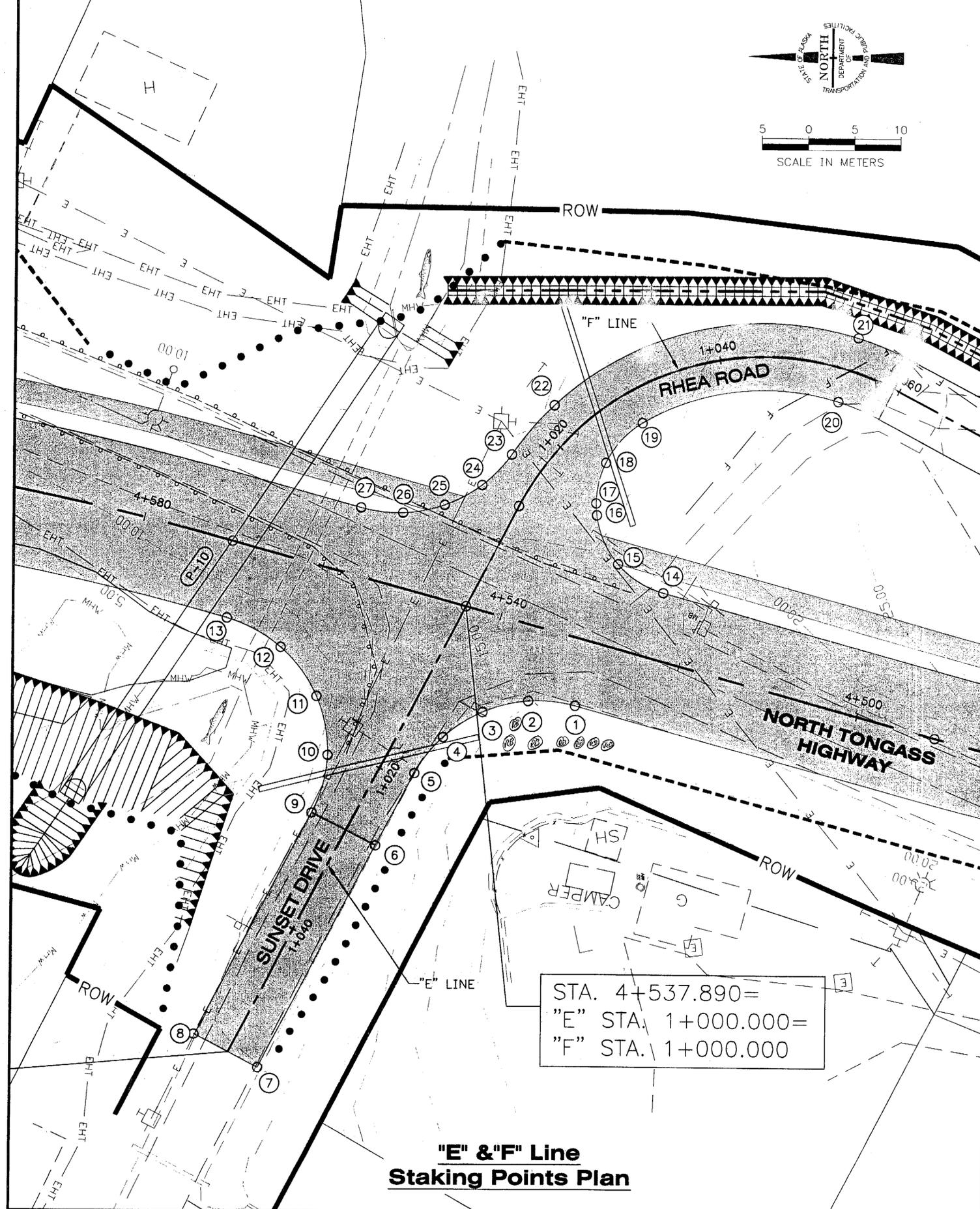
APPROACH VIEW

CHECKED BY:  

 DESIGNED BY: Russell Kraemer  
 DRAWN BY: Leonard Robertson

STATE OF ALASKA  
 DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES  
 STATEWIDE DESIGN & ENGINEERING SERVICES DIVISION  
 KETCHIKAN  
 N. TONGASS HIGHWAY  
 WARD TO WHIPPLE  
 STAGE 1

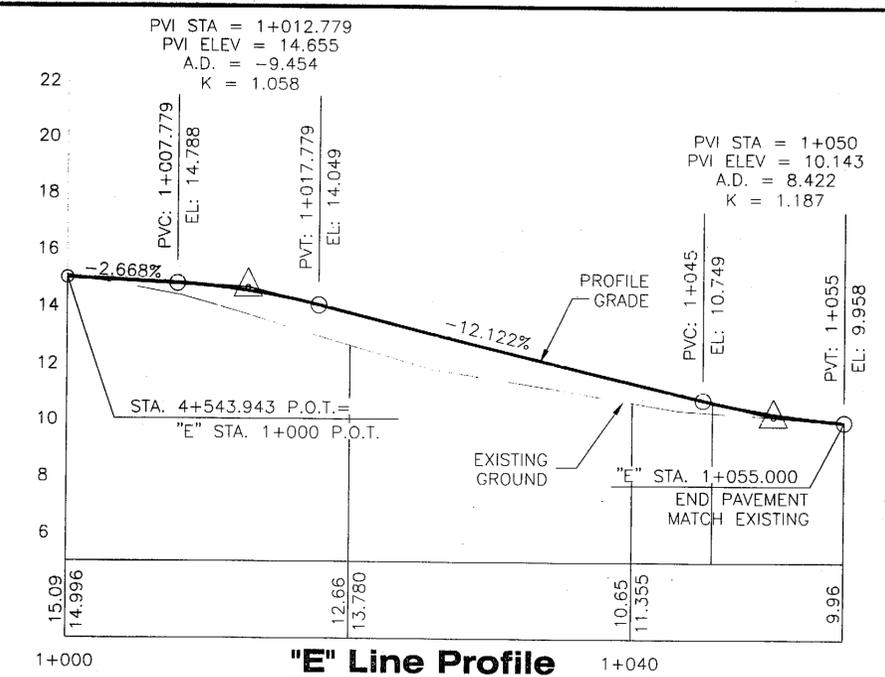
**"D" Line  
 Plan & Profile**  
 PROJECT DESIGNATION NUMBER  
**STP - 0920(19) / 68536**  
 STATE ALASKA  
 YEAR 2004  
 SHEET NUMBER F11  
 TOTAL SHEETS 65



**"E" & "F" Line  
Staking Points Plan**

**"E" & "F" Line Staking Point Table**

OFFSET PT NO.	STATION	OFFSET		ELEV.	REMARKS
		LT.	RT.		
1	"E" 1+004.077	15.490		15.819	
2	"E" 1+005.958	10.768		15.947	
3	"E" 1+009.308	6.946		15.592	
4	"E" 1+013.742	4.461		15.136	
5	"E" 1+018.751	3.600		14.479	
6	"E" 1+027.784	3.600		13.195	
7	"E" 1+045.674	3.600		10.742	
8	"E" 1+045.674		4.200	10.730	
9	"E" 1+027.784		4.200	13.039	
10	"E" 1+021.328		5.660	13.781	
11	"E" 1+016.130		9.757	14.182	
12	"E" 1+013.200		15.692	14.026	
13	"E" 1+013.110		22.310	13.369	
14	"F" 1+011.217	18.203		16.000	
15	"F" 1+011.701	12.450		15.600	
16	"F" 1+016.348	7.716		15.300	
17	"F" 1+017.649	6.883		15.029	
18	"F" 1+022.538	4.656		15.763	
19	"F" 1+029.134	3.600		16.000	
20	"F" 1+054.019	3.600		18.281	
21	"F" 1+054.019		3	18.713	
22	"F" 1+017.649		3.600	15.956	
23	"F" 1+016.334		3.600	15.843	
24	"F" 1+012.399		4.500	15.572	
25	"F" 1+008.632		7.165	15.282	
26	"F" 1+005.794		10.759	14.949	
27	"F" 1+004.173		15.041	14.447	



**"E" Line Profile**

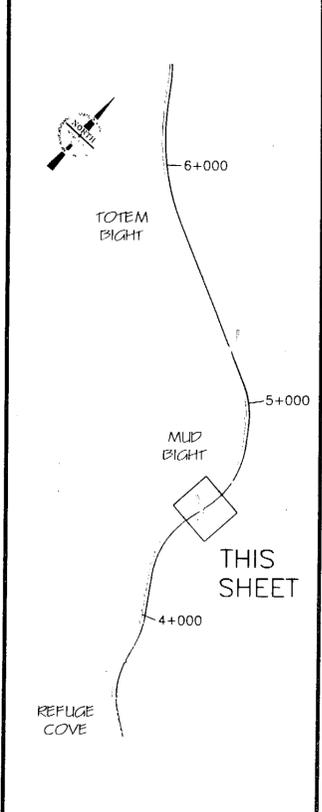
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ADDENDUM NUMBER

ATTACHMENT NUMBER

RECORD OF REVISIONS

No.	DATE	DESCRIPTION



**APPROACH VIEW**

CHECKED BY:

DESIGNED BY: Russell Kroemer  
DRAWN BY: Leonard Robertson

STATE OF ALASKA  
DEPARTMENT OF TRANSPORTATION  
& PUBLIC FACILITIES  
STATEWIDE DESIGN & ENGINEERING  
SERVICES DIVISION

**KETCHIKAN  
N. TONGASS HIGHWAY  
WARD TO WHIPPLE  
STAGE 1**

**"E" & "F" Line  
Plan & "E" Profile**

PROJECT DESIGNATION NUMBER  
**STP - 0920(19) / 68536**

STATE	YEAR
ALASKA	2004

SHEET NUMBER	TOTAL SHEETS
F12	65

NOTES:  
 1. TRANSITION FROM INTERSECTION TO FULL SUPER AS FIELD DESIGNED.  
 2. SEE SHEET F12 FOR STAKING POINTS INFORMATION ON "E" LINE AND "F" LINE.

END ROCK FLUME  
 STATION 4+555.156  
 OFFSET RT. 32.114

CURVE F DATA  
 R=30.000  
 L=47.170  
 T=30.046  
 $\Delta=90^{\circ}05'17.6''$   
 EFS=1+053.004  
 FLAT=1+074.604  
 e=0.04

BEGIN ROCK FLUME  
 STATION 4+493.852  
 OFFSET RT. 40.3

ROCK FLUME  
 STATION 4+515.610  
 OFFSET RT. 43.163

ROCK FLUME  
 STATION 4+503.632  
 OFFSET RT. 42.434

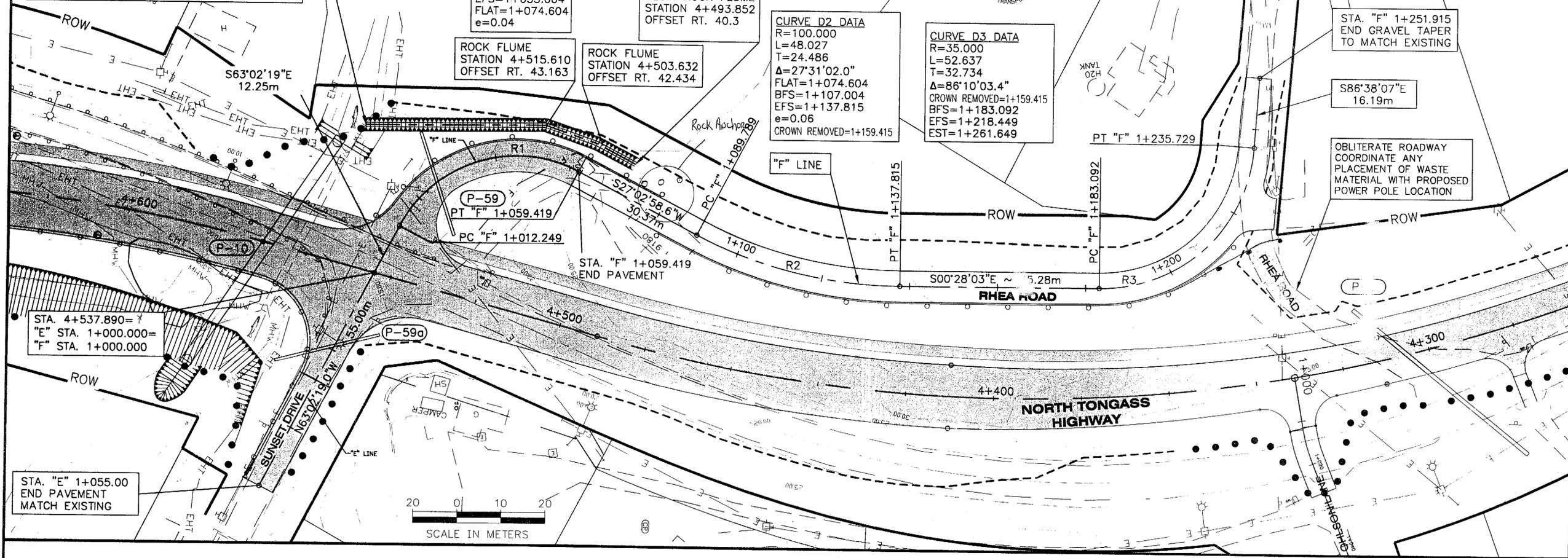
CURVE D2 DATA  
 R=100.000  
 L=48.027  
 T=24.486  
 $\Delta=27^{\circ}31'02.0''$   
 FLAT=1+074.604  
 BFS=1+107.004  
 EFS=1+137.815  
 e=0.06  
 CROWN REMOVED=1+159.415

CURVE D3 DATA  
 R=35.000  
 L=52.637  
 T=32.734  
 $\Delta=86^{\circ}10'03.4''$   
 CROWN REMOVED=1+159.415  
 BFS=1+183.092  
 EFS=1+218.449  
 EST=1+261.649

STA. "F" 1+251.915  
 END GRAVEL TAPER  
 TO MATCH EXISTING

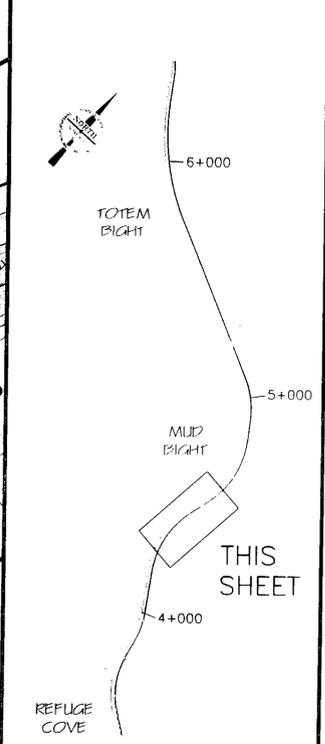
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 16.19m

OBLITERATE ROADWAY  
 COORDINATE ANY  
 PLACEMENT OF WASTE  
 MATERIAL WITH PROPOSED  
 POWER POLE LOCATION

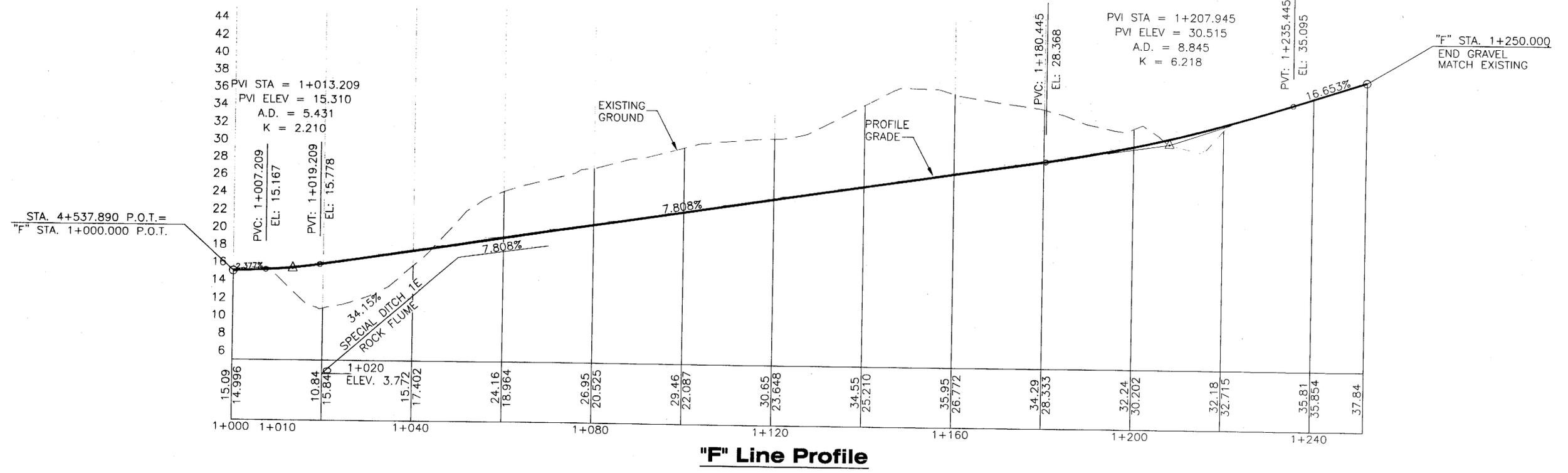


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RECORD OF REVISIONS		
No.	DATE	DESCRIPTION



"E" & "F" Line Plan



"F" Line Profile

APPROACH VIEW

CHECKED BY: *Russell P. Kraemer*

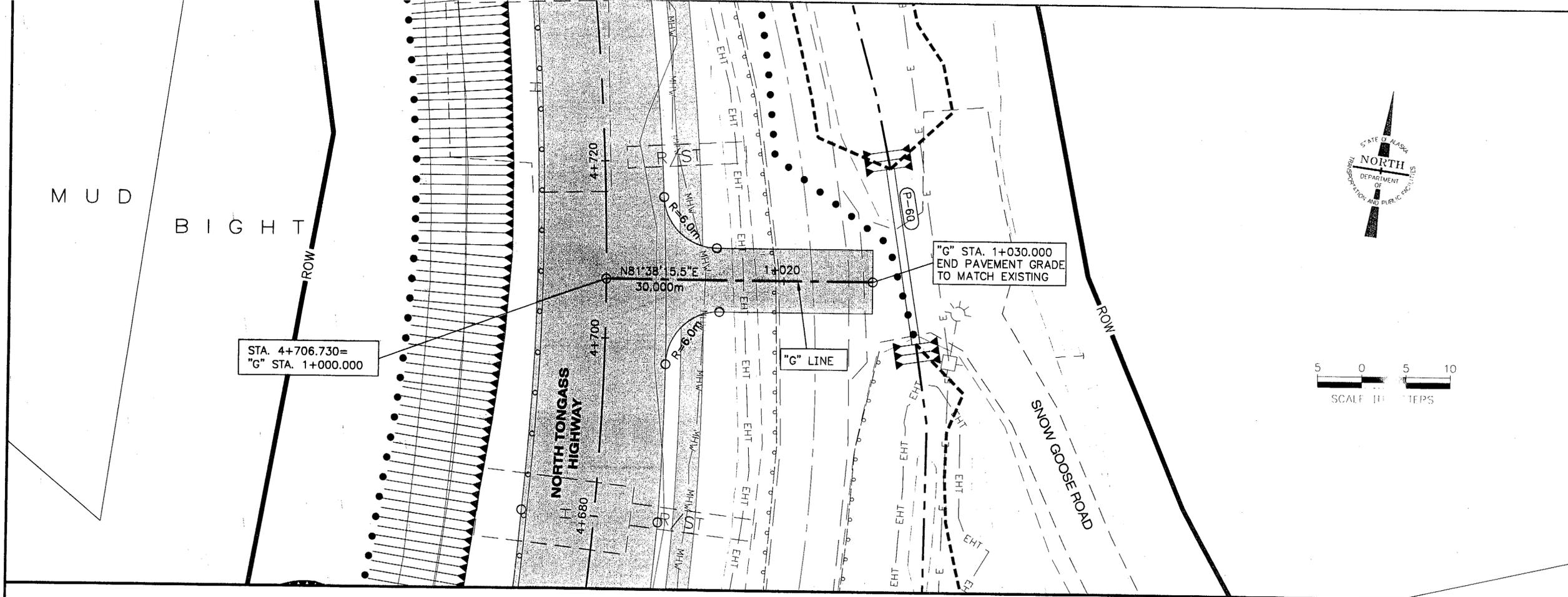
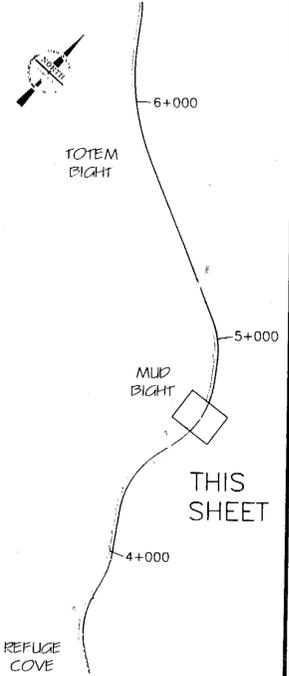
DESIGNED BY: Russell Kraemer  
 DRAWN BY: Leonard Robertson

STATE OF ALASKA  
 DEPARTMENT OF TRANSPORTATION  
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 STATEWIDE DESIGN & ENGINEERING  
 SERVICES DIVISION

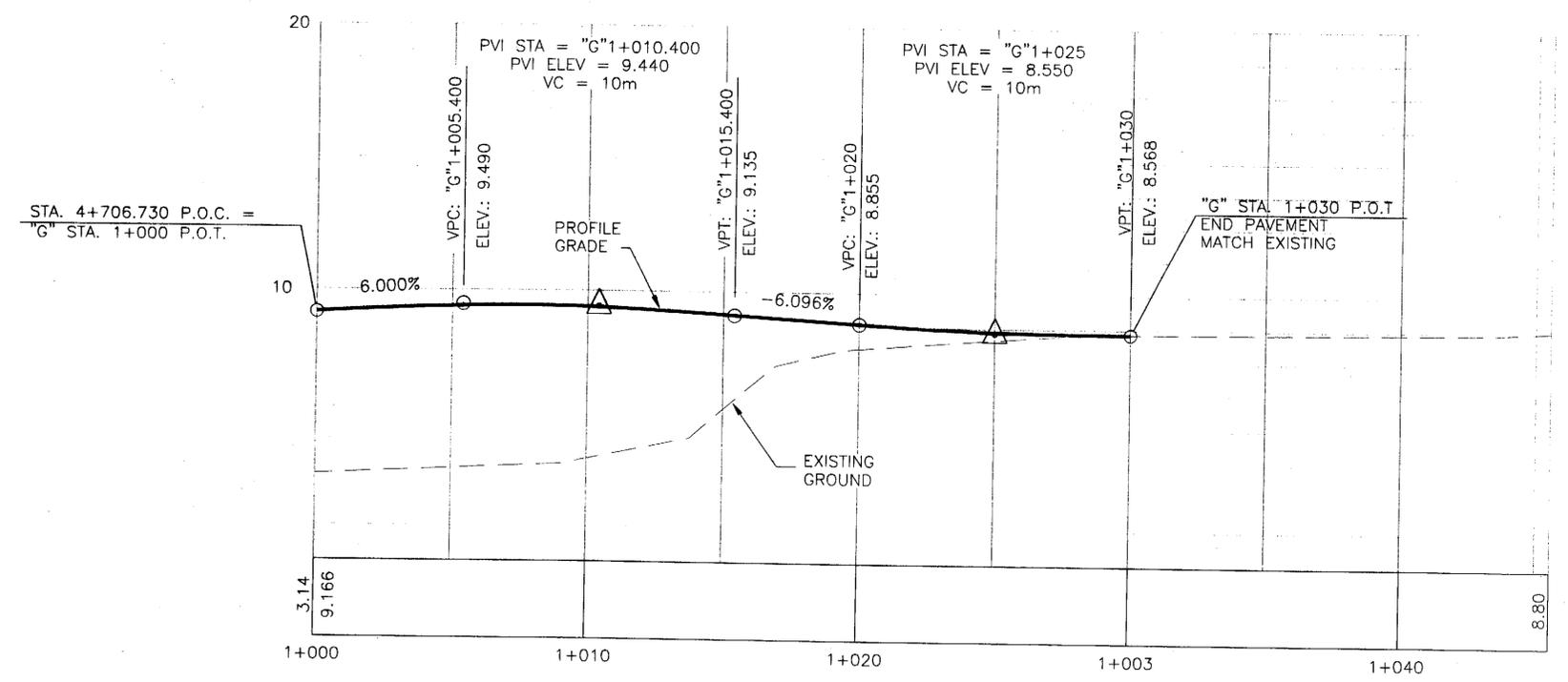
KETCHIKAN  
 N. TONGASS HIGHWAY  
 WARD TO WHIPPLE  
 STAGE 1  
**"E" & "F" Line  
 Plan & "F" Profile**

PROJECT DESIGNATION NUMBER  
**STP - 0920(19) / 68536**

STATE	YEAR
ALASKA	2004
SHEET NUMBER	TOTAL SHEETS
F13	65



**"G" Line Plan**



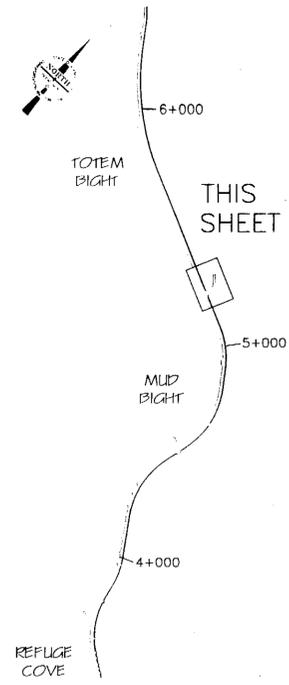
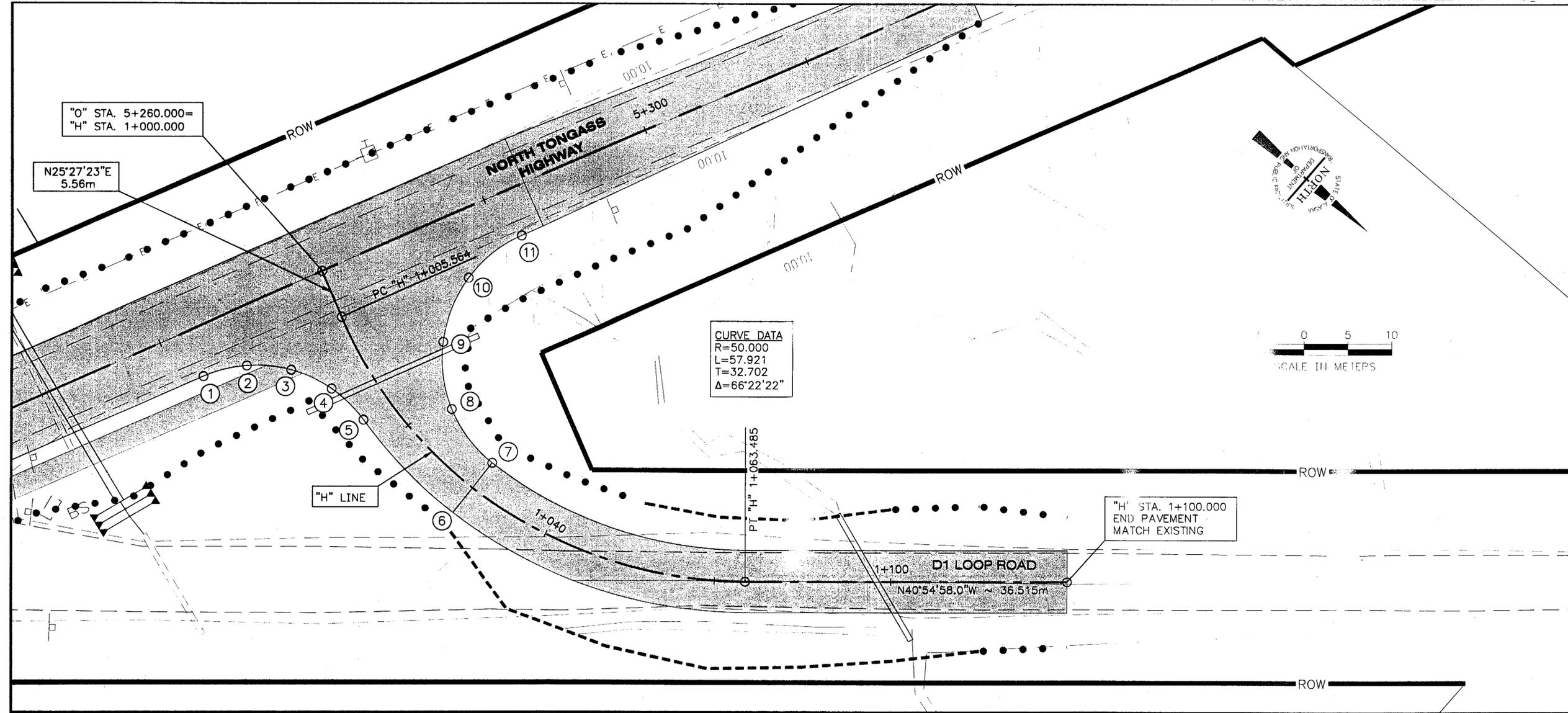
**"G" Line Profile**

**APPROACH VIEW**

CHECKED BY: *Russell P. Kraemer*  
  
 DESIGNED BY: Russell Kraemer  
 DRAWN BY: Leonard Robertson

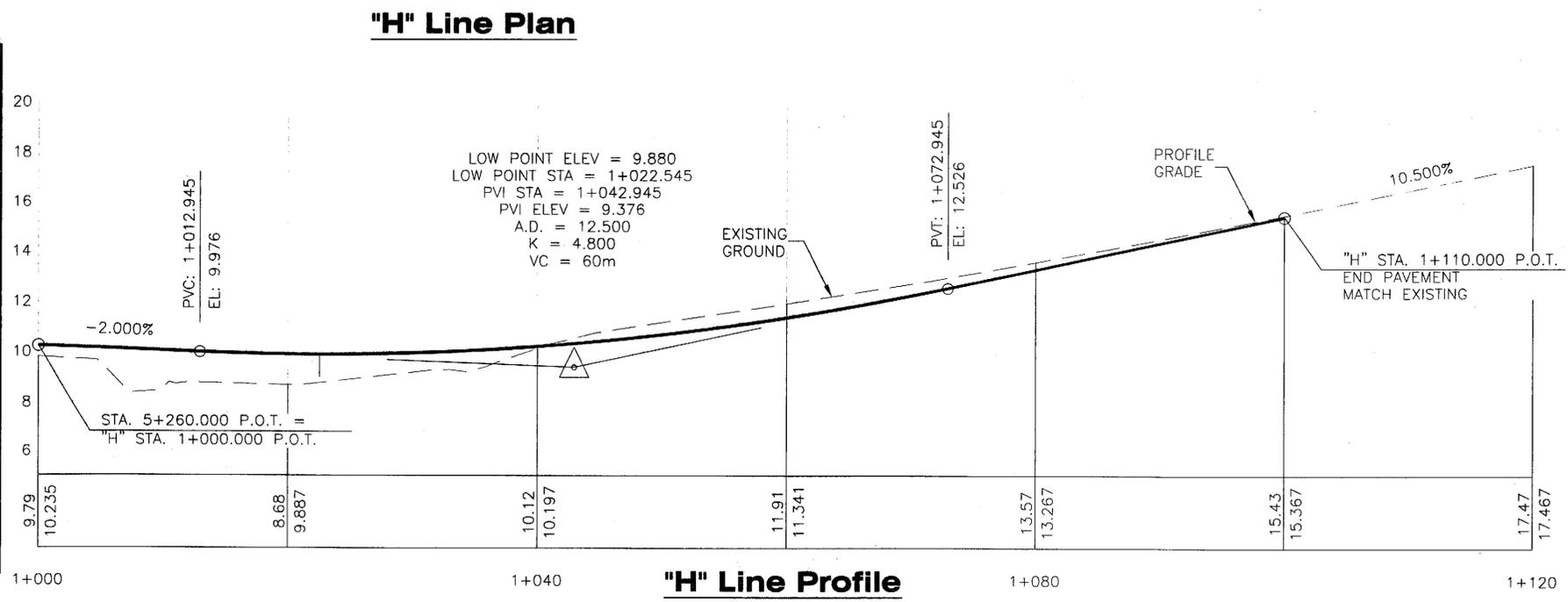
STATE OF ALASKA  
 DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES  
 STATEWIDE DESIGN & ENGINEERING SERVICES DIVISION  
**KETCHIKAN  
 N. TONGASS HIGHWAY  
 WARD TO WHIPPLE  
 STAGE 1**  
**"G" Line  
 Plan & Profile**  
 PROJECT DESIGNATION NUMBER  
**STP - 0920(19) / 68536**

STATE	YEAR
ALASKA	2004
SHEET NUMBER	TOTAL SHEETS
<b>F14</b>	<b>65</b>



**"H" Line Staking Point Table**

PT. NO.	STATION	OFFSET		ELEV.	REMARKS
		LT.	RT.		
1	"O" 5+243.023		5.40	-	
2	"H" 1+006.117		12.00	-	1/4 DELTA
3	"H" 1+008.286		7.67	-	MID PT 15.0m RADIUS
4	"H" 1+011.906		4.68	-	1/4 DELTA
5	"H" 1+016.464		3.600	-	PT
6	"H" 1+030.169		3.600	-	PT
7	"H" 1+030.169	3.600		-	PT
8	"H" 1+021.924		4.940	-	1/4 DELTA
9	"H" 1+014.271		8.833	-	MID PT 15.0m RADIUS
10	"H" 1+008.109		14.993	-	1/4 DELTA
10	"H" 1+005.400	22.326		-	BEGIN RETURN



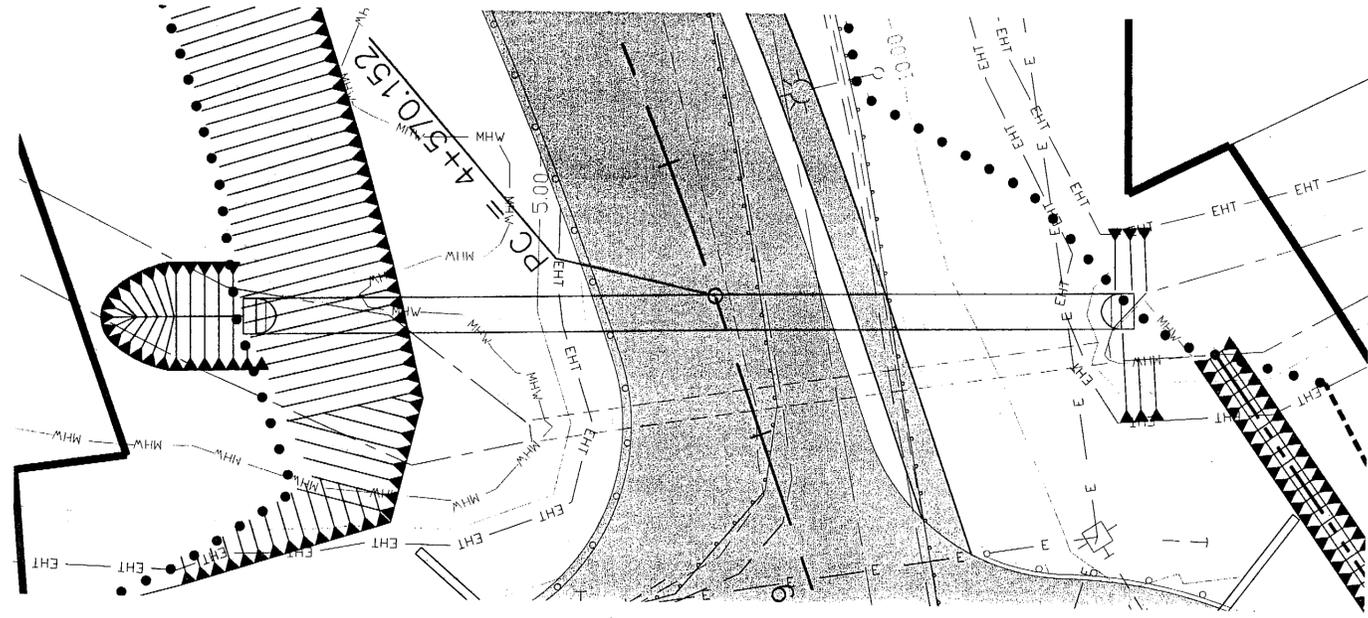
**APPROACH VIEW**

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DESIGNED BY: Russell Kraemer  
 DRAWN BY: Leonard Robertson  
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 DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES  
 STATEWIDE DESIGN & ENGINEERING SERVICES DIVISION  
 KETCHIKAN  
 N. TONGASS HIGHWAY  
 WARD TO WHIPPLE  
 STAGE 1  
**"H" Line  
 Plan & Profile**  
 PROJECT DESIGNATION NUMBER  
**STP - 0920(19) / 68536**  
 STATE ALASKA  
 YEAR 2004  
 SHEET NUMBER F15  
 TOTAL SHEETS 65

TAB: G1

ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION



**PLAN VIEW PIPE 10**

**TABLE A WORK WINDOW AND DESIGN FLOWS**

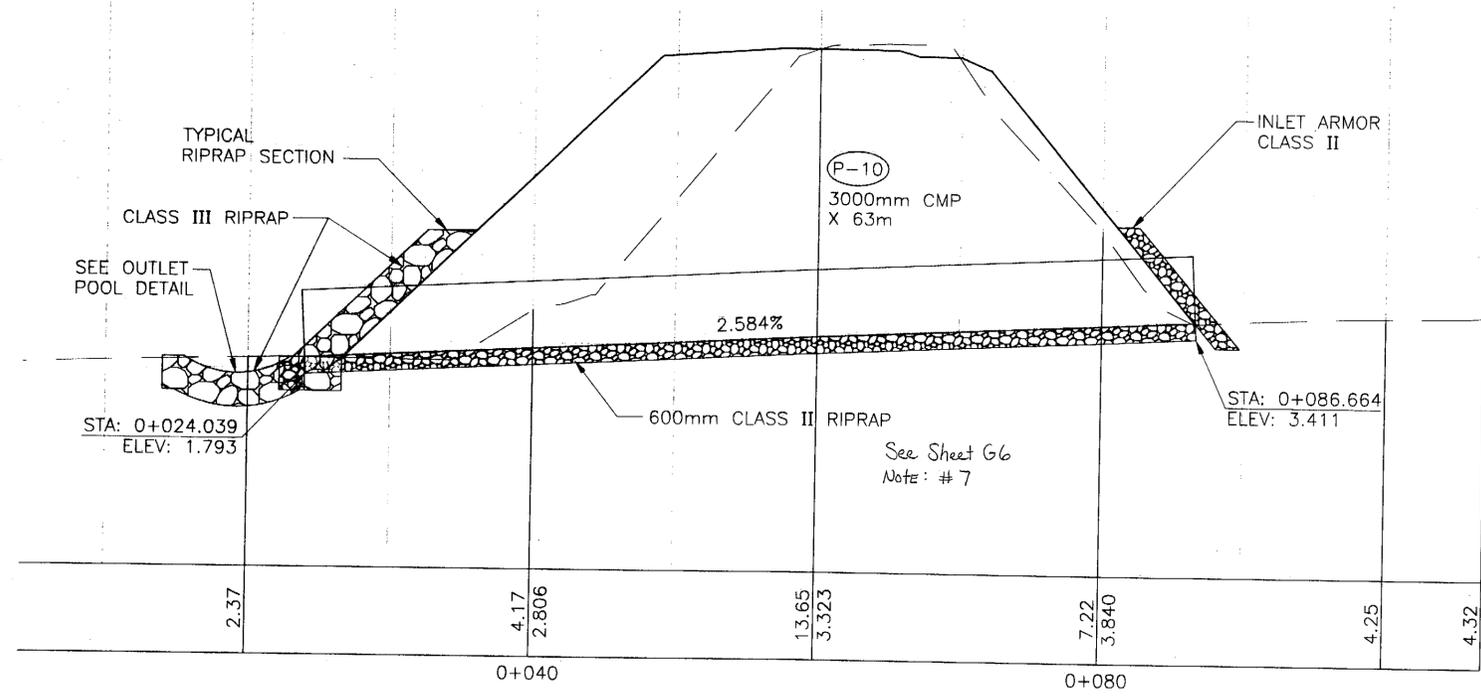
DESIGN FLOWS	CUBIC METERS PER SECOND [CFS]
Q <sub>r</sub>	1.0
Q <sub>50</sub>	5.3
Q <sub>100</sub>	6.0
V <sub>r</sub> (FISH PASSAGE)	LESS THAN 0.3
WORK WINDOW	0

**TABLE B QUANTITIES**

DESCRIPTION	SIZE OR CLASS
PIPE CULVERT	3000mm CMP
RIPRAP OUTLET APRON	CLASS III
RIPRAP PLACED INSIDE CULVERT	CLASS II
RIPRAP INLET ARMOR	CLASS II

**TABLE C CULVERT TABLE**

DESCRIPTION	VALUE
LENGTH	63m
SLOPE (%)	2.584%



**PROFILE PIPE 10**

**KETCHIKAN**  
**N. TONGASS HIGHWAY**  
**WARD TO WHIPPLE STAGE 1**  
**PROJECT NO. 68536**  
**Culvert Plan & Profile**

CHECKED BY:

DESIGNED BY: Russell Kraemer  
 DRAWN BY: Leonard Robertson

STATE OF ALASKA  
 DEPARTMENT OF TRANSPORTATION  
 & PUBLIC FACILITIES  
 STATEWIDE DESIGN & ENGINEERING  
 SERVICES DIVISION

**KETCHIKAN**  
**N. TONGASS HIGHWAY**  
**WARD TO WHIPPLE**  
**STAGE 1**

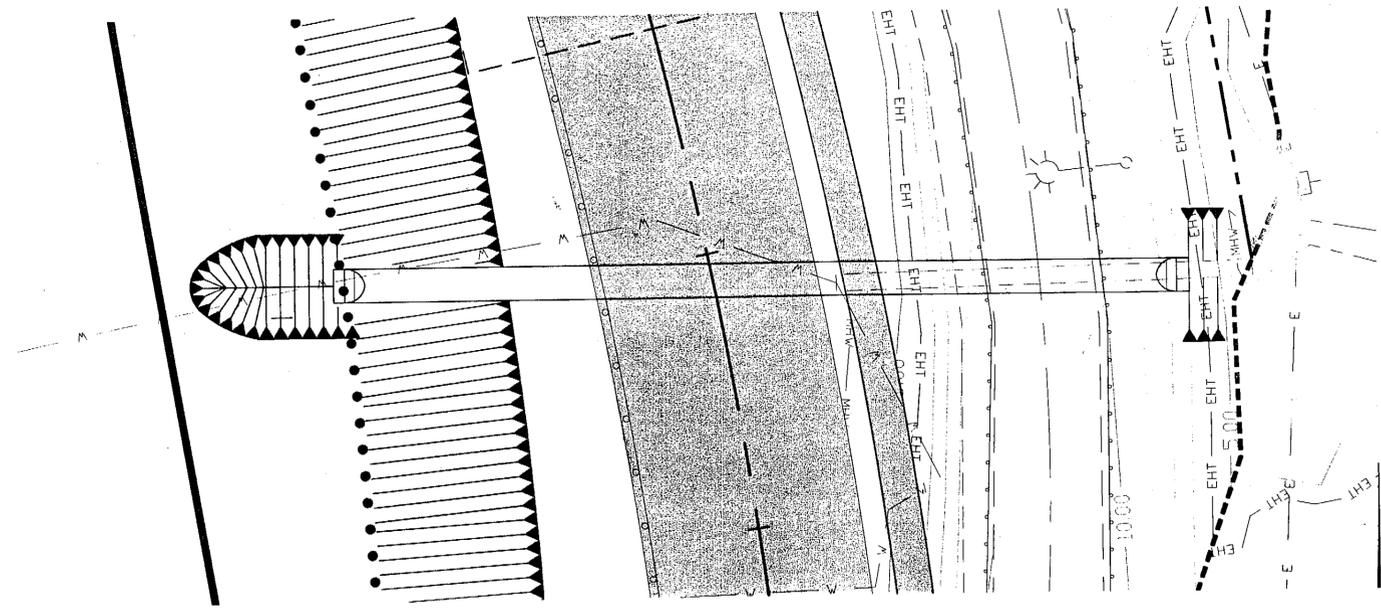
**Culvert**  
**Plan & Profile**

PROJECT DESIGNATION NUMBER  
**STP - 0920(19) / 68536**

STATE	YEAR
ALASKA	2004
SHEET NUMBER	TOTAL SHEETS
<b>G1</b>	<b>65</b>

TAB: G2

ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION



**PLAN VIEW PIPE 11**

**TABLE A WORK WINDOW AND DESIGN FLOWS**

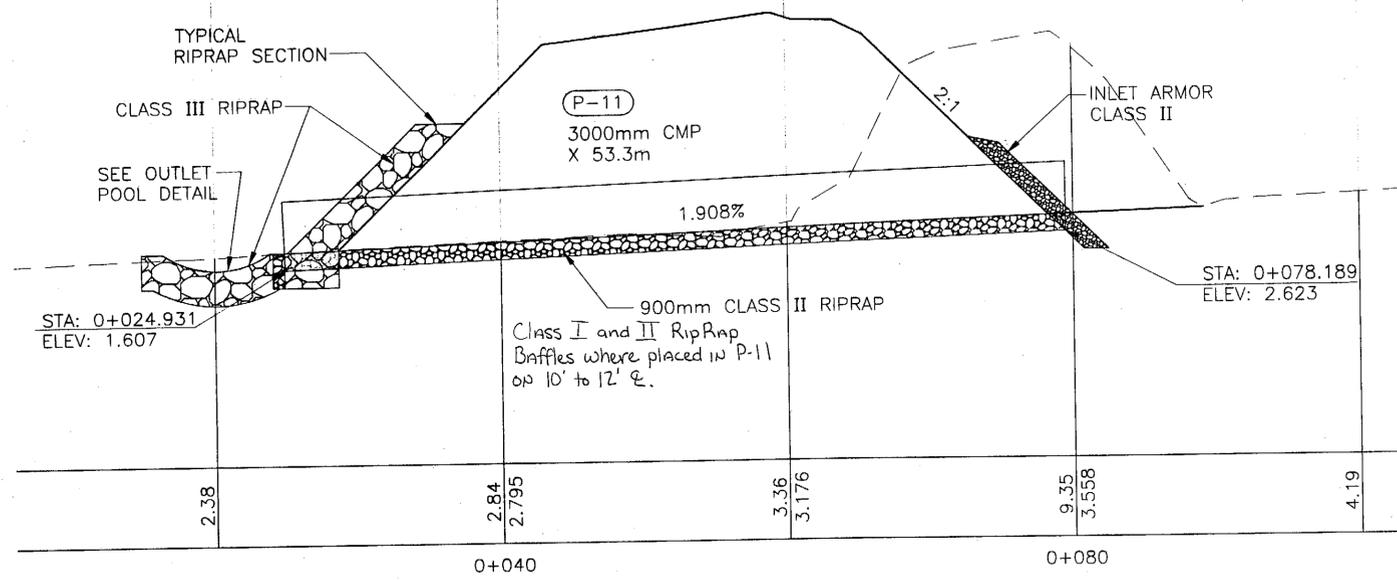
DESIGN FLOWS	CUBIC METERS PER SECOND [CFS]
Q <sub>F</sub>	1.0
Q <sub>50</sub>	5.1
Q <sub>100</sub>	5.8
V <sub>r</sub> (FISH PASSAGE)	LESS THAN C
WORK WINDOW	TO

**TABLE B QUANTITIES**

DESCRIPTION	SIZE OR CLASS
PIPE CULVERT	3000mm CMP
RIPRAP OUTLET APRON	CLASS III
RIPRAP PLACED INSIDE CULVERT	CLASS II
RIPRAP INLET ARMOR	CLASS II

**TABLE C CULVERT TABLE**

DESCRIPTION	VALUE
LENGTH	53.3m
SLOPE (%)	1.908%



**PROFILE PIPE 11**

**KETCHIKAN**  
**N. TONGASS HIGHWAY**  
**WARD TO WHIPPLE STAGE 1**  
**PROJECT NO. 68536**  
**Culvert Plan & Profile**

CHECKED BY:

DESIGNED BY: Russell Kraemer  
 DRAWN BY: Leonard Robertson

STATE OF ALASKA  
 DEPARTMENT OF TRANSPORTATION  
 & PUBLIC FACILITIES  
 STATEWIDE DESIGN & ENGINEERING  
 SERVICES DIVISION

**KETCHIKAN**  
**N. TONGASS HIGHWAY**  
**WARD TO WHIPPLE**  
**STAGE 1**

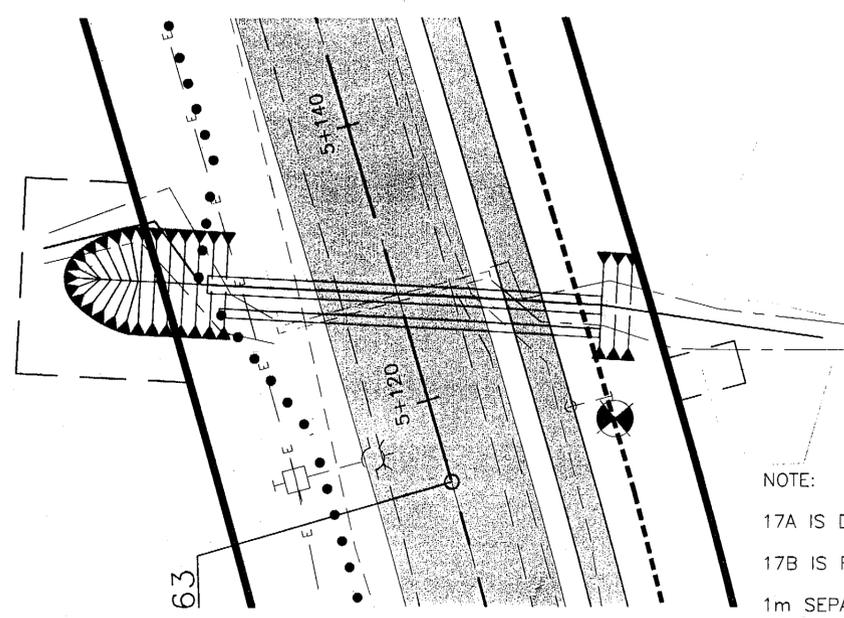
**Culvert**  
**Plan & Profile**

PROJECT DESIGNATION NUMBER  
**STP - 0920(19) / 68536**

STATE	YEAR
<b>ALASKA</b>	<b>2004</b>
SHEET NUMBER	TOTAL SHEETS
<b>G2</b>	<b>65</b>

TAB: G3

ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION



**PLAN VIEW PIPE 17A**

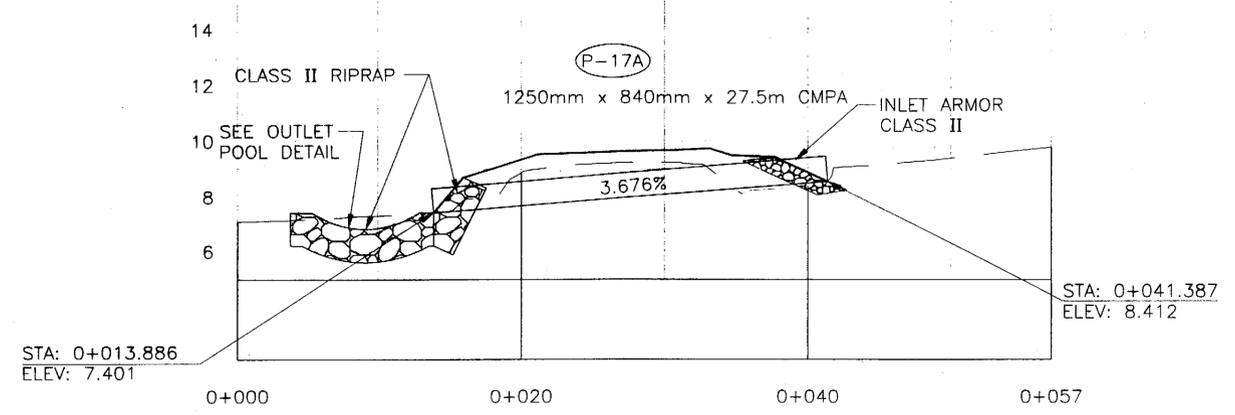
NOTE:  
 17A IS DESIGNED FOR FISH PASSAGE.  
 17B IS FOR HIGH FLOW OCCURANCES.  
 1m SEPARATION BETWEEN PIPES TO ALLOW FOR COMPACTION.

**TABLE A WORK WINDOW AND DESIGN FLOWS**

DESIGN FLOWS	CUBIC METERS PER SECOND [CFS]
Q <sub>F</sub>	0.2
Q <sub>50</sub>	0.9
Q <sub>100</sub>	1.0
V <sub>F</sub> (FISH PASSAGE)	1.0 m/s
WORK WINDOW	___ TO ___

**TABLE B QUANTITIES**

DESCRIPTION	SIZE OR CLASS
PIPE CULVERT	CMPA
RIPRAP OUTLET APRON	CLASS II
RIPRAP PLACED INSIDE CULVERT	N/A
RIPRAP INLET ARMOR	CLASS II

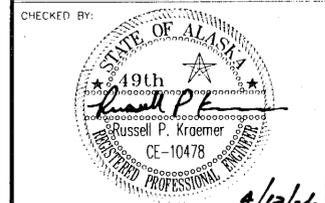


**PROFILE PIPE 17A**

**TABLE C CULVERT TABLE**

DESCRIPTION	VALUE
SPAN x RISE	1250mm x 840mm
LENGTH	27.5m
SLOPE (%)	3.676%

**KETCHIKAN**  
**N. TONGASS HIGHWAY**  
**WARD TO WHIPPLE STAGE 1**  
**PROJECT NO. 68536**  
**Culvert Plan & Profile**



DESIGNED BY: Russell Kraemer  
 DRAWN BY: Leonard Robertson

STATE OF ALASKA  
 DEPARTMENT OF TRANSPORTATION  
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 STATEWIDE DESIGN & ENGINEERING  
 SERVICES DIVISION

**KETCHIKAN**  
**N. TONGASS HIGHWAY**  
**WARD TO WHIPPLE**  
**STAGE 1**

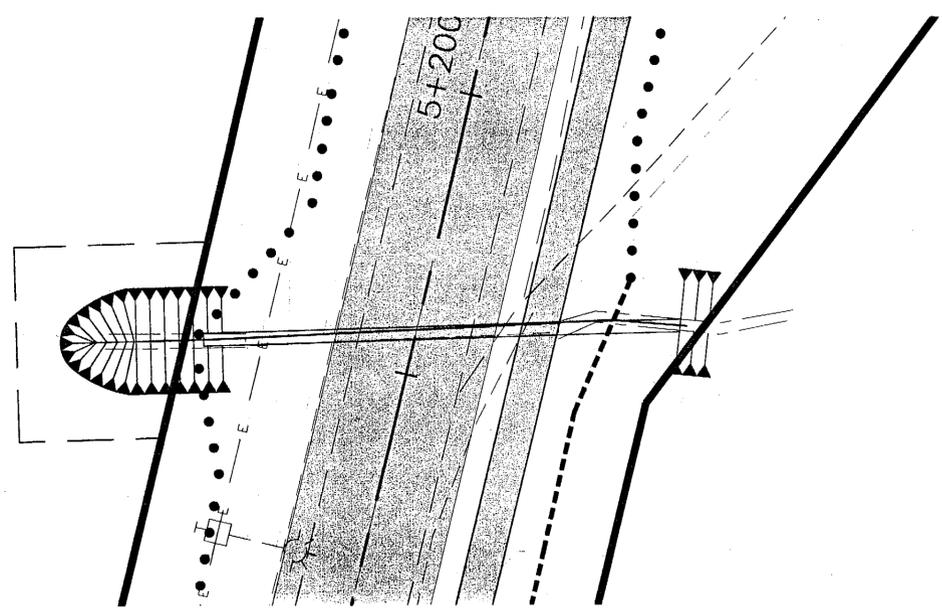
**Culvert**  
**Plan & Profile**

PROJECT DESIGNATION NUMBER  
**STP - 0920(19) / 68536**

STATE	YEAR
<b>ALASKA</b>	<b>2004</b>
SHEET NUMBER	TOTAL SHEETS
<b>G3</b>	<b>65</b>

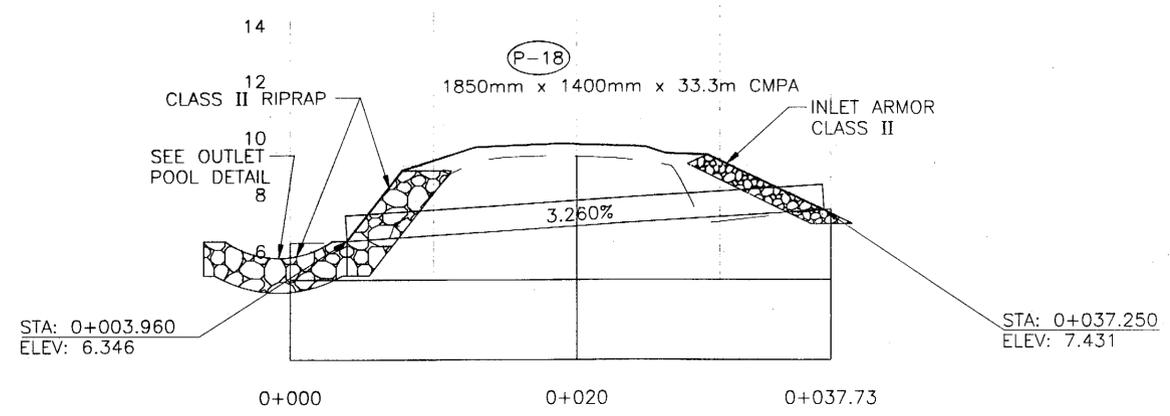
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ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION



**PLAN VIEW PIPE 18**

See Sheet G7



**PROFILE PIPE 18**

**TABLE A WORK WINDOW AND DESIGN FLOWS**

DESIGN FLOWS	CUBIC METERS PER SECOND [CFS]
Q <sub>r</sub>	0.3
Q <sub>50</sub>	1.7
Q <sub>100</sub>	1.8
V <sub>r</sub> (FISH PASSAGE)	0.94 m/s
WORK WINDOW	TO

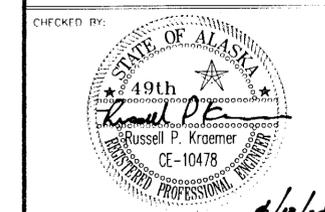
**TABLE B QUANTITIES**

DESCRIPTION	SIZE OR CLASS
PIPE CULVERT	CMPA
RIPRAP OUTLET APRON	CLASS II
RIPRAP PLACED INSIDE CULVERT	N/A
RIPRAP INLET ARMOR	CLASS II

**TABLE C CULVERT TABLE**

DESCRIPTION	VALUE
SPAN x RISE	1850mm x 1400mm
LENGTH	33.3m
SLOPE (%)	3.260%

**KETCHIKAN**  
**N. TONGASS HIGHWAY**  
**WARD TO WHIPPLE STAGE 1**  
**PROJECT NO. 68536**  
**Culvert Plan & Profile**



CHECKED BY: Russell P. Kraemer  
 DESIGNED BY: Russell P. Kraemer  
 DRAWN BY: Leonard Robertson

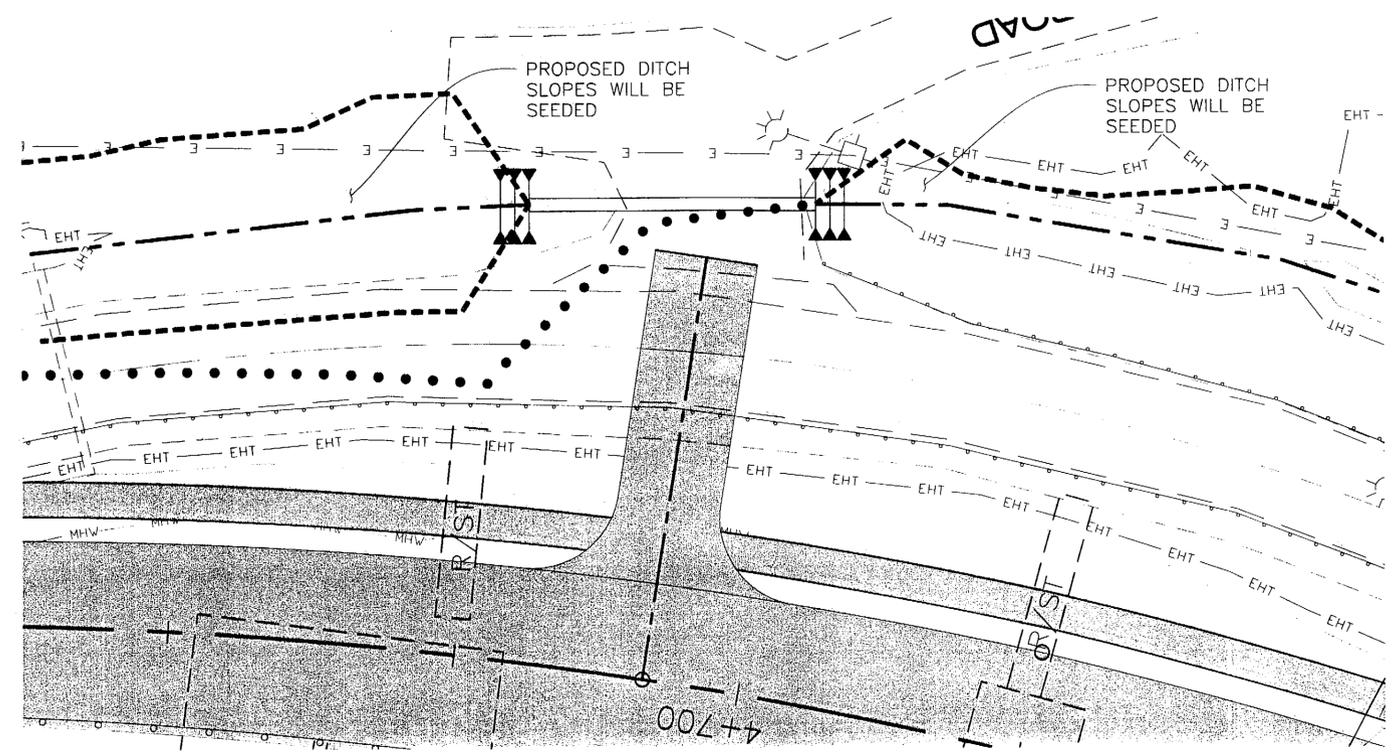
STATE OF ALASKA  
 DEPARTMENT OF TRANSPORTATION  
 & PUBLIC FACILITIES  
 STATEWIDE DESIGN & ENGINEERING  
 SERVICES DIVISION  
**KETCHIKAN**  
**N. TONGASS HIGHWAY**  
**WARD TO WHIPPLE**  
**STAGE 1**

**Culvert Plan & Profile**

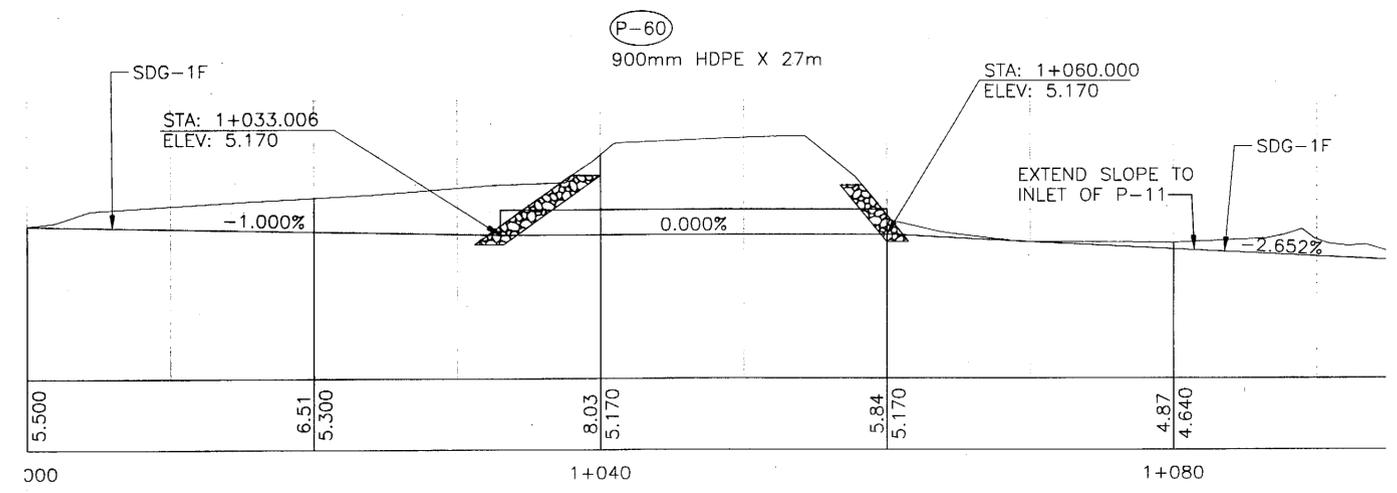
PROJECT DESIGNATION NUMBER	
STP - 0920(19) / 68536	
STATE	YEAR
ALASKA	2004
SHEET NUMBER	TOTAL SHEETS
G4	65

TAB: G5

ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION



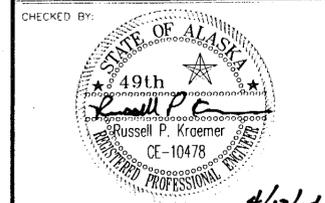
**PLAN VIEW PIPE 60**



**PROFILE PIPE 60**

**KETCHIKAN  
 N. TONGASS HIGHWAY  
 WARD TO WHIPPLE STAGE 1  
 PROJECT NO. 68536**

**Culvert Plan & Profile**



DESIGNED BY: Pussell Kraemer  
 DRAWN BY: Leonard Robertson

STATE OF ALASKA  
 DEPARTMENT OF TRANSPORTATION  
 & PUBLIC FACILITIES  
 STATEWIDE DESIGN & ENGINEERING  
 SERVICES DIVISION  
**KETCHIKAN  
 N. TONGASS HIGHWAY  
 WARD TO WHIPPLE  
 STAGE 1**

**Culvert  
 Plan & Profile**

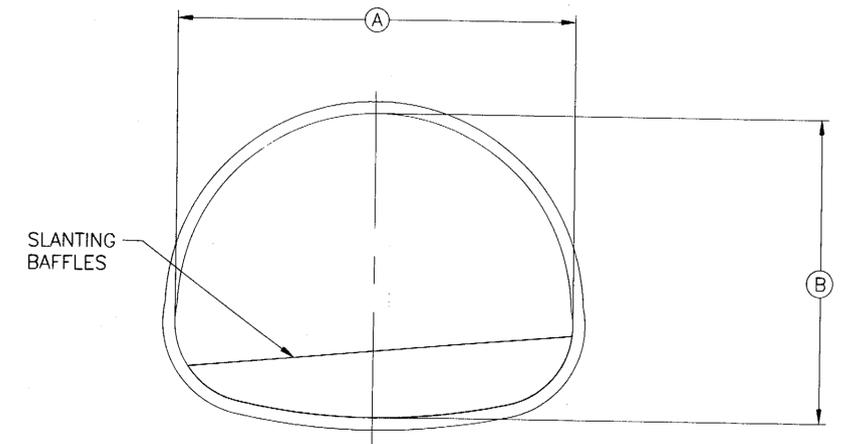
PROJECT DESIGNATION NUMBER  
**STP - 0920(19) / 68536**

STATE	YEAR
<b>ALASKA</b>	<b>2004</b>
SHEET NUMBER	TOTAL SHEETS
<b>G5</b>	<b>65</b>

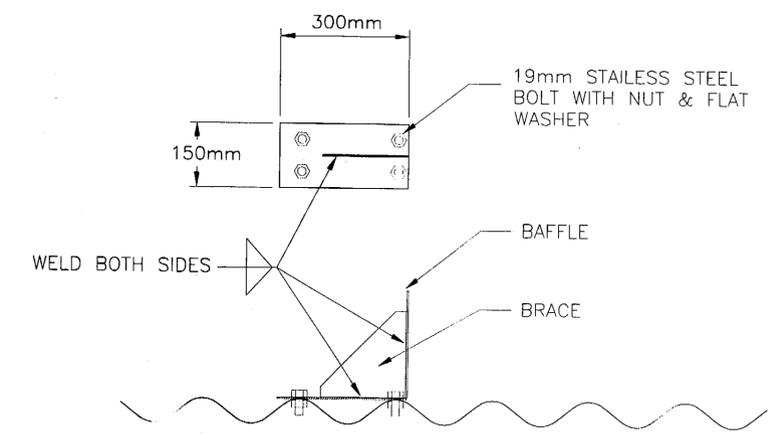
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ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION

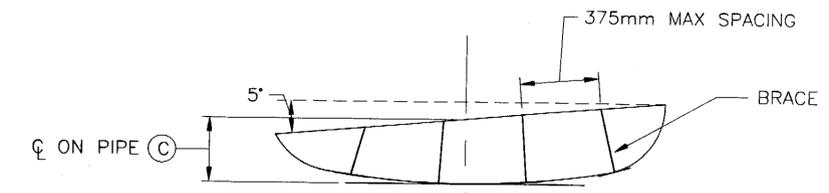
KETCHIKAN  
 N. TONGASS HIGHWAY  
 WARD TO WHIPPLE STAGE 1  
 PROJECT NO. 68536  
**Fish Baffle Details**



**BAFFLE & PIPE DETAIL**



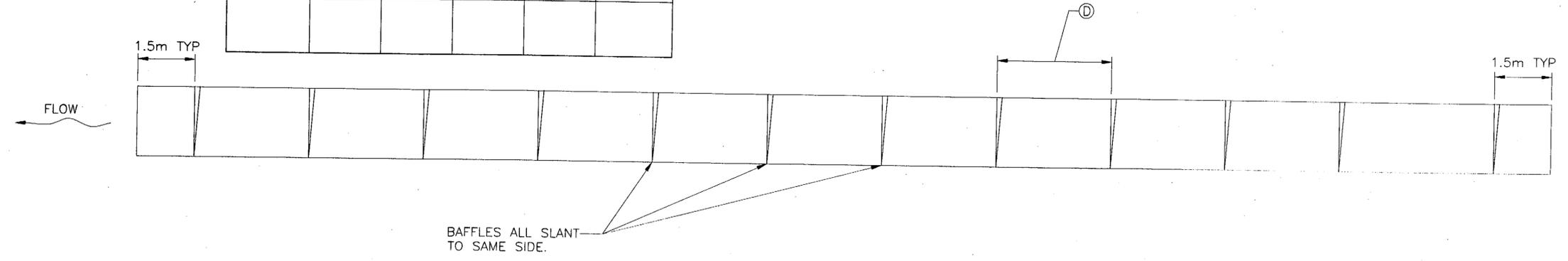
**BRACE DETAIL**



**BAFFLE DETAIL**

PIPE NO.	A	B	C	MAX. D	ESTIMATED NO. OF BAFFLES
P-10	3000mm [120"]	-	450mm [18"]	3.6m [12']	18
P-17A	1240mm [49"]	840mm [33"]	330mm [13"]	3.0m [10']	9
P-18	1850mm [73"]	1400mm [55"]	410mm [16"]	6.1m [20']	6
P-19	2060mm [81"]	1500mm [59"]	410mm [16"]	6.1m [20']	5

- NO.
- THE EDGE OF BAFFLE SHALL BE CANTED 5 DEGREES FROM HORIZONTAL. SEE TABLE FOR HEIGHT OF BAFFLE ON CENTERLINE OF PIPE.
  - ALL BAFFLES AND BRACES SHALL BE MANUFACTURED FROM 6mm [1/4"] SHEET ALUMINUM. ALL HARDWARE SHALL BE STAINLESS STEEL.
  - EACH BAFFLE SHALL HAVE A MINIMUM OF 4 BRACES WITH A MAXIMUM SPACING OF 375mm [15"]
  - ALL DIMENSIONS ON THIS SHEET ARE NOMINAL- BAFFLES SHALL BE MANUFACTURED TO FIT PARTICULAR PIPE.
  - IF NECESSARY, MOVE LAST UPSTREAM BAFFLE TO ALLOW FOR 1.5m [5'] MINIMUM SPACING FROM END OF PIPE. THE SPACING (DIMENSION "D") IS THE MAXIMUM ALLOWED.
  - ALL PIPE REQUIRING BAFFLES SHALL BE ALUMINUM STRUCTURAL PLATES.
  - Spray foam was added to seal up baffles. (P-10)



**TYPICAL BAFFLE PLAN LAYOUT**

CHECKED BY:

DESIGNED BY: Russell Kraemer  
 DRAWN BY: Leonard Pobertson

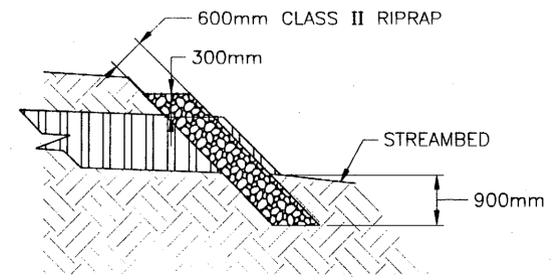
STATE OF ALASKA  
 DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES  
 STATEWIDE DESIGN & ENGINEERING SERVICES DIVISION  
**KETCHIKAN**  
**N. TONGASS HIGHWAY**  
**WARD TO WHIPPLE**  
**STAGE 1**

**Fish Baffle Details**

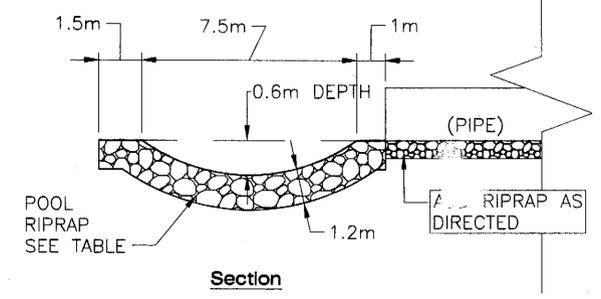
PROJECT DESIGNATION NUMBER	
STP - 0920(19) / 68536	
STATE	YEAR
ALASKA	2004
SHEET NUMBER	TOTAL SHEETS
G6	65

TAB: G7

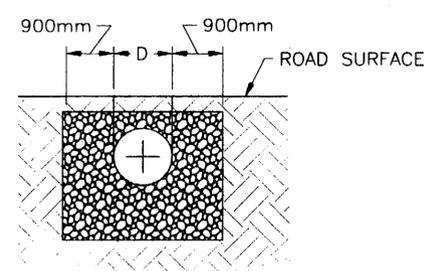
ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION



**SECTION**

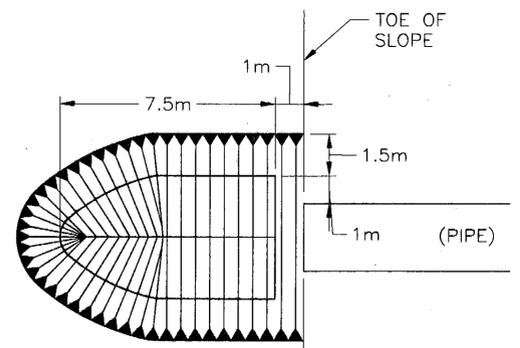


**Section**



**Elevation**

**CULVERT INLET & OUTLET ARMOR TYPICAL**



**Plan**

**OUTLET POOL DETAIL  
 P-10, 11, 17a, 18, & 19**

Outlet pools were sized to match existing streams. elevation of the down stream Thalweg was preserved. Class II Rip Rap was embedded at this Thalweg to prevent washout.

**KETCHIKAN  
 N. TONGASS HIGHWAY  
 WARD TO WHIPPLE STAGE 1  
 PROJECT NO. 68536**

**INLET AND OUTLET  
 DETAILS**

CHECKED BY:

DESIGNED BY: Russel Kraemer  
 DRAWN BY: Leonard Robertson

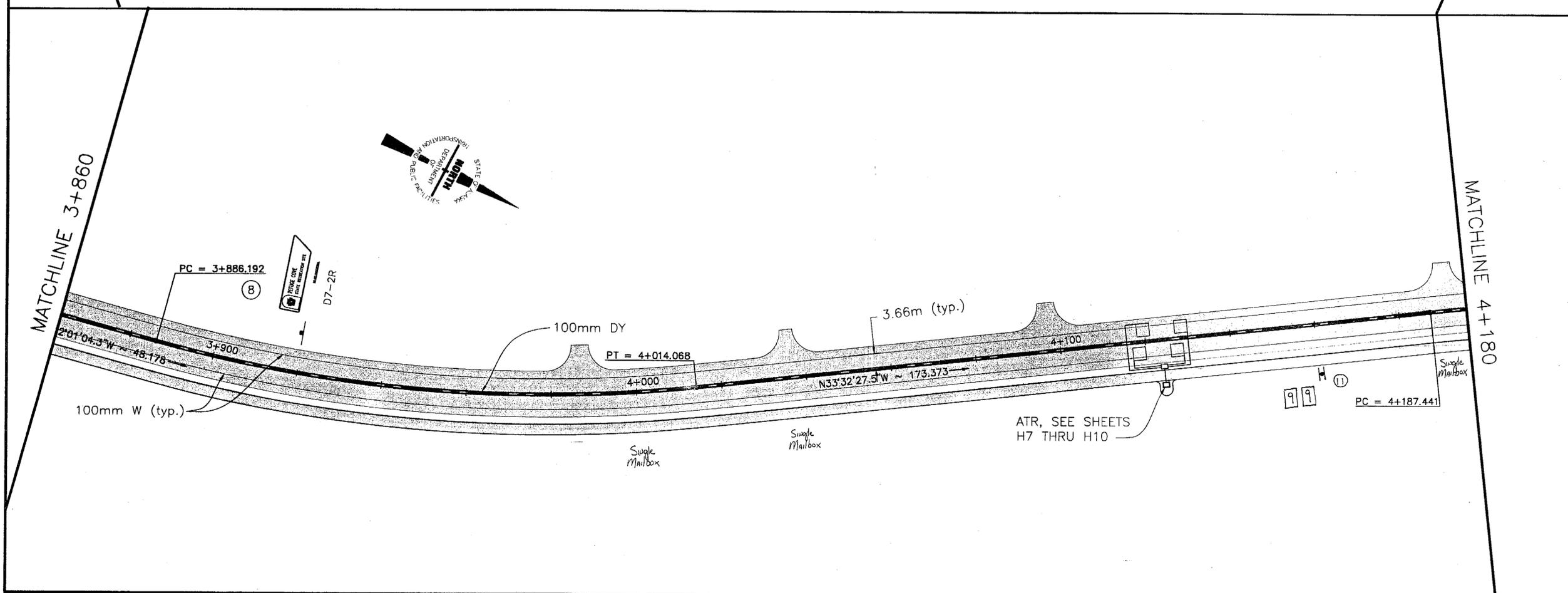
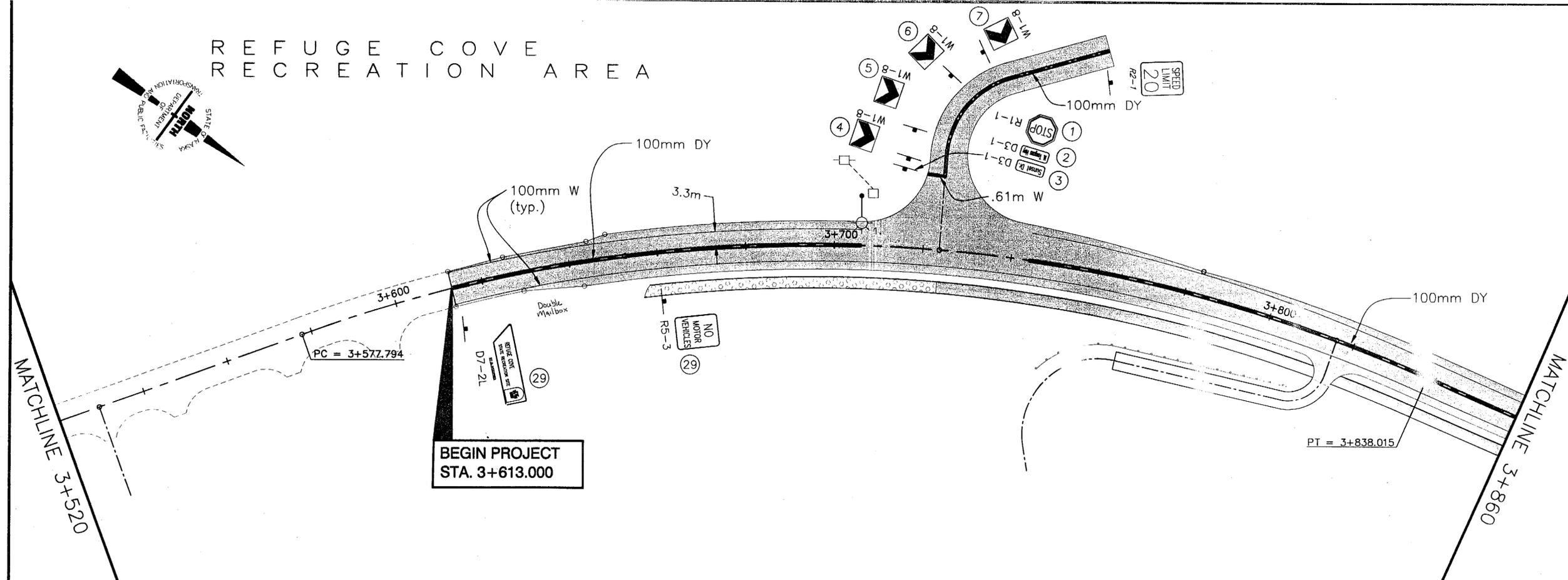
STATE OF ALASKA  
 DEPARTMENT OF TRANSPORTATION  
 & PUBLIC FACILITIES  
 STATEWIDE DESIGN & ENGINEERING  
 SERVICES DIVISION  
 KETCHIKAN  
 N. TONGASS HIGHWAY  
 WARD TO WHIPPLE  
 STAGE 1

**INLET AND  
 OUTLET DETAILS**

PROJECT DESIGNATION NUMBER  
**STP - 0920(19) / 68536**

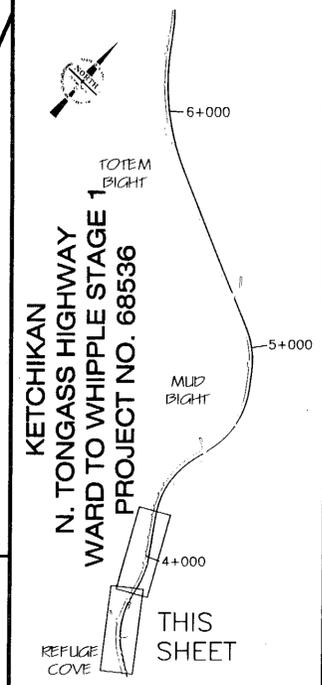
STATE	YEAR
<b>ALASKA</b>	<b>2004</b>
SHEET NUMBER	TOTAL SHEETS
<b>G7</b>	<b>65</b>

REFUGE COVE  
RECREATION AREA



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ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION



B.O.P. TO 3+860

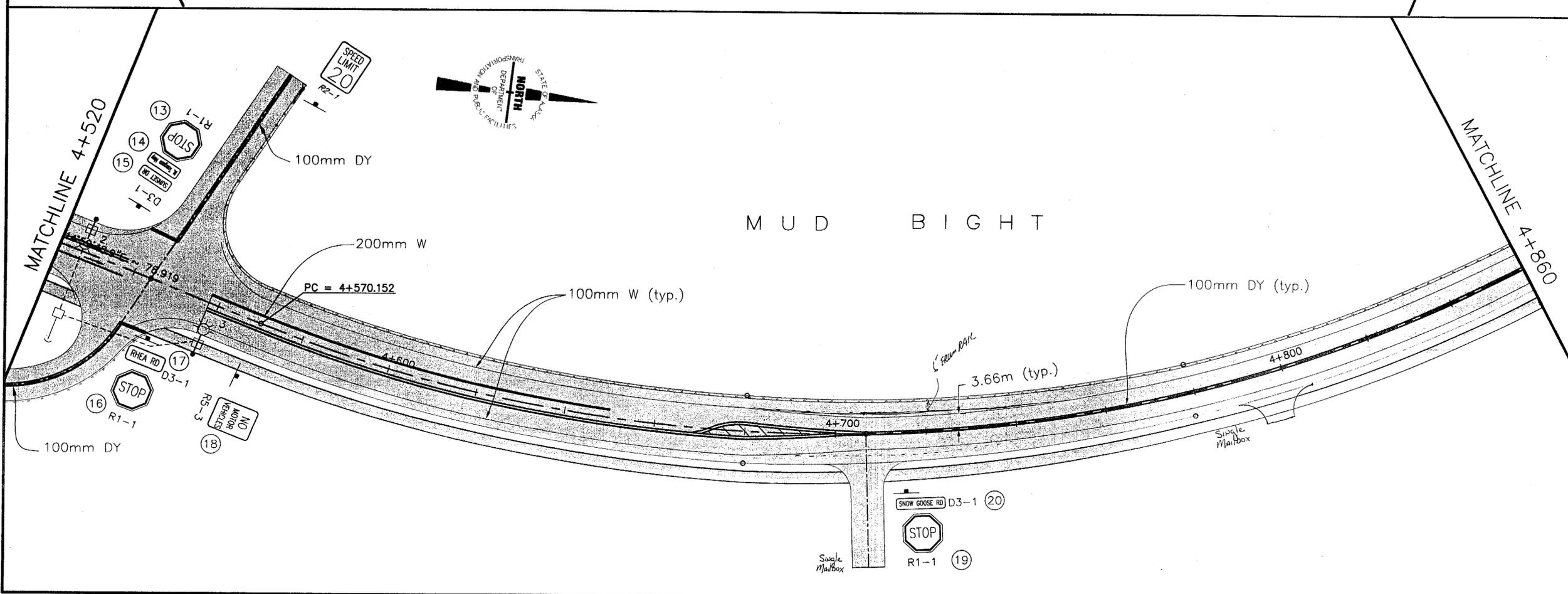
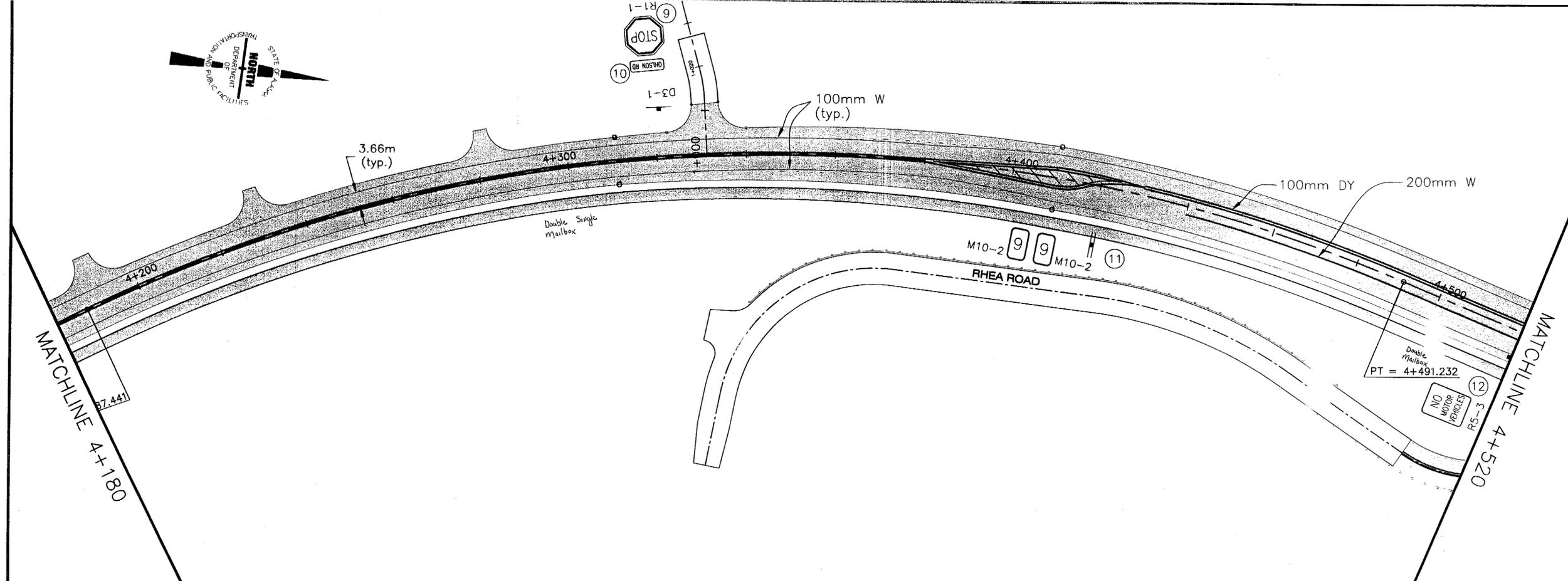
CHECKED BY:

DESIGNED BY: KEN MATTSO  
 DRAWN BY: DAVE STEVENS

STATE OF ALASKA  
 DEPARTMENT OF TRANSPORTATION  
 & PUBLIC FACILITIES  
 STATEWIDE DESIGN & ENGINEERING  
 SERVICES DIVISION

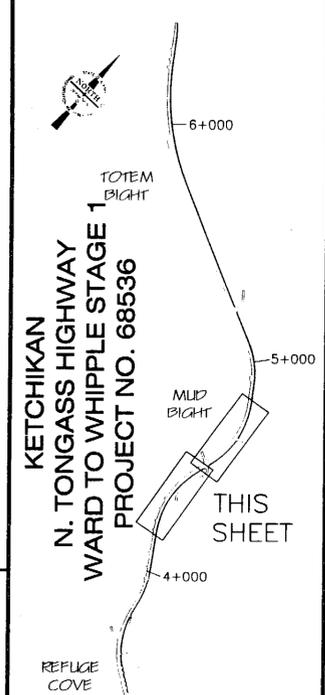
**KETCHIKAN  
 N. TONGASS HIGHWAY  
 WARD TO WHIPPLE  
 STAGE 1  
 Signing, Striping  
 & Illumination**

PROJECT DESIGNATION NUMBER	
<b>STP - 0920(19) / 68536</b>	
STATE	YEAR
<b>ALASKA</b>	<b>2004</b>
SHEET NUMBER	TOTAL SHEETS
<b>H1</b>	<b>65</b>

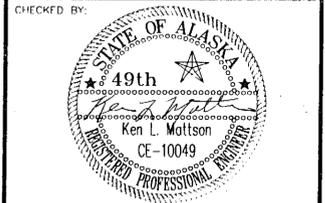


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ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION



STA. 3+860 TO 4+520



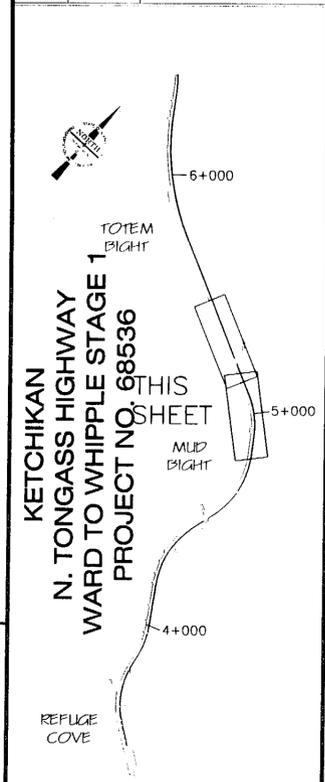
DESIGNED BY: KEN MATTSON  
 DRAWN BY: DAVE STEVENS

STATE OF ALASKA  
 DEPARTMENT OF TRANSPORTATION  
 & PUBLIC FACILITIES  
 STATEWIDE DESIGN & ENGINEERING  
 SERVICES DIVISION  
**KETCHIKAN  
 N. TONGASS HIGHWAY  
 WARD TO WHIPPLE  
 STAGE 1  
 Signing, Striping  
 & Illumination**

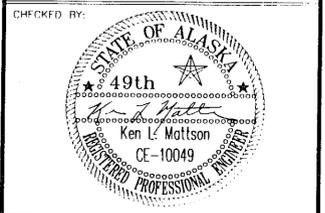
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**STP - 0920(19) / 68536**

STATE	YEAR
<b>ALASKA</b>	<b>2004</b>
SHEET NUMBER	TOTAL SHEETS
<b>H2</b>	<b>65</b>

ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION



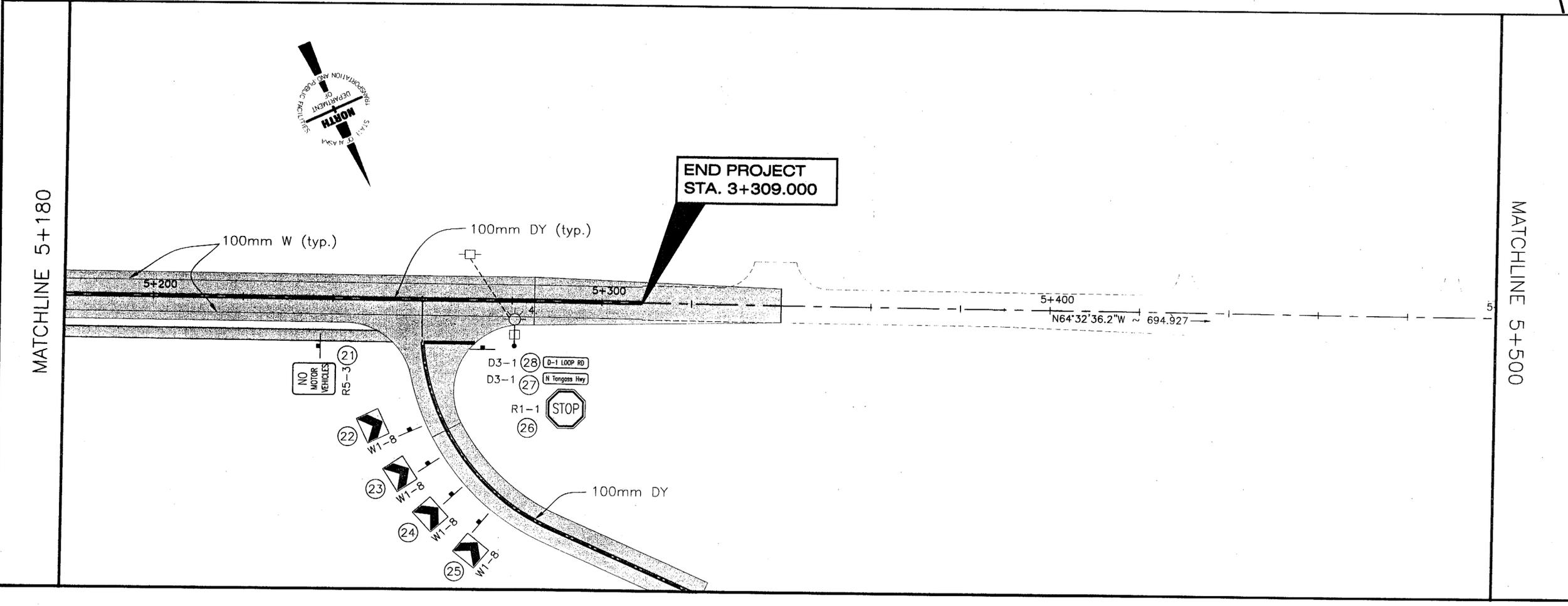
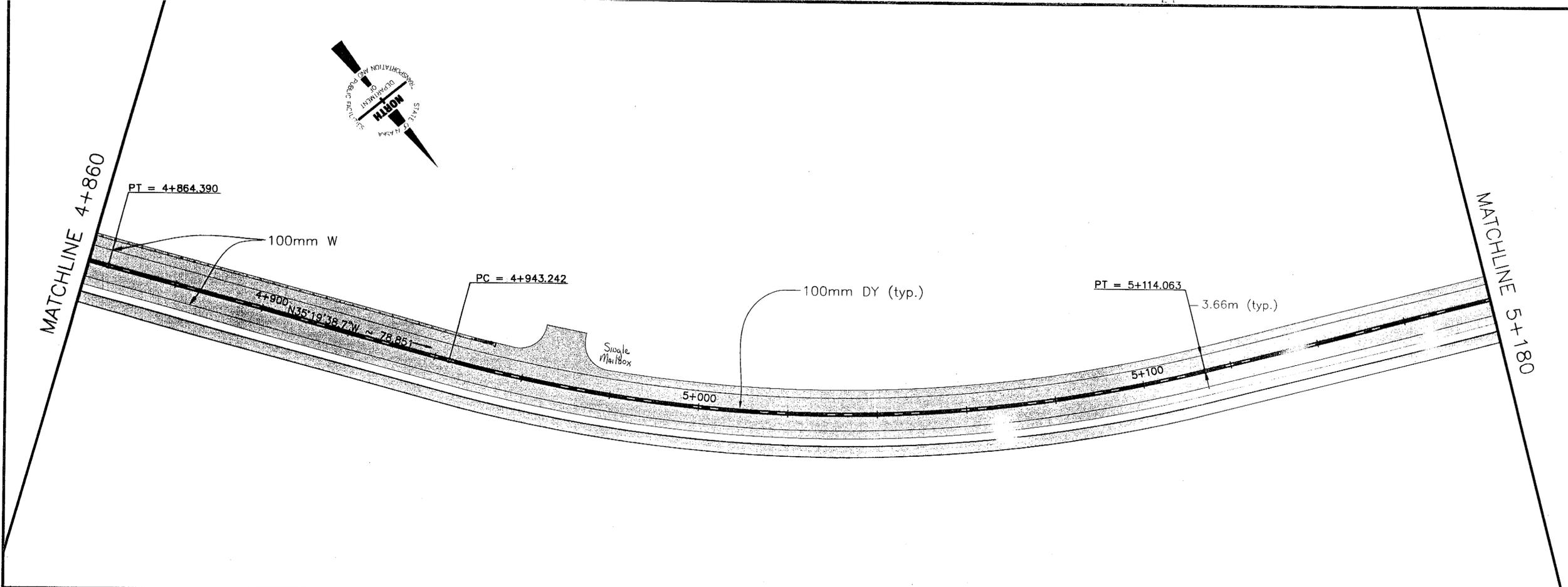
STA. 4+520 TO 5+180



DESIGNED BY: KEN MATTSON  
 DRAWN BY: DAVE STEVENS

STATE OF ALASKA  
 DEPARTMENT OF TRANSPORTATION  
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 SERVICES DIVISION  
**KETCHIKAN  
 N. TONGASS HIGHWAY  
 WARD TO WHIPPLE  
 STAGE 1**  
**Signing, Striping  
 & Illumination**

PROJECT DESIGNATION NUMBER	
<b>STP - 0920(19) / 68536</b>	
STATE	YEAR
<b>ALASKA</b>	<b>2004</b>
SHEET NUMBER	TOTAL SHEETS
<b>H3</b>	<b>65</b>



ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION

Signing Summary													
SIGN LOCATION	STATION	OFFSET		TYPE	FACING TRAFFIC*	SIGN LEGEND	SIZE (M)		AREA (SQ M)	POST SIZE	POST TYPE	REMARKS	
		LT	RT				WD	HT					
1	3+715	X		R1-1	EB	Stop	0.76	0.76	0.58	63mm	PST		
2	3+715	X		D3-1	EB/WB	N. Tongass Hwy	1.07	0.20	0.21			Mount above sign no. 1	
3	3+715	X		D3-1	NB/SB	Sunset Dr	0.76	0.20	0.15			Mount above sign no. 2	
4	"S1"1+020	X		W1-8	EB	Chevron	0.61	0.76	0.46	63mm	PST	Adjust as needed for maximum visibility	
5	"S1"1+025	X		W1-8	EB	Chevron	0.61	0.76	0.46	63mm	PST	Adjust as needed for maximum visibility	
6	"S1"1+035	X		W1-8	EB	Chevron	0.61	0.76	0.46	63mm	PST	Adjust as needed for maximum visibility	
7	"S1"1+040	X		W1-8	EB	Chevron	0.61	0.76	0.46	63mm	PST	Adjust as needed for maximum visibility	
8	3+920	X		D7-2R	SB	Refuge Cove	0.76	2.73	2.07	75mm	P	See Sheet H-5 For Modified D7-2R	
9	4+320	X		R1-1	EB	Stop	0.76	0.76	0.58	63mm	PST		
10	4+320	X		D3-1	NB/SB	Ohlson Rd	0.76	0.20	0.15			Mount above sign no. 9	
11	4+420		X	D10-1	NB	Mile 9 (4+160 Rt)	0.46	0.76	0.35	63mm	PST	Mount back to back on same post	
	4+420		X	D10-1	SB	Mile 9	0.46	0.76	0.35			Mount back to back on same post	
12	4+520		X	R5-3	SB	No Motor Vehicles	0.61	0.61	0.37	63mm	PST		
13	4+535	X		R1-1	EB	Stop	0.76	0.76	0.58	63mm	PST		
14	4+535	X		D3-1	EB/WB	N. Tongass Hwy	1.07	0.20	0.21			Mount above sign no. 13	
15	4+535	X		D3-1	NB/SB	Sunset Dr	0.76	0.20	0.15			Mount above sign no. 14	
16	4+547		X	R1-1	WB	Stop	0.76	0.76	0.58	63mm	PST		
17	4+547		X	D3-1	NB/SB	Rhea Rd	0.61	0.20	0.12			Mount above sign no. 16	
18	4+570		X	R5-3	NB	No Motor Vehicles	0.61	0.61	0.37	63mm	PST		
19	4+715		X	R1-1	WB	Stop	0.76	0.76	0.58	63mm	PST		
20	4+715		X	D3-1	NB/SB	Snow Goose Rd	1.07	0.20	0.21			Mount above sign no. 19	
21	5+190		X	R5-3	SB	No Motor Vehicles	0.61	0.61	0.37	63mm	PST		
22	"D1"1+027		X	W1-8	WB	Chevron	0.61	0.76	0.46	63mm	PST	Adjust as needed for maximum visibility	
23	"D1"1+034		X	W1-8	WB	Chevron	0.61	0.76	0.46	63mm	PST	Adjust as needed for maximum visibility	
24	"D1"1+041		X	W1-8	WB	Chevron	0.61	0.76	0.46	63mm	PST	Adjust as needed for maximum visibility	
25	"D1"1+048		X	W1-8	WB	Chevron	0.61	0.76	0.46	63mm	PST	Adjust as needed for maximum visibility	
26	5+220		X	R1-1	WB	Stop	0.76	0.76	0.58	63mm	PST		
27	5+220		X	D3-1	EB/WB	N. Tongass Hwy	1.07	0.20	0.21			Mount above sign no. 27	
28	5+220		X	D3-1	NB/SB	D-1 Loop Rd	0.91	0.20	0.18			Mount above sign no. 28	
29	3+660		X	R5-3	SB	No Motor Vehicles	0.61	0.61	0.37	63mm	PST		
30	3+620		X	D7-2L	NB	Refuge Cove	0.76	2.73	2.07	63mm	P	See Sheet H-5 For Modified D7-2L	
31	S. Sunset Dr.		X	R2-1	NB	Speed Limit 20	0.61	0.76	0.46	63mm	PST	Place as directed by the Engineer	
32	N. Sunset Dr.		X	R2-1	NB	Speed Limit 20	0.61	0.76	0.46	63mm	PST	Place as directed by the Engineer	
<b>Total S.M.</b>									<b>15.99</b>				

**SIGNING NOTES:**

- \* FOR THE PURPOSES OF THIS TABLE, NORTH TONGASS HWY IS CONSIDERED AS RUNNING NORTH OR SOUTH. (NB OR SB) TRAFFIC FROM OR ONTO SIDESTREETS OR APPROACHES IS CONSIDERED AS RUNNING EAST/WEST. (EB OR WB)
- 1. SIGN LOCATIONS ARE APPROXIMATE ONLY AND SUBJECT TO MINOR REVISIONS BY THE ENGINEER.
- 2. SEE STANDARD DRAWINGS S-00.10, S-01.00, S-05.01, S-20.10, S-30.03 AND S-31.00.
- 3. EXISTING SIGNS SHALL BE REMOVED AND DISPOSED OR SALVAGED AS DIRECTED BY THE ENGINEER.

KETCHIKAN  
 N. TONGASS HIGHWAY  
 WARD TO WHIPPLE STAGE 1  
 PROJECT NO. 68699

**Signing Summary**

CHECKED BY:



DESIGNED BY: KEN MATTSON  
 DRAWN BY: DAVE STEVENS

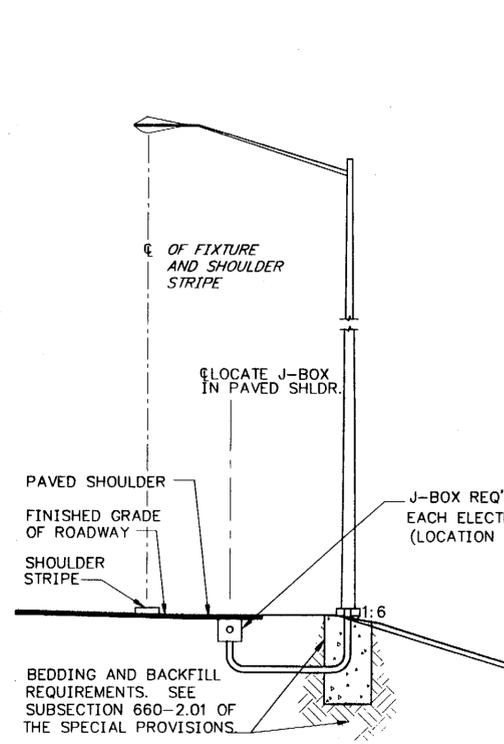
STATE OF ALASKA  
 DEPARTMENT OF TRANSPORTATION  
 & PUBLIC FACILITIES  
 STATEWIDE DESIGN & ENGINEERING  
 SERVICES DIVISION  
**KETCHIKAN  
 N. TONGASS HIGHWAY  
 WARD TO WHIPPLE  
 STAGE 1**

**Signing Summary**

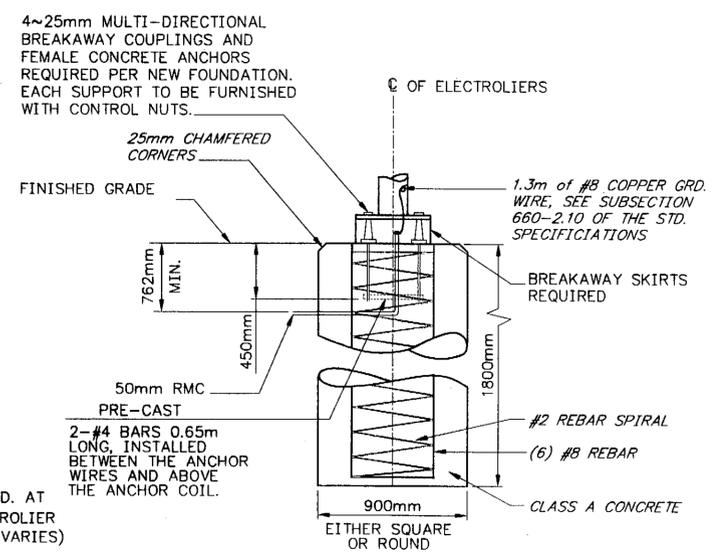
PROJECT DESIGNATION NUMBER  
**STP - 0920(19) / 68536**

STATE	YEAR
<b>ALASKA</b>	<b>2004</b>
SHEET NUMBER	TOTAL SHEETS
<b>H4</b>	<b>65</b>

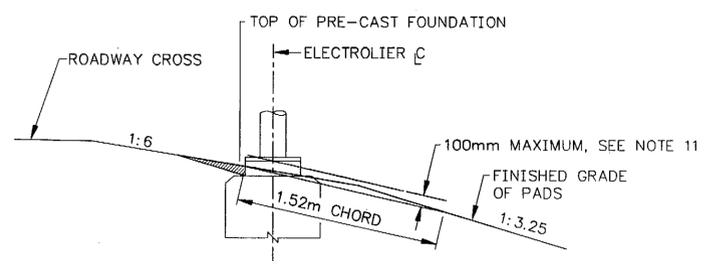




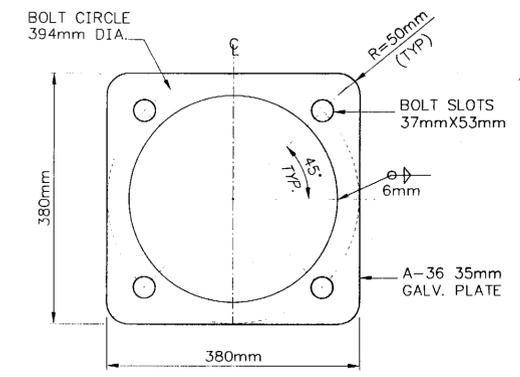
**TYPICAL SECTION FOR ELECTROLIER**



**FOUNDATION WITH BREAKAWAY COUPLINGS**



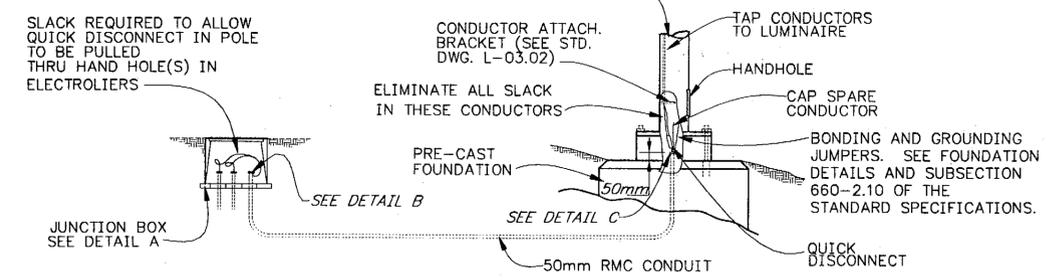
**FOUNDATION INSTALLATION DETAIL**  
 INDICATES EMBANKMENT MATERIAL TO BE REMOVED FROM AROUND BREAKAWAY SKIRTS



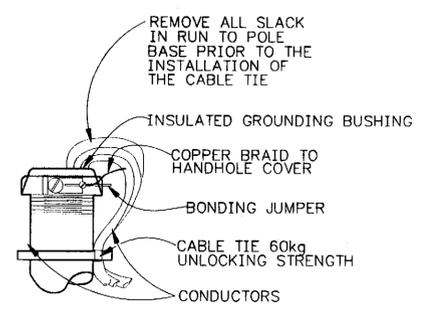
**ANCHOR BASE DETAIL**

**ILLUMINATION GENERAL NOTES**

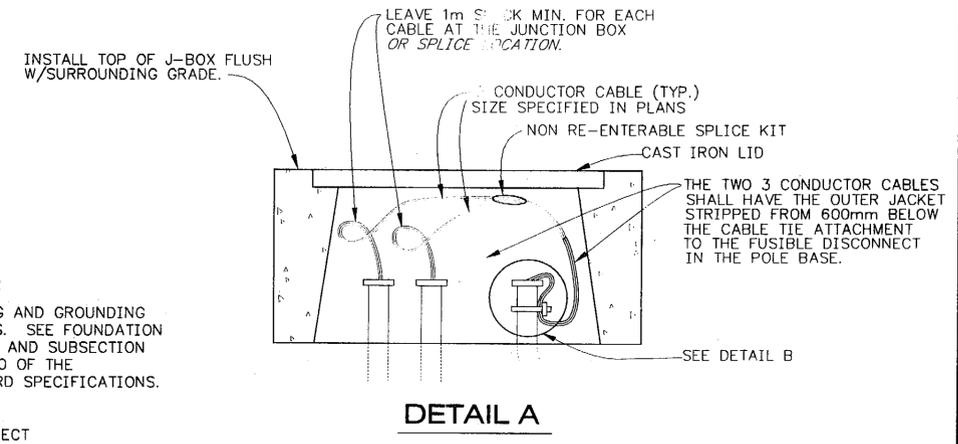
1. ALL WIRING SHALL BE ENCASED IN 50mm DIA. RIGID METAL CONDUIT.
2. EACH ELECTROLIER SHALL HAVE A J-BOX INSTALLED ADJACENT TO THE FOUNDATION AS SHOWN IN THE POLE AND J-BOX SUMMARY.
3. ALL JUNCTION BOXES SHALL BE TYPE I-A, EXCEPT AT LOAD CENTERS, SEE STANDARD DRAWING L-23.01.
4. A BARE STRANDED GROUND CONDUCTOR SHALL BE INSTALLED THROUGH ALL CONDUITS. THE GROUND CONDUCTOR SHALL BE ATTACHED TO ALL CONDUIT END BUSHINGS AND POLES.
5. NEW ELECTROLIER FOUNDATIONS MAY BE PRE-CAST. PRE-CAST FOUNDATIONS SHALL BE TRANSPORTED USING A DEVICE THAT SPREADS THE LOAD EVENLY BETWEEN THE ANCHOR BOLTS.
6. INSTALL THE PHOTOELECTRIC CELL ON TOP OF EACH ELECTROLIER POLE.
7. ILLUMINATION CIRCUIT WIRES SHALL BE NO. 8 AWG. 3-CONDUCTOR CABLE AS SPECIFIED IN STANDARD SPECIFICATION 660-2.08.
8. LUMINAIRES SHALL BE 240 VOLT, 250 WATT, HIGH PRESSURE SODIUM, MEDIUM DISTRIBUTION, CUT-OFF, IES TYPE III AND SHALL BE HAVE MAGNETIC REGULATOR BALLASTS, AND HPS LAMPS WITH A 24,000 HOUR RATED LIFE.
9. NON-BREAKAWAY PORTIONS OF FOUNDATIONS SHALL NOT PROTRUDE MORE THAN 100 mm ABOVE ANY 1.5 m CHORD STARTING AND ENDING ON THE FINISHED GRADE OF THE ELECTROLIER PADS.
10. LUMINAIRE MASTARMS SHALL BE 4.6m LONG UNLESS NOTED ELSEWHERE.
11. NEW LUMINAIRES SHALL HAVE A 10.7m MOUNTING HEIGHT.



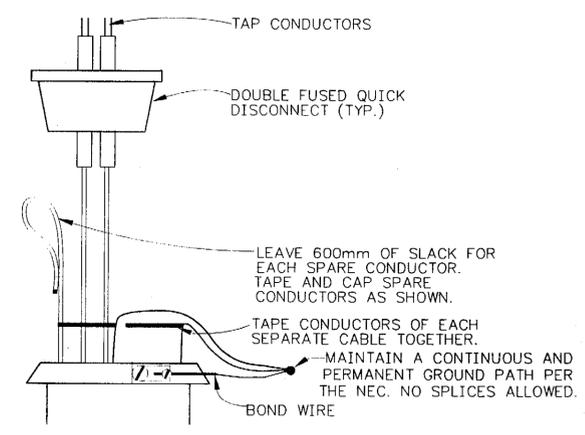
**LIGHTING SYSTEM POLE AND J-BOX WIRING DETAILS (BREAKAWAY COUPLINGS)**



**DETAIL B ( IN J-BOX )**



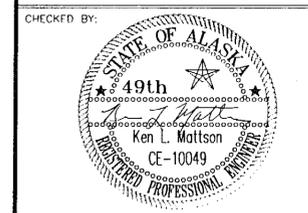
**DETAIL A**



**DETAIL C ( IN POLE BASE )**

KETCHIKAN  
 N. TONGASS HIGHWAY  
 WARD TO WHIPPLE STAGE 1  
 PROJECT NO. 68536

**Signing & Striping**



CHECKED BY:  
 DESIGNED BY: KEN MATTSON  
 DRAWN BY: DAVE STEVENS  
 STATE OF ALASKA  
 DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES  
 STATEWIDE DESIGN & ENGINEERING SERVICES DIVISION  
 KETCHIKAN  
 N. TONGASS HIGHWAY  
 WARD TO WHIPPLE  
 STAGE 1

**Signing & Striping**  
 PROJECT DESIGNATION NUMBER  
 STP - 0920(19) / 68536

STATE	YEAR
ALASKA	2004
SHEET NUMBER	TOTAL SHEETS
H6	65

TAB: SUMM-SHI

ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION

**KETCHIKAN**  
**N. TONGASS HIGHWAY**  
**WARD TO WHIPPLE STAGE 1**  
**PROJECT NO. 68536**

**Site Plan &**  
**Estimate of Quantities**



DESIGNED BY: Paul Jones  
 DRAWN BY: David Stevens

STATE OF ALASKA  
 DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES  
 STATEWIDE DESIGN & ENGINEERING SERVICES DIVISION

**KETCHIKAN**  
**N. TONGASS HIGHWAY**  
**WARD TO WHIPPLE**  
**STAGE 1**

**Site Plan &**  
**Estimate of Quantities**

PROJECT DESIGNATION NUMBER  
**STP - 0920(19) / 68536**

STATE	YEAR
ALASKA	2004
SHEET NUMBER	TOTAL SHEETS
H7	65

**REFERENCE SPECIFICATIONS**

ALL WIRING IN THIS SECTION SHALL BE CONSTRUCTED PER SPECIFICATION SECTION 660 SIGNALS AND LIGHTING, EXCEPT WHERE NOTED ON THE PLANS OR IN THE SPECIAL PROVISIONS. IN PARTICULAR, ALL CONSTRUCTION SHALL CONFORM TO SPECIFICATION SECTIONS 660-2.05 CONDUIT, 660-2.06 JUNCTION BOXES, 660-2.08 CONDUCTORS, 660-2.09 WIRING, 660-2.10 BONDING AND GROUNDING, AND 660-2.13 FIELD TESTS, EXCEPT AS MODIFIED BY SECTION 669 PERMANENT TRAFFIC RECORDERS.

**LABELS**

ALL CABLES SHALL BE LABELED AT BOTH ENDS AND AT EVERY JUNCTION BOX THROUGH WHICH THE CABLES PASS, PER SPECIFICATION SECTION 660-209(a)

ALL WIRE PAIRS SHALL BE LABELED AT THE TERMINAL BLOCK AND AT ANY LOOSE ENDS.

THE CONVENTIONS BELOW SHALL APPLY TO DESIGNATING AND LABELING CABLES AND WIRE PAIRS:

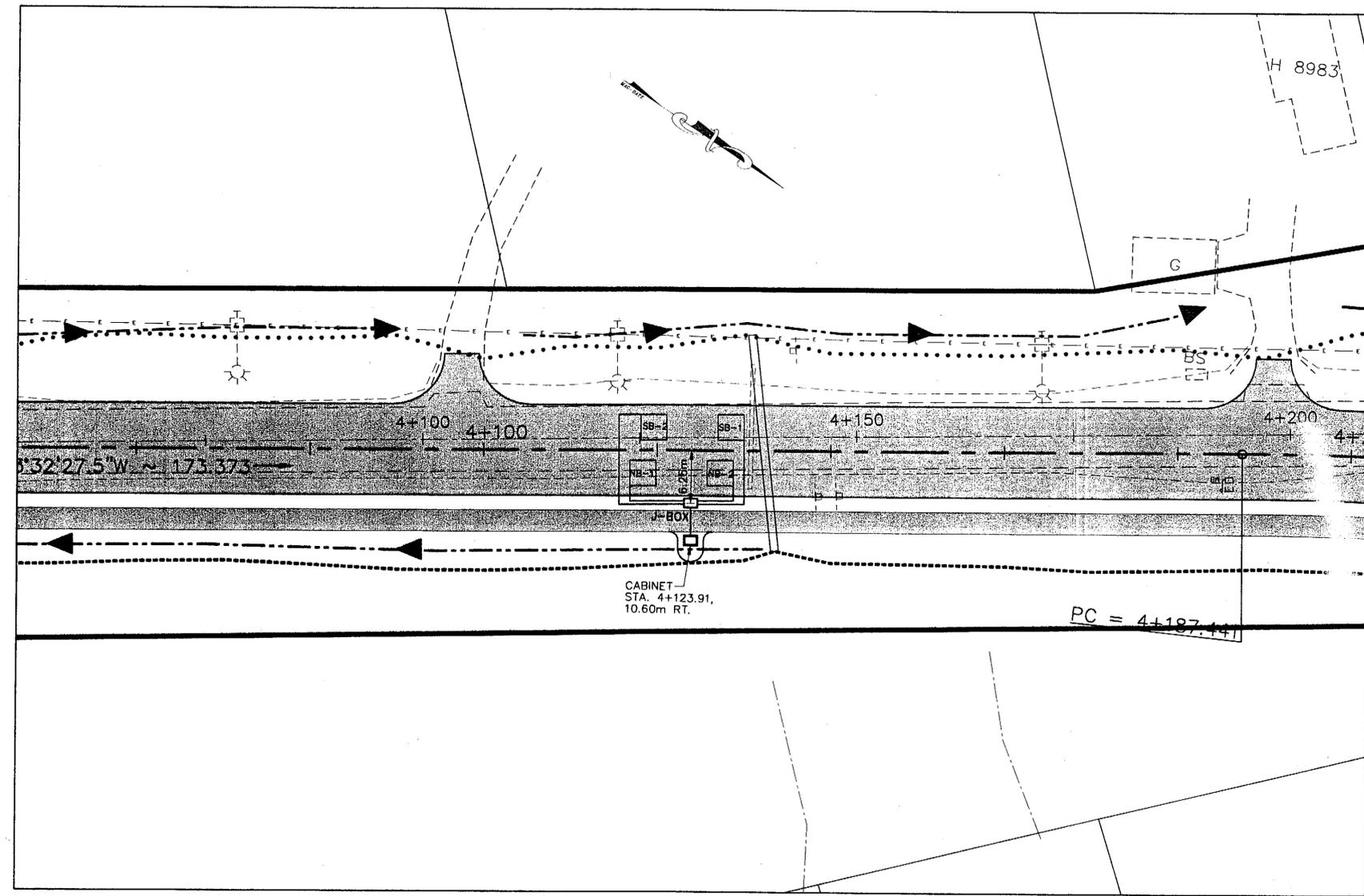
LANES: TRAFFIC LANES AND THEIR RESPECTIVE LOOPS AND SENSORS SHALL BE LABELED FROM THE OUTSIDE EDGE OF THE ROAD TOWARD THE CENTER AS FOLLOWS:

TERMINAL BLOCKS: WIRES FROM SENSORS PLACED IN LANES WHICH ARE CLOSEST TO THE CONTROL BOX SHALL BE PLACED AT THE LEFT OR AT THE TOP OF THE TERMINAL BLOCK, DEPENDING ON ORIENTATION.

WIRES FOR INDUCTIVE LOOP SENSORS AND RESERVES SHALL BE LABELED AS FOLLOWS:

WHERE: nDLc

n NUMBER SUFFIX FOR MULTIPLE LOOPS  
 D DIRECTION (N, S, E, W)  
 Lc LANE DESIGNATION (A, B, C, D)  
 (X) CONDUIT REFERENCE NUMBER  
 (XX) NOTE REFERENCE NUMBER



**SITE PLAN**  
 N.T.S.

**BASIS OF HORIZONTAL & VERTICLE CONTROL**

1. HORIZONTAL AND VERTICAL CONTROL IS BASED ON THE EXISTING CENTERLINE AND EXISTING FINISHED SURFACE. THE STATIONING SHOWN ON THE PLANS IS FOR INFORMATIONAL PURPOSES ONLY AND SUBJECT TO CHANGE.

**GENERAL NOTES:**

1. INSTALLATION OF EQUIPMENT AND MATERIALS SHALL CONFORM TO APPLICABLE REQUIREMENTS OF THE CURRENT NEC, ALASKA DOT/PF STANDARD SPECIFICATION FOR HIGHWAY CONSTRUCTION.
2. EVERY EFFORT HAS BEEN MADE TO MAKE THE INFORMATION CONTAINED IN THESE DOCUMENTS COMPLETE AND ACCURATE, HOWEVER THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING SITE CONDITIONS AND DIMENSIONS.
3. ALL CONSTRUCTION SHALL BE WITHIN STATE RIGHT-OF-WAY.
4. ALL EXCAVATION SHALL BE WASTE AND HAULED TO APPROVED WASTE SITE PER THE ENGINEERS APPROVAL OF WHICH PAYMENT WILL BE INCIDENTAL TO ITEM 669(2).

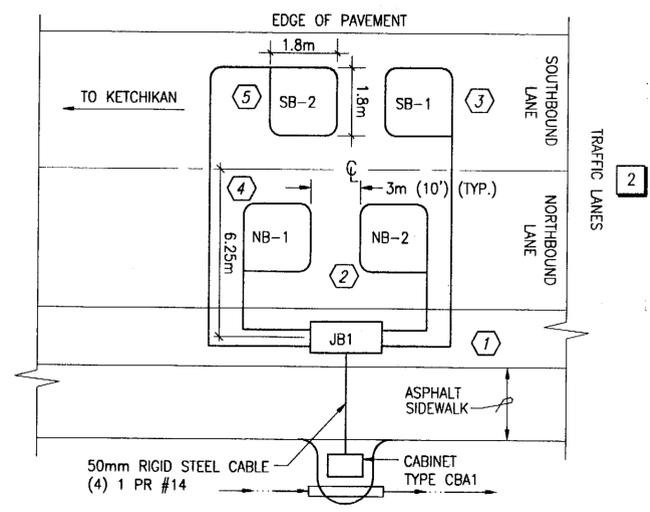
**ASSEMBLIES SCHEDULE**

PAY ITEM	STATION	CABINET OFFSET	CABINET ASSEMBLY STYLE	INDUCTIVE LOOPS	WIM SENSOR & TYPE	AVC SENSOR & TYPE	LOAD CENTER & TYPE	ELECTRICAL AND TELEPHONE SERVICE
669	AS SHOWN SITE PLANS	11.5m± N. TONGASS HIGHWAY	CBA1 CABINET	4	NONE	NONE	NONE	NO

1 CABINET OFFSET AS MEASURED FROM CENTERLINE, TO BE FIELD ADJUSTED, INSTALLATION NOT TO EXCEED RIGHT OF WAY LIMITS.

**ESTIMATE OF QUANTITIES**

ITEM NO.	ITEM	UNIT	QUANTITY
669(2)	AUTOMATED TRAFFIC RECORDER	LUMP SUM	ALL REQ'D.



**SECTION "B-B"  
 TRAFFIC COUNTER TYPICAL**

RMC CONDUIT NO.	SIZE	FROM	TO	CABLE QTY.	TYPE
1	50.8mm	CBA1	JB1	1	4PR No.14
2	25.4mm	JB2	NB-1	1	1PR No.14
3	25.4mm	JB2	NB-2	1	1PR No.14
4	25.4mm	JB2	SB-1	1	1PR No.14
5	25.4mm	JB2	SB-2	1	1PR No.14

**CONDUIT/CONDUCTOR SCHEDULE**

TB-1			
1	NB-1	1PR #14	NB-1
2	NB-2	1PR #14	NB-2
3	SPARE		
4	SB-1	1PR #14	SB-1
5	SB-2	1PR #14	SB-2
6	SPARE		
7	SPARE		

**WIRING SCHEMATIC DETAIL**

**SHEET NOTES (X REFERENCED ON DRAWING)**

1. JUNCTION BOX SHOWN HERE IS JB1 ON SITE PLAN.
2. CONTROLLER CABINET DOORS TO OPEN AWAY FROM ROADWAY.
3. USE FACTORY 90° ELBOWS TO/FROM J-BOXES ON ALL CONDUITS LARGER THAN 25.4mm.
4. ALL CONDUIT SHALL BE GALVANIZED STEEL UNLESS NOTED OTHERWISE.
5. NOT ALL CONDUITS MAY BE SHOWN IN DETAIL. ADD OTHERS AS REQUIRED.
6. PROVIDE TRANSPO 4 BOLT BREAK-AWAY BASE.
7. PROVIDE CONDUIT DRAIN HOLES PER STANDARD SPECIFICATIONS SECTION 660-2.05.

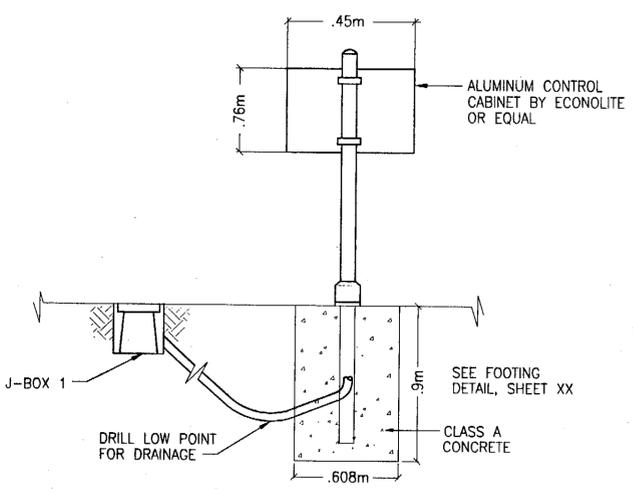
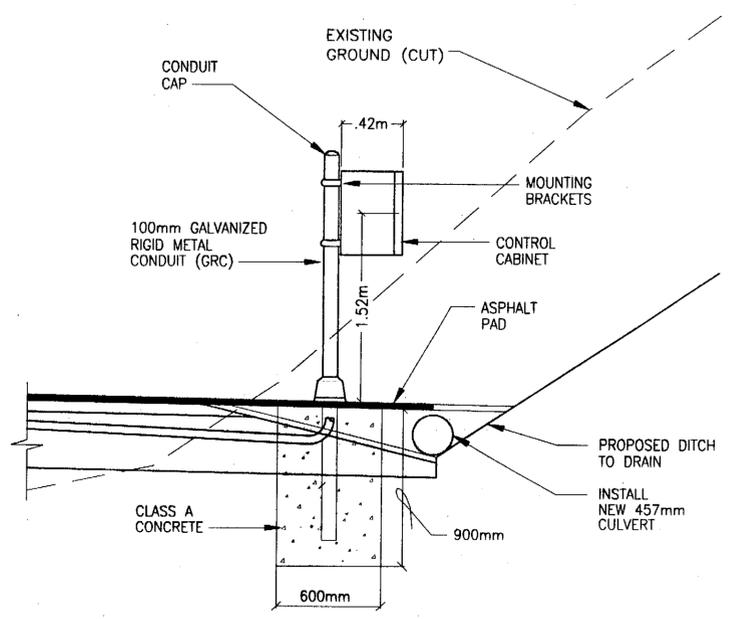
**JUNCTION BOX SUMMARY**

NUMBER	TYPE
JB1	1-A

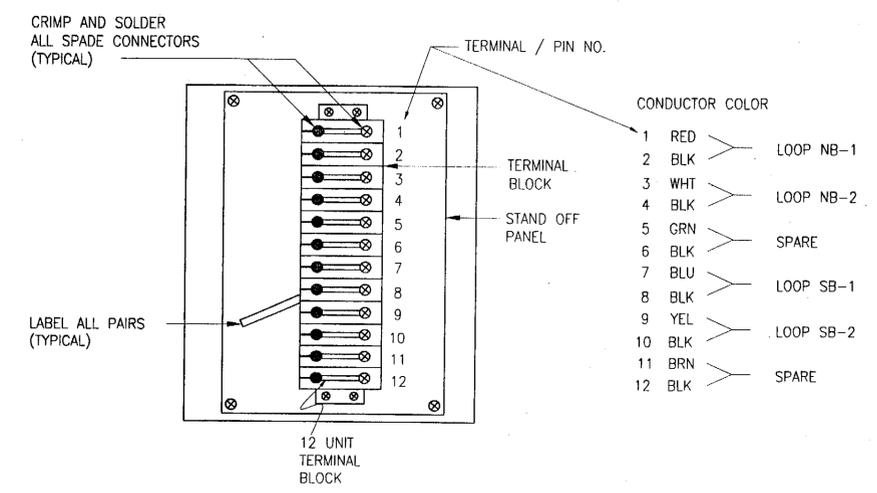
SEE STANDARD DRAWING 23.01[M] FOR J-BOX DETAILS.

**SHEET NOTES (X REFERENCED ON DRAWING)**

1. SEE TYPICAL SECTIONS FOR DIMENSIONS.
2. INDUCTION LOOPS TO BE CENTERED IN TRAFFIC LANES.
3. SEE SUMMARY SHEET SCHEDULE.
4. SINGLE LINES ON WIRING DIAGRAM REPRESENT 3 PAIR CONDUCTOR CABLES, DASHED LINES REPRESENT COAX CABLES.
5. DIMENSIONS ARE TYPICAL FOR ALL LANES.
6. WHEN BIKEPATH IS PRESENT, MOUNT J-BOX .608m BEHIND PATH.



**PLAN "A-A"  
 CABINET TYPE CBA1 DETAIL**  
 NTS



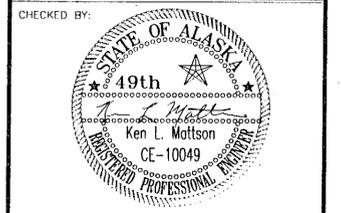
**CABINET TYPE CBA1 DETAIL**  
 FRONT VIEW, DOOR OPEN

TAB: DETS2

ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION

**KETCHIKAN  
 N. TONGASS HIGHWAY  
 WARD TO WHIPPLE STAGE 1  
 PROJECT NO. 68536**

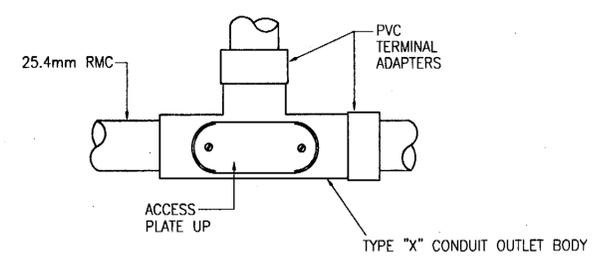
**Miscellaneous Details**



DESIGNED BY: Paul Jones  
 DRAWN BY: David Stevens  
 STATE OF ALASKA  
 DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES  
 STATEWIDE DESIGN & ENGINEERING SERVICES DIVISION  
**KETCHIKAN  
 N. TONGASS HIGHWAY  
 WARD TO WHIPPLE  
 STAGE 1**

**Miscellaneous Details**

PROJECT DESIGNATION NUMBER	
<b>STP - 0920(19) / 68536</b>	
STATE	YEAR
<b>ALASKA</b>	<b>2004</b>
SHEET NUMBER	TOTAL SHEETS
<b>H8</b>	<b>65</b>



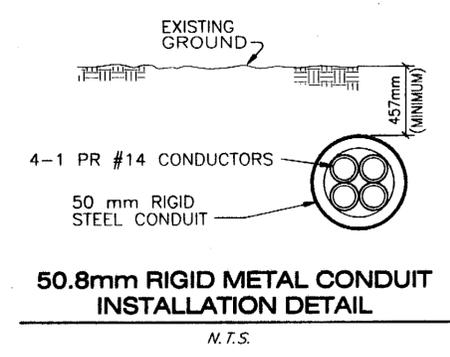
**CONDUIT DETAIL**

**INDUCTIVE LOOPS**

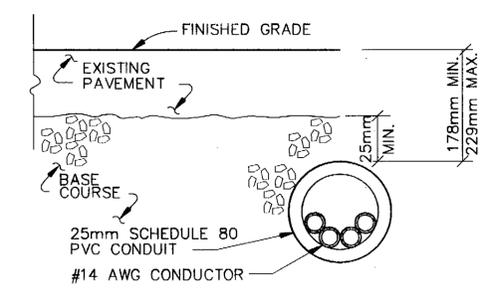
ALL INDUCTIVE LOOPS SHALL BE WOUND IN THE SAME DIRECTION WITH THE STARTING LEAD MARKED "S" PER SECTION 660-209(A).

LEAD-IN WIRES FOR EACH LOOP SHALL BE IN SEPARATE CONDUITS TO THE FIRST JUNCTION BOX. THESE CONDUITS SHALL BE SEPARATED FROM OTHER LOOPS BY A MINIMUM OF 300 mm.

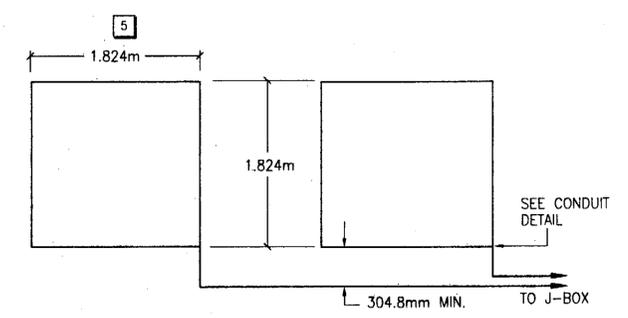
INDUCTIVE LOOPS SHALL BE INSTALLED IMMEDIATELY PRIOR TO PAVING THIS SECTION OF ROADWAY. FINAL LIFT ASPHALT PAVEMENT SHALL BE SMOOTH OVER ALL INDUCTIVE LOOPS AND WITHOUT TRANSVERSE SEAMS, JOINTS OR ROUGHNESS WITHIN 15 METERS OF THE LOOPS.



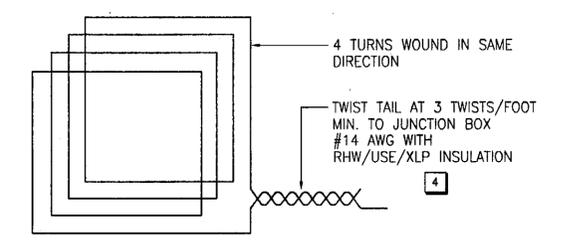
**50.8mm RIGID METAL CONDUIT INSTALLATION DETAIL**  
 N.T.S.



**PVC LOOP CONDUIT DETAIL**



**LOOP INSTALLATION PLAN**



**LOOP WIRING DETAIL**

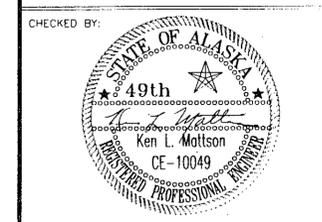
**SHEET NOTES** ( X ) REFERENCED ON DRAWING

1. PRIOR TO FINAL ACCEPTANCE OF THE PROJECT, EACH LOOP SHALL BE CHECKED FOR CONTINUITY AND CONDUCTOR INSULATION INTEGRITY IN ACCORDANCE WITH SECTION 660-2.14 OF THE SPECIFICATIONS.
2. LABEL ALL LOOP TAPS AND LEAD-IN WIRE IN ACCORDANCE WITH SECTION 660-2.08 AND TABLE 660(4) OF THE SPECIFICATIONS.
3. DETECTOR LOOP SHALL BE 1.824m WIDE BY 1.824m LONG, UNLESS DIMENSIONED OTHERWISE IN THE PLANS.
4. LEAD IN WIRES FOR EACH LOOP SHALL BE IN SEPARATE CONDUITS TO THE FIRST JUNCTION BOX WITH A MINIMUM SEPARATION BETWEEN CONDUITS OF 152.4mm.
5. INDUCTIVE LOOPS SHALL BE INSTALLED IMMEDIATELY PRIOR TO PAVING. FINAL LIFT ASPHALT PAVEMENT SHALL BE SMOOTH OVER ALL INDUCTIVE LOOPS AND WITHOUT TRANSVERSE SEAMS, JOINTS, OR ROUGHNESS WITHIN 15.2m OF LOOPS.
6. ALL PVC CONDUIT COUPLINGS, ELBOWS AND ADAPTERS SHALL BE 25.4mm SCHED. 80.
7. ALL PVC JOINTS SHALL BE SOLVENT WELDED AND WATERTIGHT.
8. INSTALL 12.7mm PREFORMED BITUMINOUS JOINT MATERIAL AROUND ALL JUNCTION BOXES WHEN LOCATED IN A SIDEWALK.
9. PROVIDE GROUNDING BUSHINGS ON ALL CONDUITS. GROUND WITH MIN. No. 4 BARE CU.
10. ALL JUNCTION BOX COVERS SHALL BE BONDED WITH COPPER BRAID OF #8 AWG CROSS SECTION. FOR TYPES I & I-A THE LENGTH SHALL BE .912m, AND 1.52m FOR TYPES II & III.
11. J-BOX TO BE LOCATED .608m BEHIND UTILIWALK OR SIDEWALK WHEN PRESENT. J-BOXES SHALL BE CONSTRUCTED AND INSTALLED PER STANDARD DRAWING L-23.01[M].
12. JUNCTION BOXES SHALL BE SET FLUSH WITH THE SURROUNDING SURFACE EXCEPT IN AN UNPAVED SHOULDER, WHEN THEY SHALL BE LOCATED 50.8mm BELOW GRADE.
13. JUNCTION BOX COVERS TO BE EMBOSSED WITH "TRAFFIC".
14. PROVIDE CONDUIT DRAIN HOLES PER STANDARD SPECIFICATIONS SECTION 660-2.05.

TAB: DETS

ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION

**KETCHIKAN**  
**N. TONGASS HIGHWAY**  
**WARD TO WHIPPLE STAGE 1**  
**PROJECT NO. 68536**  
**Miscellaneous Details**



CHECKED BY:

DESIGNED BY: Paul Jones  
 DRAWN BY: David Stevens

STATE OF ALASKA  
 DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES  
 STATEWIDE DESIGN & ENGINEERING SERVICES DIVISION

**KETCHIKAN**  
**N. TONGASS HIGHWAY**  
**WARD TO WHIPPLE**  
**STAGE 1**

**Miscellaneous Details**

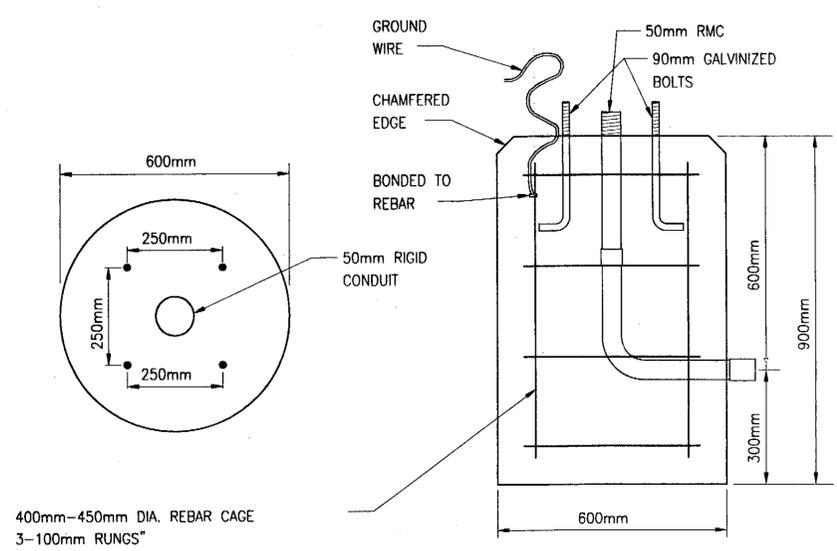
PROJECT DESIGNATION NUMBER

**STP - 0920(19) / 68536**

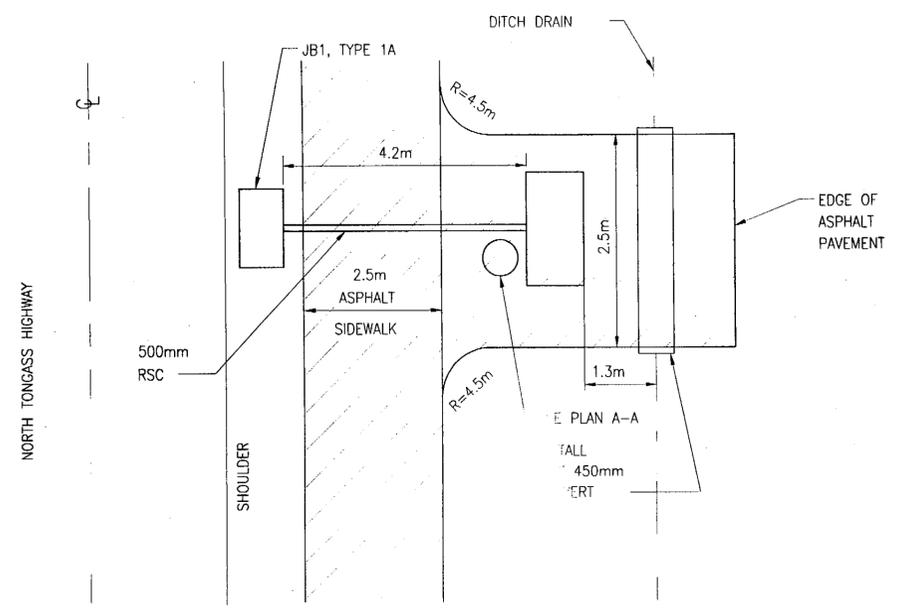
STATE	YEAR
<b>ALASKA</b>	<b>2004</b>
SHEET NUMBER	TOTAL SHEETS
<b>H9</b>	<b>65</b>

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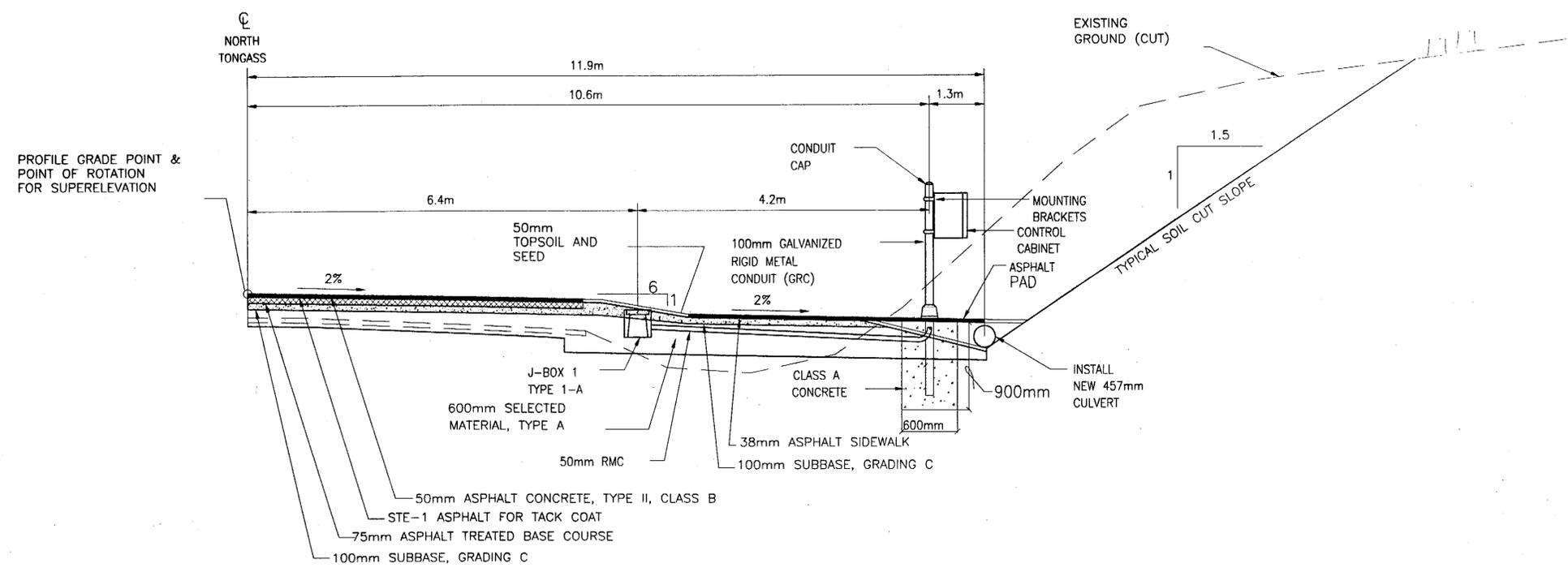
ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION



**CABINET POST FOOTING DETAIL**



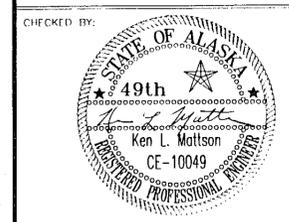
**PAD PLAN**



**PROFILE VIEW**

KETCHIKAN  
 N. TONGASS HIGHWAY  
 WARD TO WHIPPLE STAGE 1  
 PROJECT NO. 68536

Miscellaneous Details



CHECKED BY:  
 DESIGNED BY: Paul Jones  
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 STATE OF ALASKA  
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 KETCHIKAN  
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 WARD TO WHIPPLE STAGE 1

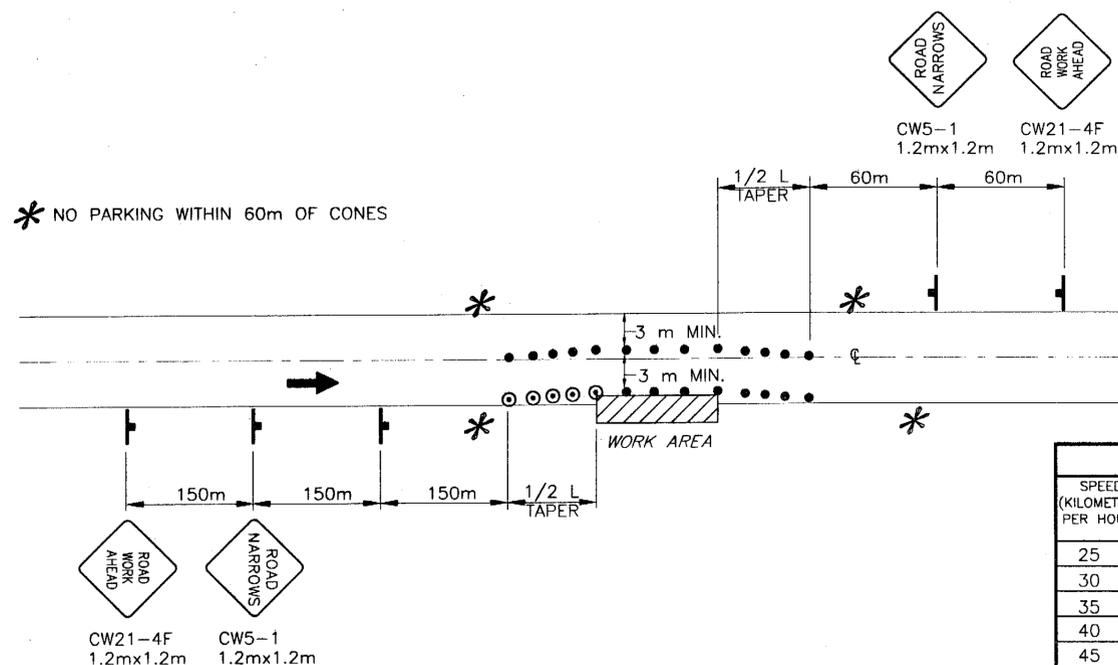
Miscellaneous Details

PROJECT DESIGNATION NUMBER  
**STP - 0920(19) / 68536**

STATE	YEAR
<b>ALASKA</b>	<b>2004</b>
SHEET NUMBER	TOTAL SHEETS
<b>H10</b>	<b>65</b>

### Traffic Control Notes:

- IT IS THE INTENT OF THIS TRAFFIC CONTROL PLAN (TCP) TO ILLUSTRATE SOME BUT NOT ALL OF THE TRAFFIC CONTROL CONFIGURATIONS THAT WILL BE REQUIRED BY THIS PROJECT. TRAFFIC CONTROL PLANS FOR CONFIGURATIONS NOT COVERED BY THIS TCP SHALL BE DEVELOPED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO USE.
- A MINIMUM OF ONE LANE SHALL BE MAINTAINED AT ALL TIMES, THROUGH ALL WORK AREAS.
- TWO LANES SHALL BE MAINTAINED AT ALL TIMES IN NON-WORK AREAS AND DURING NON-WORKING HOURS.
- TRAFFIC LANES SHALL BE A MINIMUM OF 3 METERS WIDE.
- CONSTRUCTION SIGNING SHALL BE IN PLACE ONLY WHEN THE CONDITIONS EXIST FOR WHICH THE SIGNS ARE INTENDED.
- TEMPORARY PAVEMENT MARKINGS WILL BE REQUIRED AS DESCRIBED IN SECTION 643-3.09 OF THE SPECIFICATIONS.
- CHANNELIZATION DEVICES WILL BE LIT IN ACCORDANCE WITH THE ALASKA TRAFFIC MANUAL IF USED AT NIGHT.
- THE CONTRACTOR SHALL GIVE 24 HOURS ADVANCE NOTICE BEFORE WORKING ON DRIVEWAYS.
- THE CONTRACTOR SHALL KEEP THE PUBLIC INFORMED OF HIS CONSTRUCTION ACTIVITIES THROUGH THE USE OF THE LOCAL NEWS MEDIA. NEWS RELEASES SHALL BE APPROVED BY THE PROJECT ENGINEER PRIOR TO THEIR RELEASE. NEWS RELEASES WILL BE REQUIRED BUT NOT LIMITED TO, THE ONSET OF WORK, GRINDING, PAVING, AND CHANGES IN THE LANE CONFIGURATIONS.
- THE MAXIMUM LENGTH OF A ONE LANE, TWO-WAY WORK ZONE (FLAGGER SETUP) SHALL BE 600 METERS.
- IF VEHICLE STOP TIME EXCEEDS THREE MINUTES, THE CONTRACTOR SHALL SHORTEN HIS WORK ZONE OR RESCHEDULE HIS WORK TO A LESS BUSY HOUR.
- FLAGGERS SHALL BE IN RADIO CONTACT WITH ONE ANOTHER.
- THE CONTRACTOR SHALL MAINTAIN A SOUTHBOUND LANE FOR THE A.M. PEAK HOURS 6:30-8:30AM, AND A NORTHBOUND LANE FOR THE P.M. PEAK HOURS 4:00-6:00PM. DURING THESE PEAK HOURS DELAYS SHALL NOT EXCEED 30 SECONDS.
- ACCESS TO HOMES AND BUSINESSES WILL BE KEPT OPEN AT ALL TIMES. WORK ON ACCESS TO ANY HOME OR BUSINESS THAT HAS ONLY ONE ACCESS, WILL BE DONE WITH HALF WIDTH CONSTRUCTION, AND BE CONTROLLED BY A FLAGGER.
- DRIVEWAYS AND APPROACH ROADS SHALL BE SIGNED FOR ONE WAY TRAFFIC, WHENEVER THAT CONDITION APPLIES.
- THE CONTRACTOR SHALL USE THE DOUBLE TRAFFIC FINE SIGNS (ST. DWG. C-04.12) ON DETOURS AND ANY LOCATION WHERE DIRECTED BY THE ENGINEER.
- WORKERS SHALL BE DRESSED IN HIGH VISIBILITY CLOTHING AS DETAILED IN SECTION 643-3.11 OF THE SPECIFICATIONS.



### Roadway Encroachment

NOTE: IF ONLY ONE LANE IS EFFECTED BY ROAD WORK (THAT IS, THE CONES ALONG THE WORK AREA ARE NO CLOSER THAN 3m TO CENTERLINE) THE CENTERLINE CONES FOR THE OPPOSING LANE MAY BE DELETED.

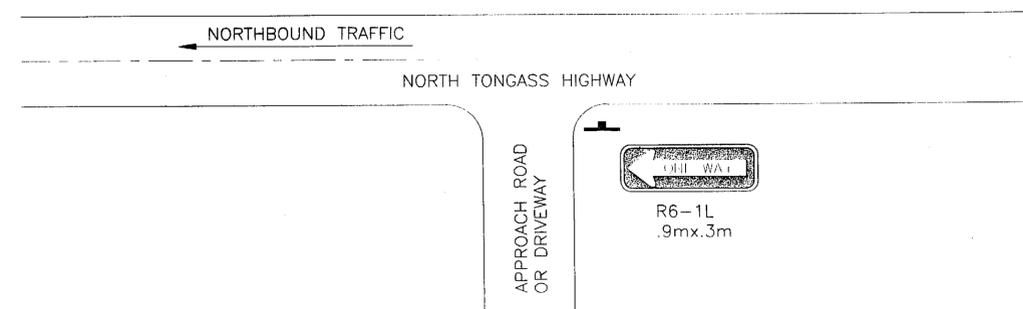
**LEGEND**

- ..... SIGN
- ..... CONE
- ..... DRUM
- ..... TYPE III BARRICADE
- ..... FLAGGING STATION

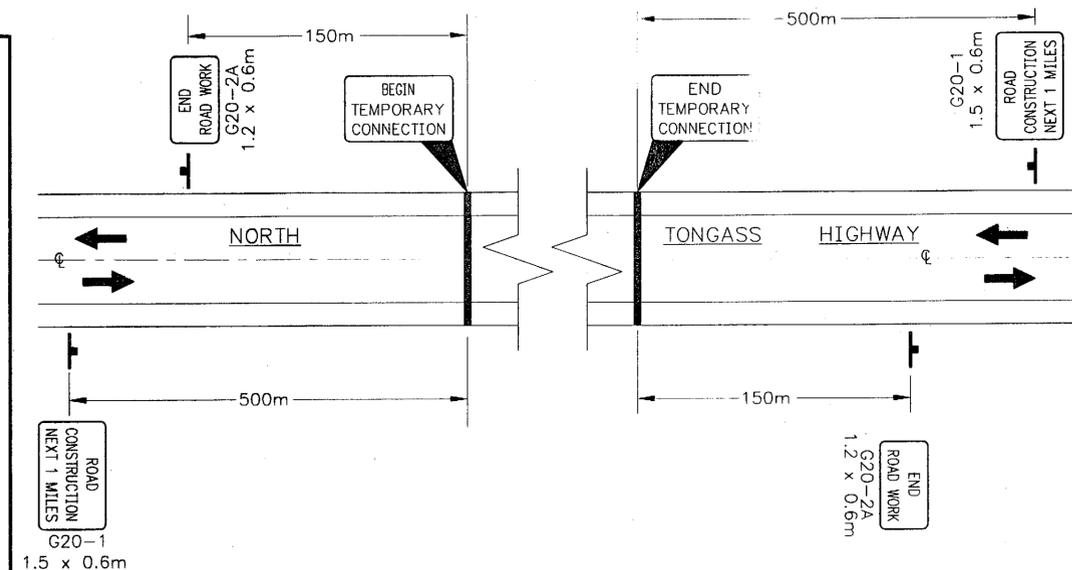
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W = WIDTH OF OFFSET  
T = TAPER RATE  
L = W x T

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30	19	11	6	6:1
35	22	14	7	8:1
40	25	17	8	10:1
45	28	21	9	13:1
50	31	26	10	16:1
55	34	35	11	19:1
60	37	43	12	23:1
65	40	52	13	27:1
70	43	62	14	32:1
75	47	75	15	47:1
80	50	85	16	50:1
85	53	98	17	53:1
90	56	110	18	56:1



Typical Driveway/Approach Signin For One Way Traffic On North Tongass



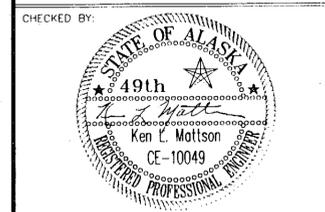
Permanent Construction Signing

NOTE: DO NOT SCALE FROM THESE PLANS-USE DIMENSIONS

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ADDENDUM NUMBER
ATTACHMENT NUMBER
RECORD OF REVISIONS
No. DATE DESCRIPTION

**TRAFFIC CONTROL PLAN**  
 KETCHIKAN  
 N. TONGASS HIGHWAY  
 WARD TO WHIPPLE STAGE 1  
 PROJECT NO. 68536



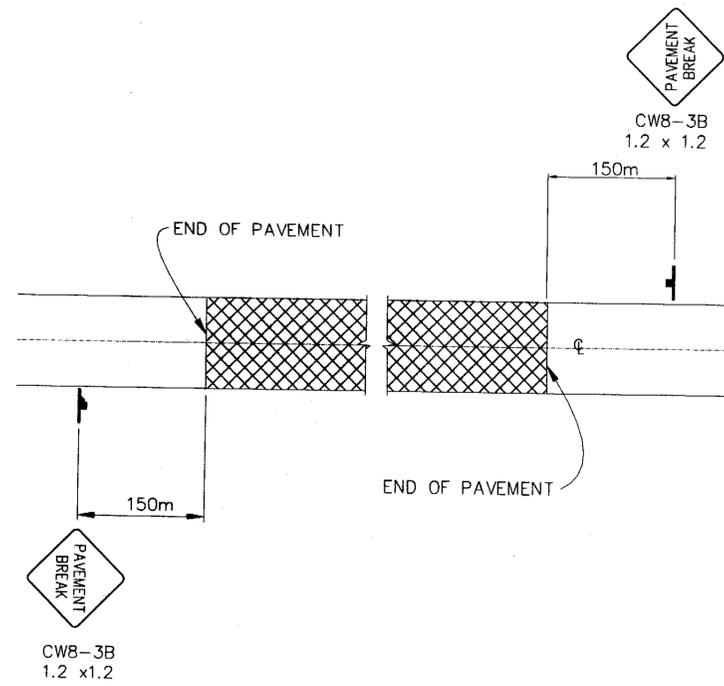
CHECKED BY: KEN MATTSON

DESIGNED BY: KEN MATTSON  
DRAWN BY: DAVE STEVENS

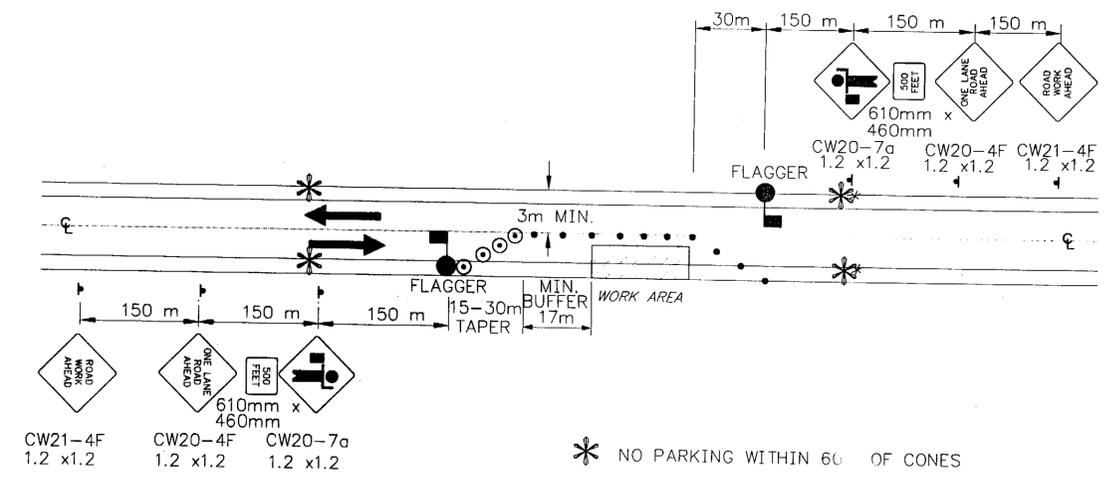
STATE OF ALASKA  
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES  
STATEWIDE DESIGN & ENGINEERING SERVICES DIVISION

**KETCHIKAN  
N. TONGASS HIGHWAY  
WARD TO WHIPPLE  
STAGE 1  
Traffic Control Plan**

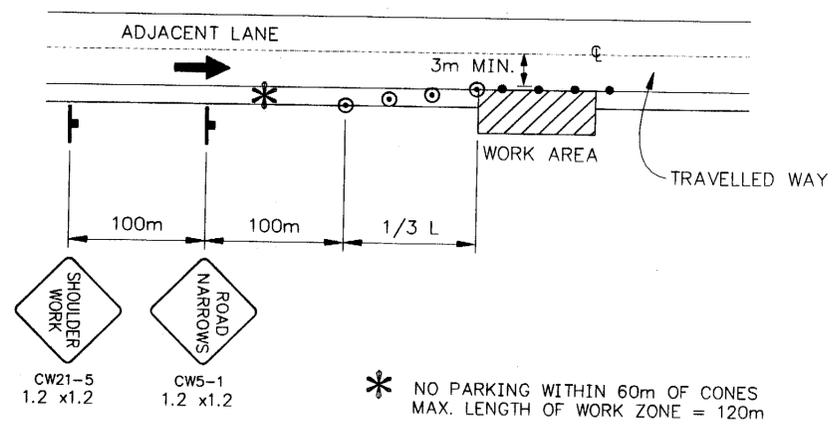
PROJECT DESIGNATION NUMBER
<b>STP - 0920(19) / 68536</b>
STATE YEAR
<b>ALASKA 2004</b>
SHEET NUMBER TOTAL SHEETS
<b>J1 65</b>



**Signing For Special Areas**



**Two Lane Road - Single Lane Closure  
Double Flagger**



**Shoulder Work**

**LEGEND**

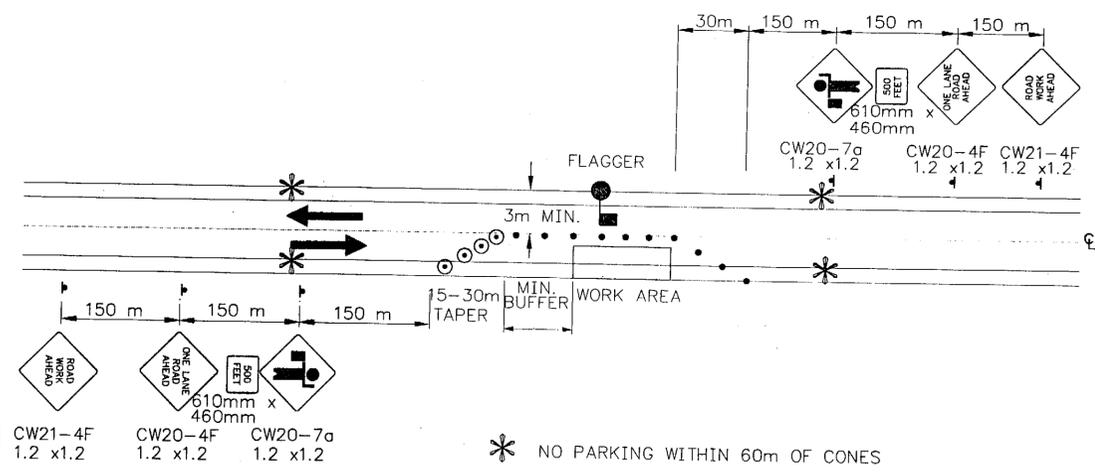
- ..... SIGN
- ..... CONE
- ..... DRUM
- III..... TYPE III BARRICADE
- ..... FLAGGING STATION

WHERE

L = LENGTH OF TAPER  
W = WIDTH OF OFFSET  
T = TAPER RATE  
L = W x T

**TCP TABLE SETUP**

SPEED (KILOMETERS PER HOUR)	SPEED (MILES PER HOUR)	BUFFER/LENGTH (m)	CONE/DRUM SPACING (m)	TAPER FACTOR (T)
25	16	9	5	4:1
30	19	11	6	6:1
35	22	14	7	8:1
40	25	17	8	10:1
45	28	21	9	13:1
50	31	26	10	16:1
55	34	35	11	19:1
60	37	43	12	23:1
65	40	52	13	27:1
70	43	62	14	32:1
75	47	75	15	47:1
80	50	85	16	50:1
85	53	98	17	53:1
90	56	110	18	56:1



**Two Lane Road - Single Lane Closure  
Single Flagger**

NOTE: DO NOT SCALE FROM THESE PLANS-USE DIMENSIONS

ADDENDUM NUMBER

ATTACHMENT NUMBER

RECORD OF REVISIONS

No.	DATE	DESCRIPTION

**TRAFFIC CONTROL PLAN**

KETCHIKAN  
N. TONGASS HIGHWAY  
WARD TO WHIPPLE STAGE 1  
PROJECT NO. 68536



DESIGNED BY: KEN MATTSON  
DRAWN BY: DAVE STEVENS

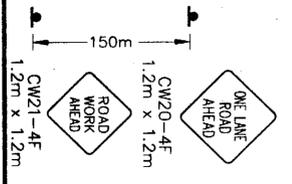
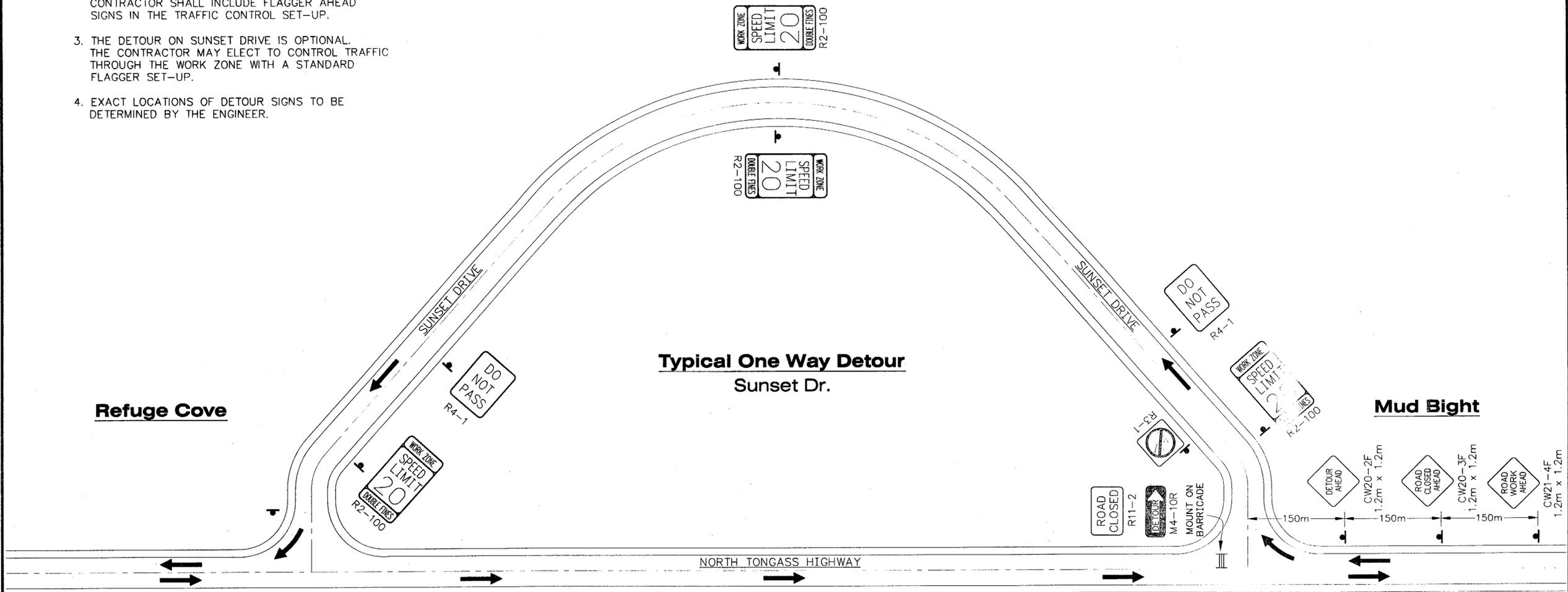
STATE OF ALASKA  
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES  
STATEWIDE DESIGN & ENGINEERING SERVICES DIVISION  
**KETCHIKAN  
N. TONGASS HIGHWAY  
WARD TO WHIPPLE  
STAGE 1  
Traffic Control Plan**

PROJECT DESIGNATION NUMBER  
**STP - 0920(19) / 68536**

STATE	YEAR
ALASKA	2004
SHEET NUMBER	TOTAL SHEETS
J2	65

**NOTES:**

1. SEE SECTION 643-3.08 CONSTRUCTION SEQUENCING FOR SUNSET DRIVE SETOUR RESTRICTIONS.
2. IF FLAGGERS ARE USED FOR THE DETOUR THE CONTRACTOR SHALL INCLUDE FLAGGER AHEAD SIGNS IN THE TRAFFIC CONTROL SET-UP.
3. THE DETOUR ON SUNSET DRIVE IS OPTIONAL. THE CONTRACTOR MAY ELECT TO CONTROL TRAFFIC THROUGH THE WORK ZONE WITH A STANDARD FLAGGER SET-UP.
4. EXACT LOCATIONS OF DETOUR SIGNS TO BE DETERMINED BY THE ENGINEER.



**LEGEND**

- SIGN
- CONE
- DRUM
- TYPE III BARRICADE
- FLAGGING STATION

WHERE  
 L = LENGTH OF TAPER  
 W = WIDTH OF OFFSET  
 T = TAPER RATE  
 L = W x T

**TCP TABLE SETUP**

SPEED (KILOMETERS PER HOUR)	SPEED (MILES PER HOUR)	BUFFER/LENGTH (m)	CONE/DRUM SPACING (m)	TAPER FACTOR (T)
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55	34	35	11	19:1
60	37	43	12	23:1
65	40	52	13	27:1
70	43	62	14	32:1
75	47	75	15	47:1
80	50	85	16	50:1
85	53	98	17	53:1
90	56	110	18	56:1

**KETCHIKAN**  
**N. TONGASS HIGHWAY**  
**WARD TO WHIPPLE STAGE 1**  
**PROJECT NO. 68536**  
**TRAFFIC CONTROL PLAN**

CHECKED BY:  
  
 Ken L. Mattson  
 REGISTERED PROFESSIONAL ENGINEER

DESIGNED BY: KEN MATTSON  
 DRAWN BY: DAVE STEVENS  
 STATE OF ALASKA  
 DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES  
 STATEWIDE DESIGN & ENGINEERING SERVICES DIVISION  
**KETCHIKAN**  
**N. TONGASS HIGHWAY**  
**WARD TO WHIPPLE**  
**STAGE 1**  
**Traffic Control Plan**

PROJECT DESIGNATION NUMBER  
**STP - 0920(19) / 68536**

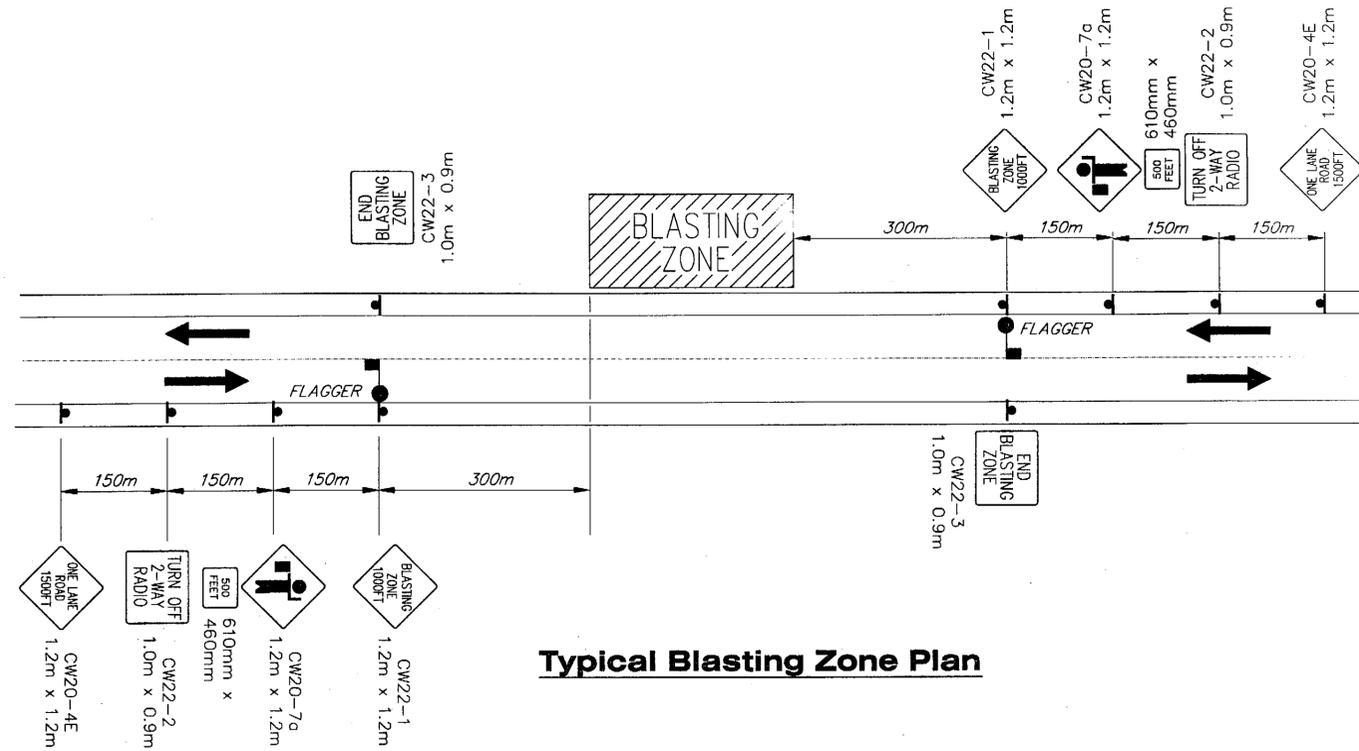
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<b>ALASKA</b>	<b>2004</b>
SHEET NUMBER	TOTAL SHEETS
<b>J3</b>	<b>65</b>

NOTE: DO NOT SCALE FROM THESE PLANS-USE DIMENSIONS

ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION

KETCHIKAN  
 N. TONGASS HIGHWAY  
 WARD TO WHIPPLE STAGE 1  
 PROJECT NO. 68536

# TRAFFIC CONTROL PLAN



**Typical Blasting Zone Plan**

**LEGEND**

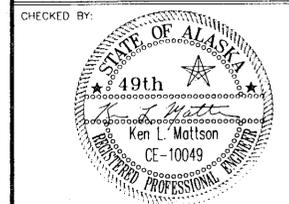
- SIGN
- CONE
- DRUM
- TYPE III BARRICADE
- FLAGGING STATION

WHERE

L = LENGTH OF TAPER  
 W = WIDTH OF OFFSET  
 T = TAPER RATE  
 L = W x T

TCP TABLE SETUP				
SPEED (KILOMETERS PER HOUR)	SPEED (MILES PER HOUR)	BUFFER/LENGTH (m)	CONE/DRUM SPACING (m)	TAPER FACTOR (T)
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45	28	21	9	13:1
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55	34	35	11	19:1
60	37	43	12	23:1
65	40	52	13	27:1
70	43	62	14	32:1
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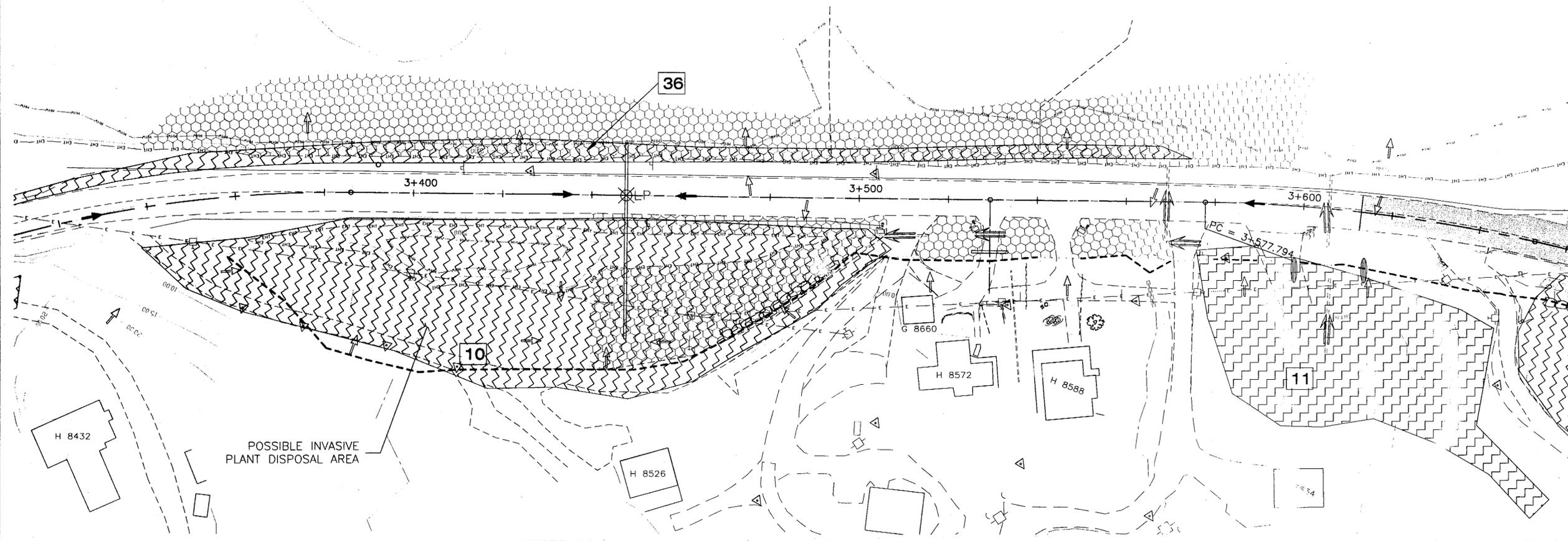
NOTE: DO NOT SCALE FROM THESE PLANS-USE DIMENSIONS



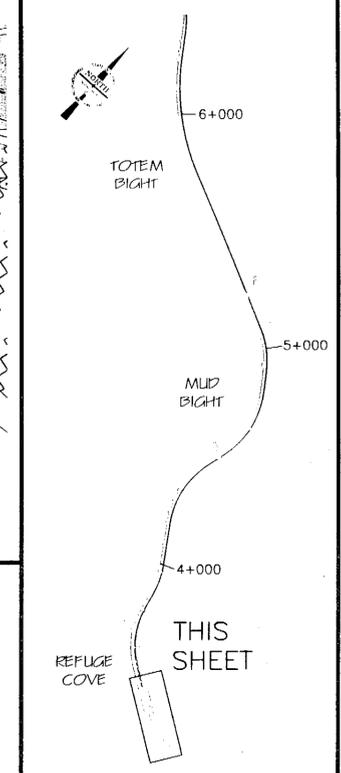
DESIGNED BY: KEN MATTSON  
 DRAWN BY: DAVE STEVENS

STATE OF ALASKA  
 DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES  
 STATEWIDE DESIGN & ENGINEERING SERVICES DIVISION  
**KETCHIKAN  
 N. TONGASS HIGHWAY  
 WARD TO WHIPPLE  
 STAGE 1  
 Traffic Control Plan**

PROJECT DESIGNATION NUMBER	
<b>STP - 0920(19) / 68536</b>	
STATE	YEAR
<b>ALASKA</b>	<b>2004</b>
SHEET NUMBER	TOTAL SHEETS
<b>J4</b>	<b>65</b>



ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION



WETLAND DELINEATION LEGEND			
	OBLITERATE ROADWAY		HIGH POINT
	WETLANDS		LOW POINT
	INVASIVE PLANT AREA # (SEE INVASIVE PLANT SUMMARY TABLE SHEET P5)	— MHW —	MEAN HIGH WATER
		— EHT —	EXTREME HIGH TIDE
			CHECK DAM
		.....	FILL SLOPE
		-----	CUT SLOPE
			RIPRAP
			PROPOSED ROCKWALL
		— SF —	SILT FENCE
			STREAM
			SURFACE FLOW
			PROFILE FLOW
			DRAINAGE FLOW

1. WETLANDS ARE SHOWN WITHIN THE WORK LIMITS ONLY. NO WORK OR WASTE DISPOSAL WILL BE ALLOWED OUTSIDE OF THE LIMITS SHOWN, UNLESS THE PROVISIONS OF SECTION 107-1.11 HAVE BEEN MET. ALL WASTE DISPOSAL AREAS, STAGING AREAS, OR ACCESS AREAS NEED TO BE APPROVED PRIOR TO EARTH DISTURBING ACTIVITIES AND SHOULD BE SHOWN ON THE CONTRACTORS STAGING PLAN.

2. INVASIVE PLANT DELINEATIONS ARE GENERAL IN NATURE. INVASIVE PLANTS SHALL BE DEALT WITH ACCORDING TO THE ENVIRONMENTAL COMMITMENTS AND SECTION 203-3.12 REGARDLESS OF WHERE THEY ARE ENCOUNTERED WITHIN THE PROJECT. SEE SHEET P5 FOR A SUMMARY OF INVASIVE PLANTS BY SPECIES AND LOCATION.

THE DEWATERING BAG IS DESIGNED TO CONTROL SEDIMENT DISCHARGE IN DEWATERING APPLICATIONS WHERE WATER IS BEING PUMPED.

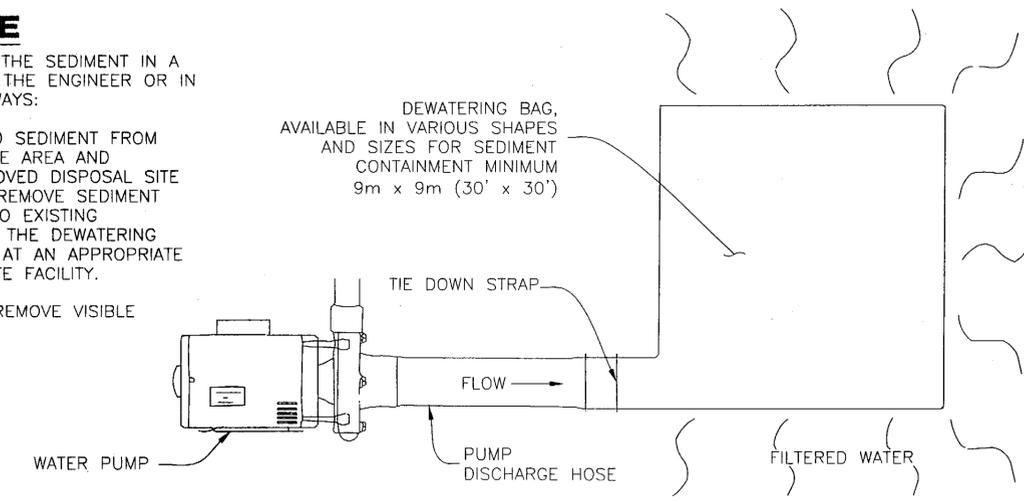
**INSTALLATION**

- LIFTING STRAPS, NOT INCLUDED, SHOULD BE PLACED UNDER THE DEWATERING BAG TO FACILITATE REMOVAL AFTER USE.
- PLACE THE DEWATERING BAG ON A LEVEL STABILIZED AREA OVER DENSE VEGETATION/STRAW, OR GRAVEL (IF INCREASED DRAINAGE SURFACE AREA IS NEEDED).
- INSERT DISCHARGE HOSE FROM PUMP INTO THE DEWATERING BAG A MINIMUM OF 150mm (6") AND TIGHTLY SECURE WITH ATTACHED STRAP TO PREVENT WATER FROM FLOWING OUT OF THE UNIT WITHOUT BEING FILTERED.
- REPLACE THE UNIT WHEN ONE HALF (1/2) FULL OF SEDIMENT OR WHEN SEDIMENT HAS REDUCED THE FLOW RATE OF THE PUMP DISCHARGE TO AN IMPRACTICAL RATE.

**MAINTENANCE**

REMOVE AND DISPOSE OF THE SEDIMENT IN A MANNER SATISFACTORY TO THE ENGINEER OR IN ONE OF THE FOLLOWING WAYS:

- REMOVE THE UNIT AND SEDIMENT FROM ENVIRONMENTALLY SENSITIVE AREA AND WATERWAYS. AT THE APPROVED DISPOSAL SITE OPEN OR SLIT THE UNIT, REMOVE SEDIMENT AND GRADE SMOOTHLY INTO EXISTING TOPOGRAPHY. DISPOSE OF THE DEWATERING BAG, NO LONGER IN USE, AT AN APPROPRIATE RECYCLING OR SOLID WASTE FACILITY.
- BURY UNIT ON SITE; REMOVE VISIBLE FABRIC AND SEED.



**PLAN VIEW**  
**SEDIMENT FILTER (DEWATERING) BAG DETAIL**



CHECKED BY: *Russell P. Kroemer*

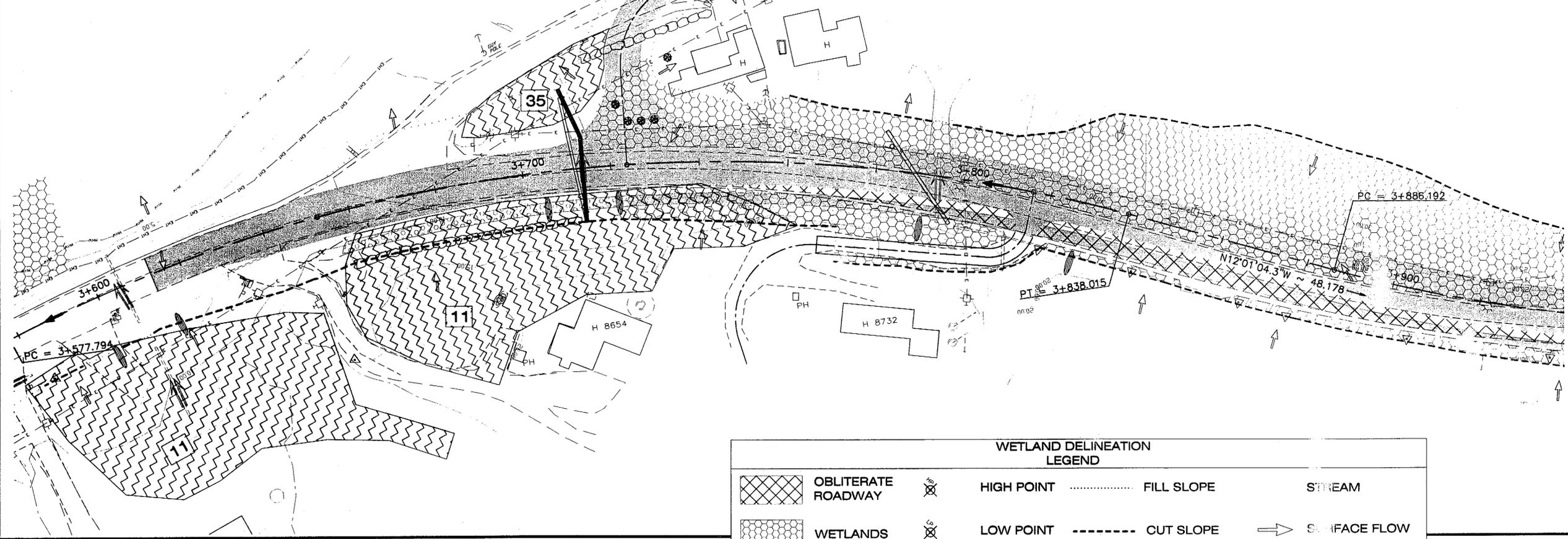
DESIGNED BY: Russell Kroemer  
DRAWN BY: Leonard Robertson

STATE OF ALASKA  
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES  
STATWIDE DESIGN & ENGINEERING SERVICES DIVISION  
KETCHIKAN  
N. TONGASS HIGHWAY  
WARD TO WHIPPLE  
STAGE 1  
**Erosion & Sediment Control**

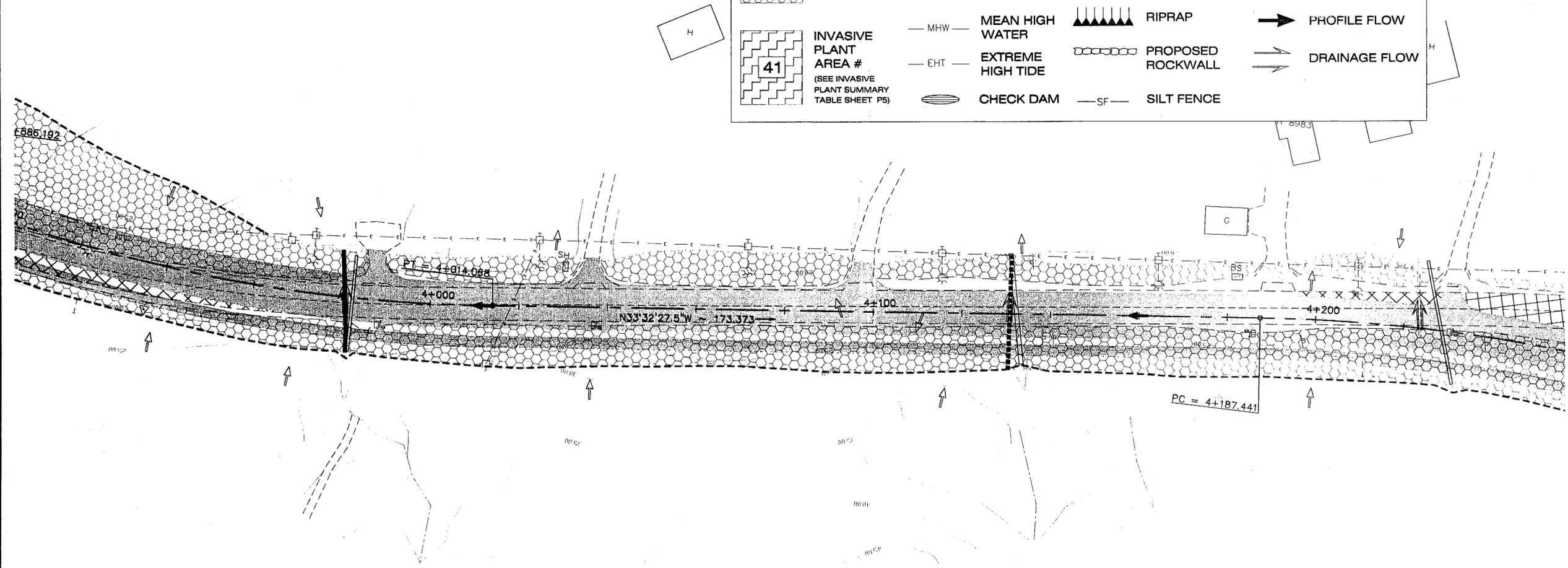
PROJECT DESIGNATION NUMBER  
**STP - 0920(19) / 68536**

STATE	YEAR
ALASKA	2004
SHEET NUMBER	TOTAL SHEETS
P1	65

# REFUGE COVE RECREATION AREA

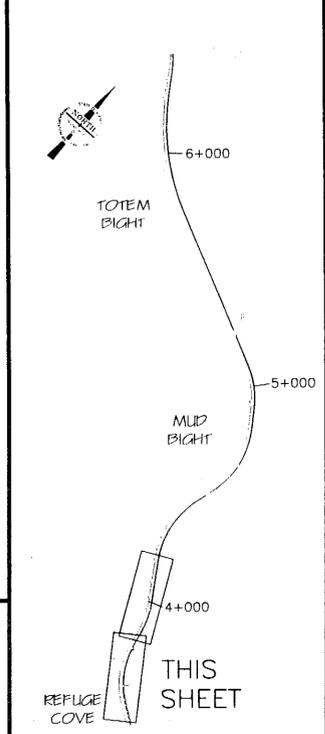


WETLAND DELINEATION LEGEND			
	OBLITERATE ROADWAY		HIGH POINT
	WETLANDS		LOW POINT
	INVASIVE PLANT AREA # (SEE INVASIVE PLANT SUMMARY TABLE SHEET P5)	— MHW —	MEAN HIGH WATER
		— EHT —	EXTREME HIGH TIDE
			CHECK DAM
		.....	FILL SLOPE
		- - - - -	CUT SLOPE
			RIPRAP
			PROPOSED ROCKWALL
		— SF —	SILT FENCE
		.....	STREAM
			SURFACE FLOW
			PROFILE FLOW
			DRAINAGE FLOW



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ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION



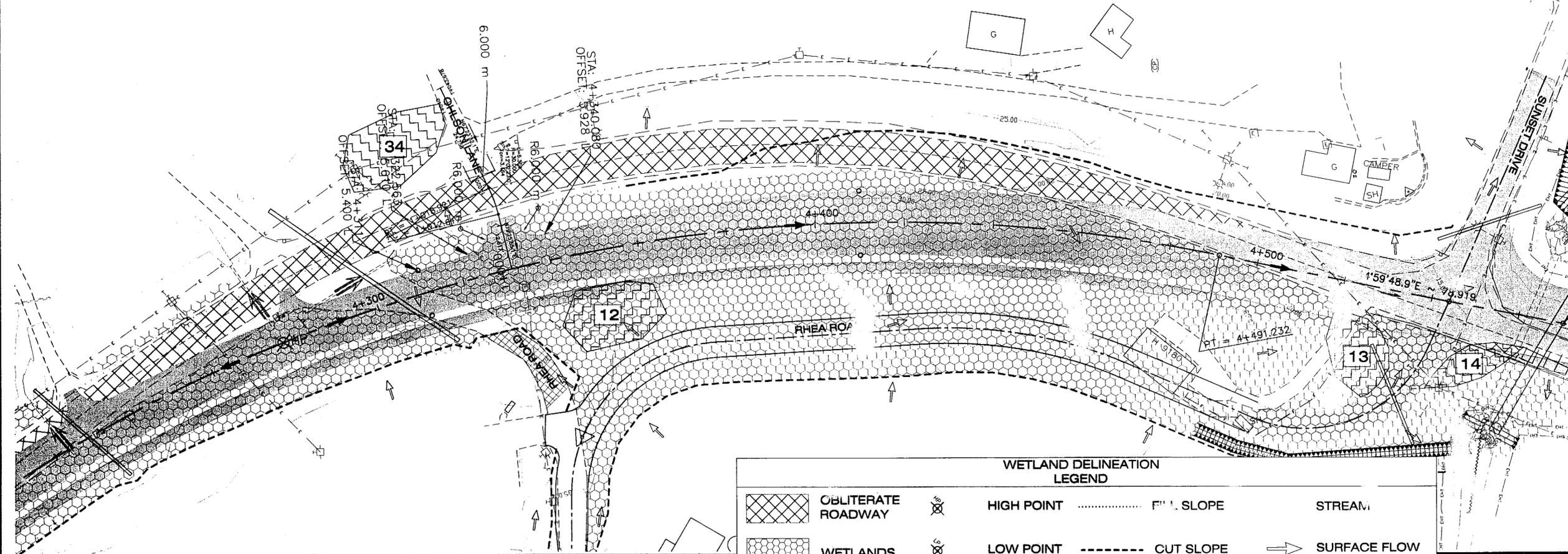
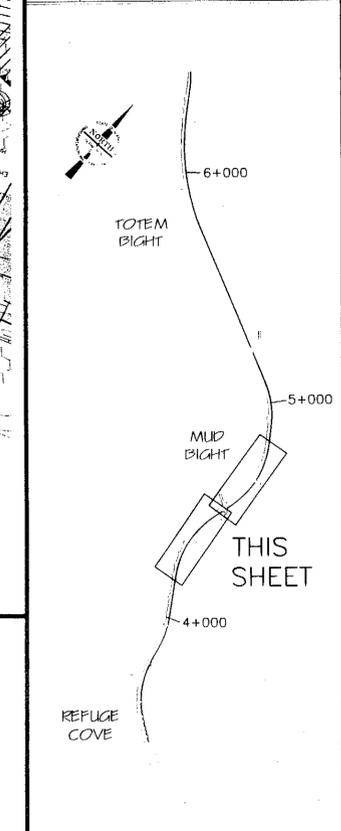
B.O.P. TO 3+860

CHECKED BY:

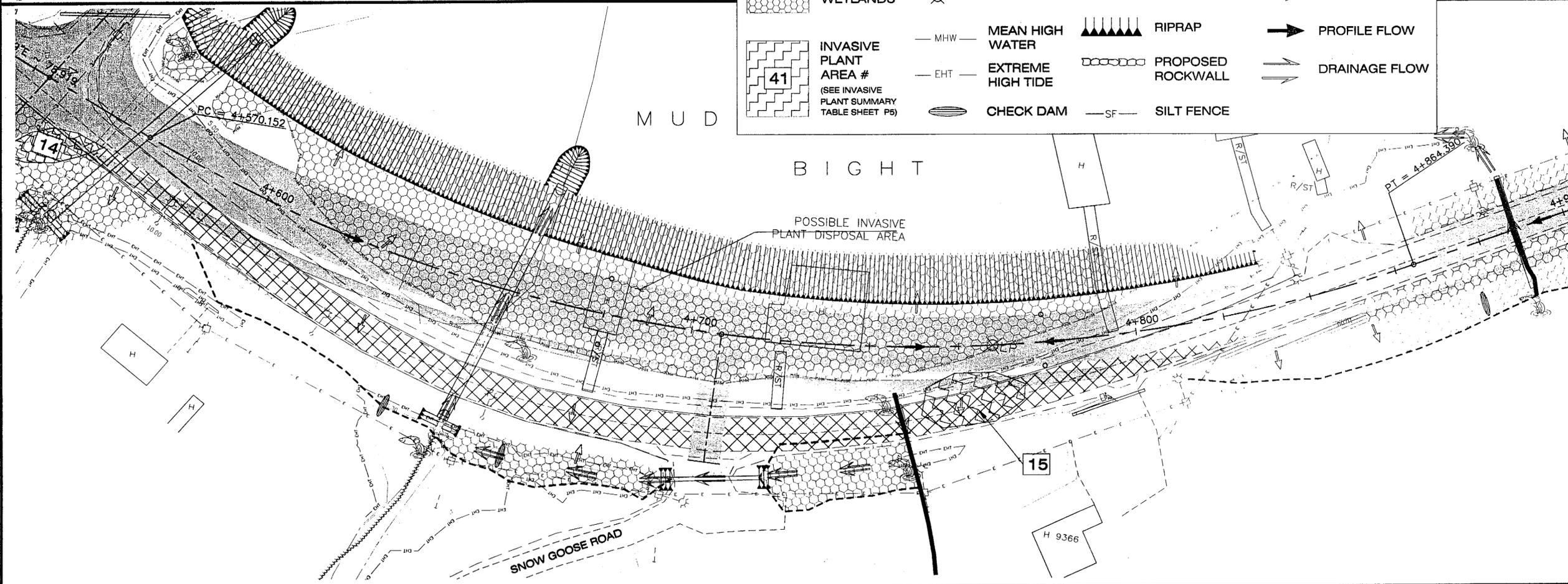
DESIGNED BY: Russell Kraemer  
 DRAWN BY: Leonard Pobertson  
 STATE OF ALASKA  
 DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES  
 STATEWIDE DESIGN & ENGINEERING SERVICES DIVISION  
 KETCHIKAN  
 N. TONGASS HIGHWAY  
 WARD TO WHIPPLE  
 STAGE 1  
**Erosion & Sediment Control**

PROJECT DESIGNATION NUMBER	
STP - 0920(19) / 68536	
STATE	YEAR
ALASKA	2004
SHEET NUMBER	TOTAL SHEETS
P2	65

ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION



WETLAND DELINEATION LEGEND			
	OBLITERATE ROADWAY		HIGH POINT
	WETLANDS		LOW POINT
	INVASIVE PLANT AREA # 41 (SEE INVASIVE PLANT SUMMARY TABLE SHEET P5)	MHW	MEAN HIGH WATER
		EHT	EXTREME HIGH TIDE
			CHECK DAM
		SF	SILT FENCE
			FULL SLOPE
			CUT SLOPE
			RIPRAP
			PROPOSED ROCKWALL
			STREAM
			SURFACE FLOW
			PROFILE FLOW
			DRAINAGE FLOW



STA. 3+860 TO 4+520

CHECKED BY:

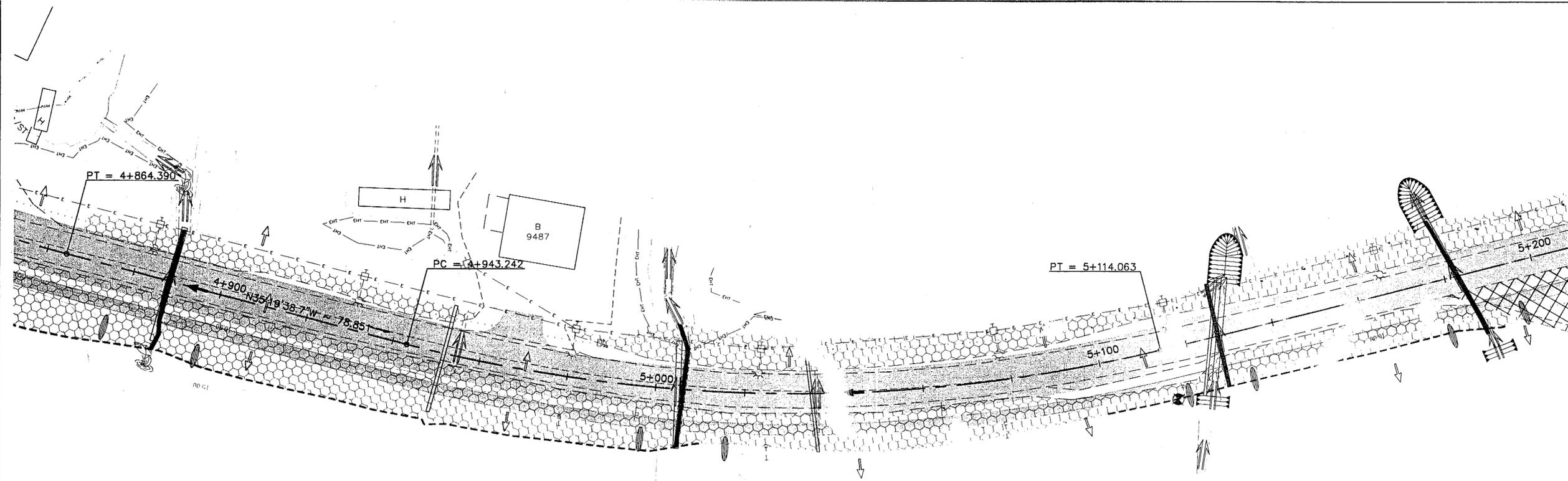
DESIGNED BY: Russell Kroemer  
 DRAWN BY: Leonard Robertson

STATE OF ALASKA  
 DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES  
 STATEWIDE DESIGN & CONSTRUCTION SERVICES DIVISION

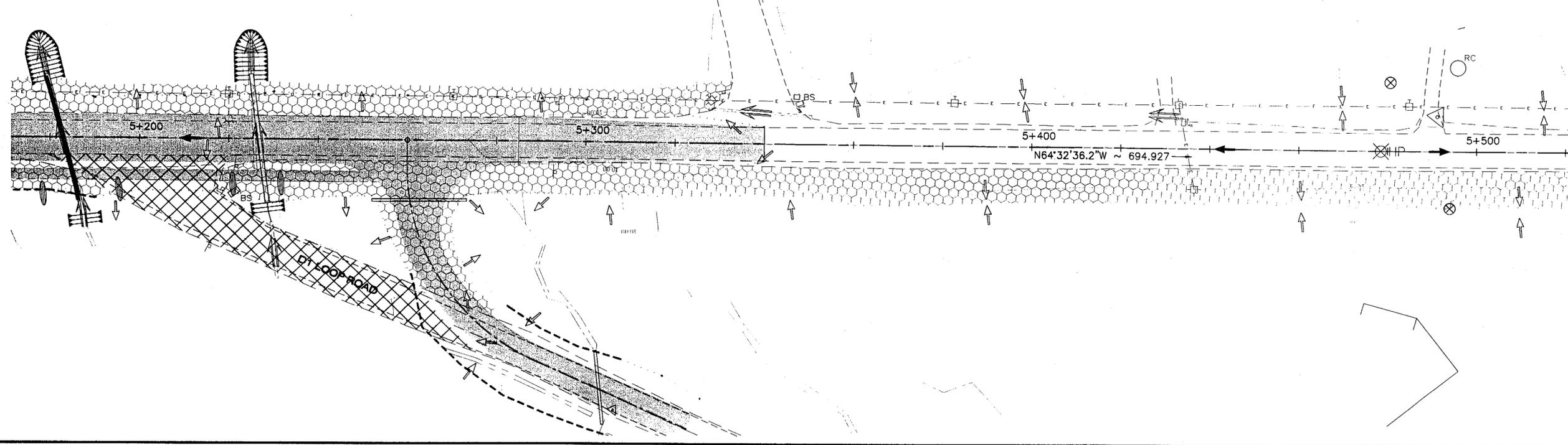
**KETCHIKAN  
 N. TONGASS HIGHWAY  
 WARD TO WHIPPLE  
 STAGE 1  
 Erosion & Sediment Control**

PROJECT DESIGNATION NUMBER  
**STP - 0920(19) / 68536**

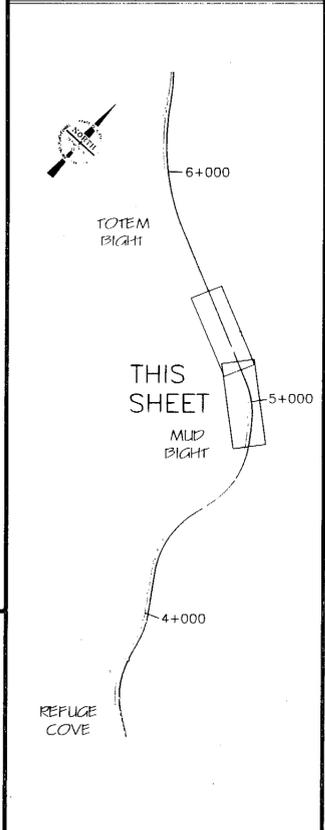
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<b>ALASKA</b>	<b>2004</b>
SHEET NUMBER	TOTAL SHEETS
<b>P3</b>	<b>65</b>



WETLAND DELINEATION LEGEND			
	OBLITERATE ROADWAY		HIGH POINT
	WETLANDS		LOW POINT
	INVASIVE PLANT AREA # (SEE INVASIVE PLANT SUMMARY TABLE SHEET P5)	— MHW —	MEAN HIGH WATER
		— EHT —	EXTREME HIGH TIDE
			CHECK DAM
		.....	FILL SLOPE
		-----	CUT SLOPE
			RIPRAP
			PROPOSED ROCKWALL
		— SF —	SILT FENCE
			STREAM
			SURFACE FLOW
			PROFILE FLOW
			DRAINAGE FLOW



RECORD OF REVISIONS		
No.	DATE	DESCRIPTION



STA. 4+520 TO 5+180

CHECKED BY:

DESIGNED BY: Russell Kroemer  
 DRAWN BY: Leonard Robertson

STATE OF ALASKA  
 DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES  
 STATEWIDE DESIGN & ENGINEERING SERVICES DIVISION  
 KETCHIKAN  
 N. TONGASS HIGHWAY  
 WARD TO WHIPPLE  
 STAGE 1  
**Erosion & Sediment Control**

PROJECT DESIGNATION NUMBER  
**STP - 0920(19) / 68536**

STATE	YEAR
ALASKA	2004
SHEET NUMBER	TOTAL SHEETS
P4	65

### INVASIVE PLANTS BY SPECIES

SITE NO.	SPECIES	BEGIN STATION	END STATION	AREA (FT <sup>2</sup> )	PERCENT COVER	COVER CLASS	COMMENTS & NOTES
<b>REED CANARY GRASS</b>							
NT14	2	4+580	4+580	300	100	H	
NT34	2	4+320	4+300	200	30	H	PATCHES OF GRASS
Total	2			500			
<b>OXEYE DAISY</b>							
NT35	3	3+300	3+680	4,560	10	M	
NT36	3	3+120	3+570	80	100	H	SNUG HBR. RD. - ALONG DOMESTIC EDGE
Total	2			4,640			
<b>JAPANESE KNOT WEED</b>							
NT15	4	4+760	4+780	200	20	M	
NT11	4	3+580	3+650	43,560	100	H	HOT SPOT - 1 ACRE - GOES PAST ROW - PAST DITCH LINE - SUNSET DRIVE 100' WIDE
NT10	4	3+320	3+520	21,780	95	H	HOT SPOT - 1/2 ACRE - HIGH COVER - NEED STRATEGY FOR CONTAINMENT
Total	3			65,540			
<b>ORANGE HAWKWEED</b>							
NT13	5	4+520	4+530	100	20	M	
NT12	5	4+350	4+380	450	20	M	
Total	2			550			

### INVASIVE PLANTS BY STATION

SITE NO.	BEGIN STATION	END STATION	SPECIES	AREA (FT <sup>2</sup> )	COMMENTS & NOTES
<b>SURVEY NORTH SIDE OF HIGHWAY</b>					
NT10	3+320	3+520	95	21,780	HOT SPOT - 1/2 ACRE - HIGH COVER - NEED STRATEGY FOR CONTAINMENT
NT11	3+580	3+650	100	43,560	HOT SPOT - 1 ACRE - GOES PAST ROW - PAST DITCH LINE - SUNSET DRIVE 100'-80' WIDE
NT12	4+350	4+380	5	450	
NT13	4+520	4+530	5	100	
NT14	4+580	4+580	2	300	
NT15	4+760	4+780	20	200	
<b>SURVEY SOUTH SIDE OF HIGHWAY</b>					
NT34	4+320	4+300	2	200	PATCHES OF GRASS
NT35	3+300	3+680	3	4,560	
NT9A	3+120	3+570	3	80	SNUG HBR. RD. - ALONG DOMESTIC EDGE

### INVASIVE PLANTS LEGENDS

NAME	NO.
REED CANARY GRASS	2
OXEYE DAISY	3
JAPANESE KNOT WEED	4
ORANGE HAWKWEED	5

ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION



CHECKED BY: *[Signature]*  
DESIGNED BY: Russell Kraemer  
DRAWN BY: Leonard Robertson

STATE OF ALASKA  
DEPARTMENT OF TRANSPORTATION  
& PUBLIC FACILITIES  
STATEWIDE DESIGN & ENGINEERING  
SERVICES DIVISION  
KETCHIKAN  
N. TONGASS HIGHWAY  
WARD TO WHIPPLE  
STAGE 1

#### Erosion & Sediment Control

PROJECT DESIGNATION NUMBER  
**STP - 0920(19) / 68536**

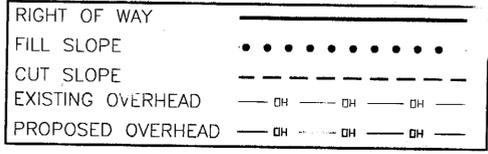
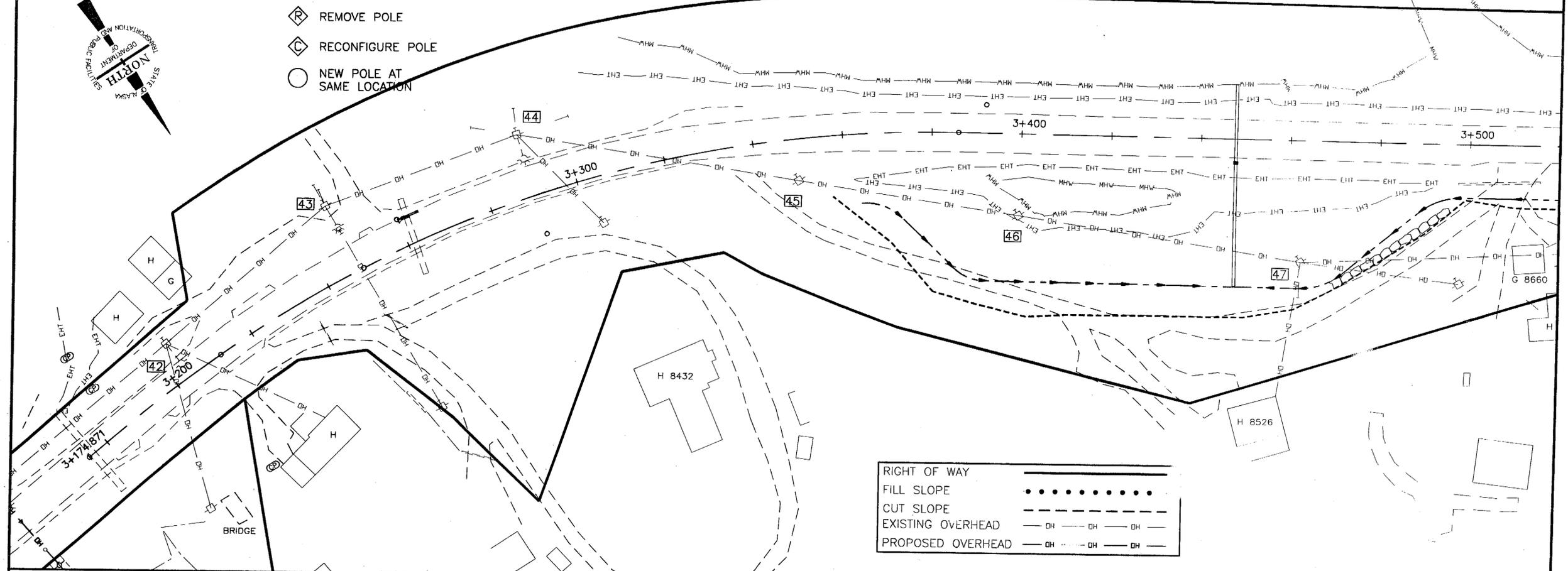
STATE	YEAR
<b>ALASKA</b>	<b>2004</b>
SHEET NUMBER	TOTAL SHEETS
<b>P5</b>	<b>65</b>



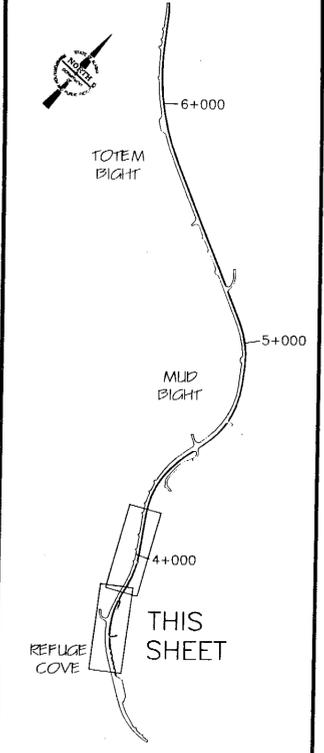




- NEW POLE
- REMOVE POLE
- RECONFIGURE POLE
- NEW POLE AT SAME LOCATION



MATCHLINE 3+520



B.O.P. TO 3+860

CHECKED BY:

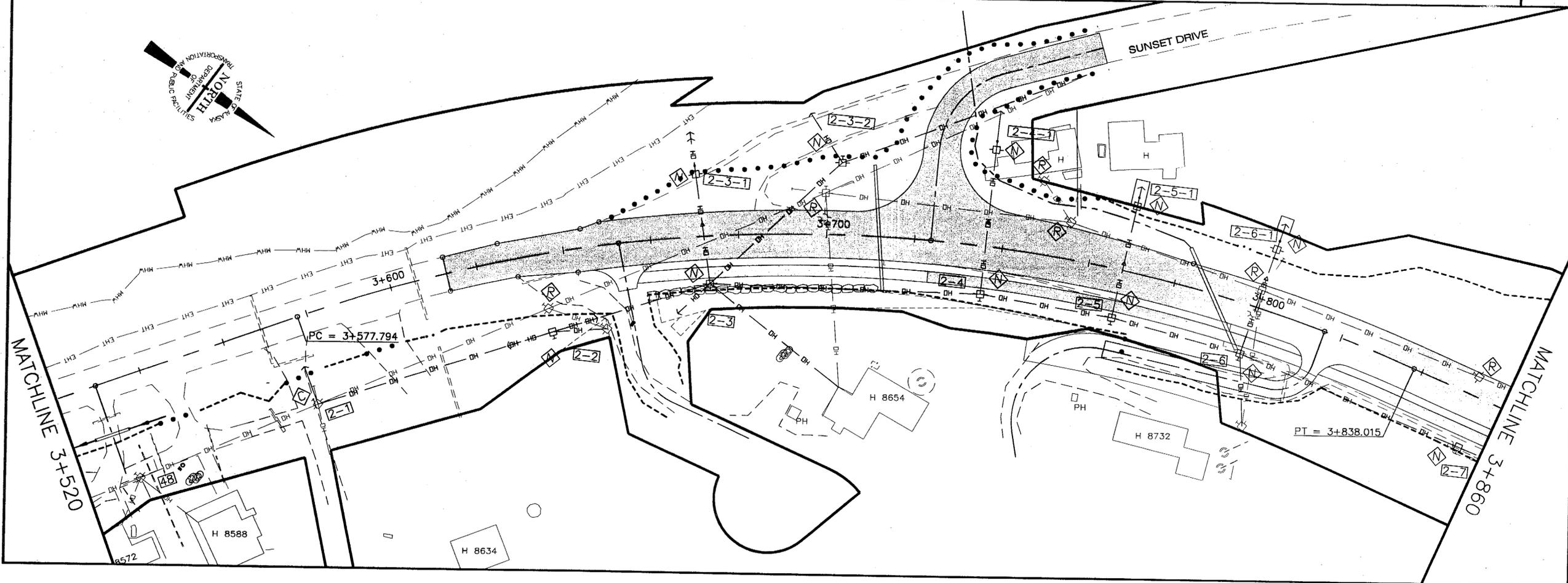


DESIGNED BY: F. Mike Carson  
DRAWN BY: Michael Limbaugh

STATE OF ALASKA  
DEPARTMENT OF TRANSPORTATION  
& PUBLIC FACILITIES  
STATEWIDE DESIGN & ENGINEERING  
SERVICES DIVISION  
**KETCHIKAN  
N. TONGASS HIGHWAY  
WARD TO WHIPPLE  
STAGE 1  
Utility  
Plan**

PROJECT DESIGNATION NUMBER  
**STP - 0920(19) / 68536**

STATE	YEAR
ALASKA	2004
SHEET NUMBER	TOTAL SHEETS
U3	65

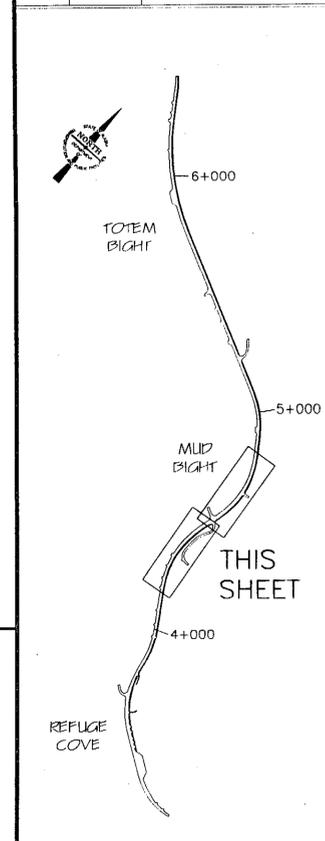


MATCHLINE 3+520

MATCHLINE 3+860

SUNSET DRIVE

ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION



STA. 3+860 TO 4+520

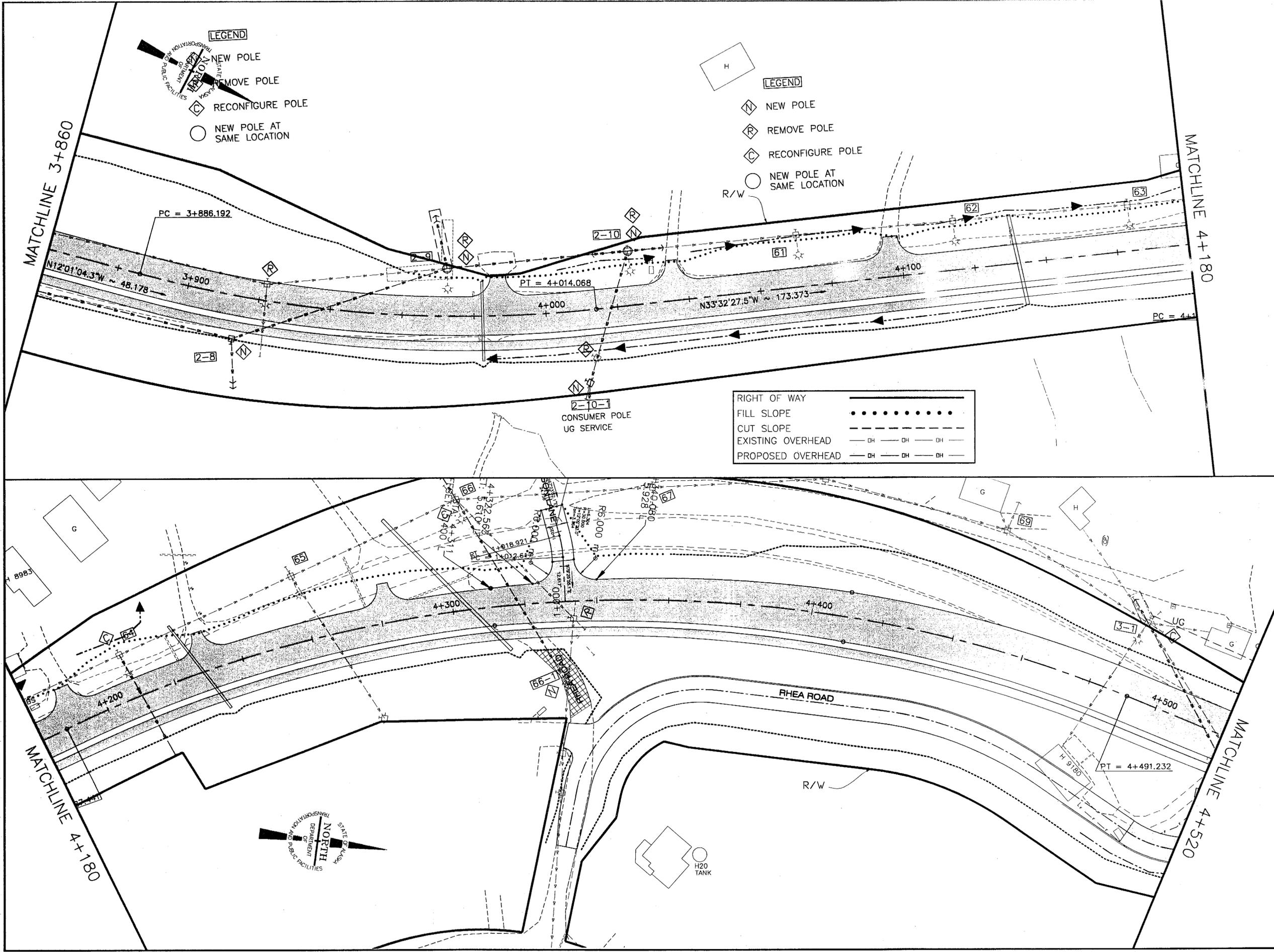
CHECKED BY:

DESIGNED BY: F. Mike Carson  
 DRAWN BY: Michael Limbaugh

STATE OF ALASKA  
 DEPARTMENT OF TRANSPORTATION  
 & PUBLIC FACILITIES  
 STATEWIDE DESIGN & ENGINEERING  
 SERVICES DIVISION  
**KETCHIKAN  
 N. TONGASS HIGHWAY  
 WARD TO WHIPPLE  
 STAGE 1  
 Utility  
 Plan**

PROJECT DESIGNATION NUMBER  
**STP - 0920(19) / 68536**

STATE	YEAR
<b>ALASKA</b>	<b>2004</b>
SHEET NUMBER	TOTAL SHEETS
<b>U4</b>	<b>65</b>



**LEGEND**

- NEW POLE
- REMOVE POLE
- RECONFIGURE POLE
- NEW POLE AT SAME LOCATION

**LEGEND**

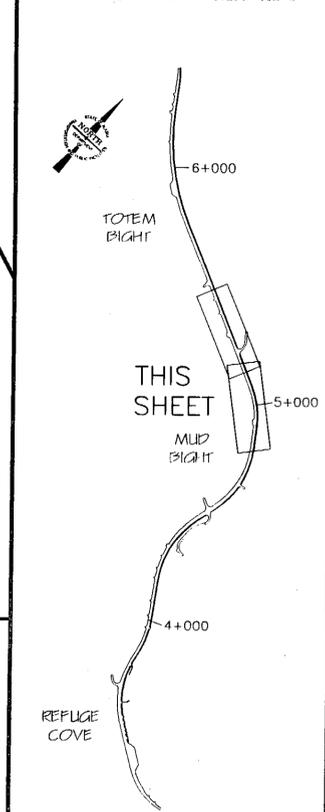
- NEW POLE
- REMOVE POLE
- RECONFIGURE POLE
- NEW POLE AT SAME LOCATION

**RIGHT OF WAY**

- FILL SLOPE
- CUT SLOPE
- EXISTING OVERHEAD
- PROPOSED OVERHEAD



ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION



STA. 4+520 TO 5+180

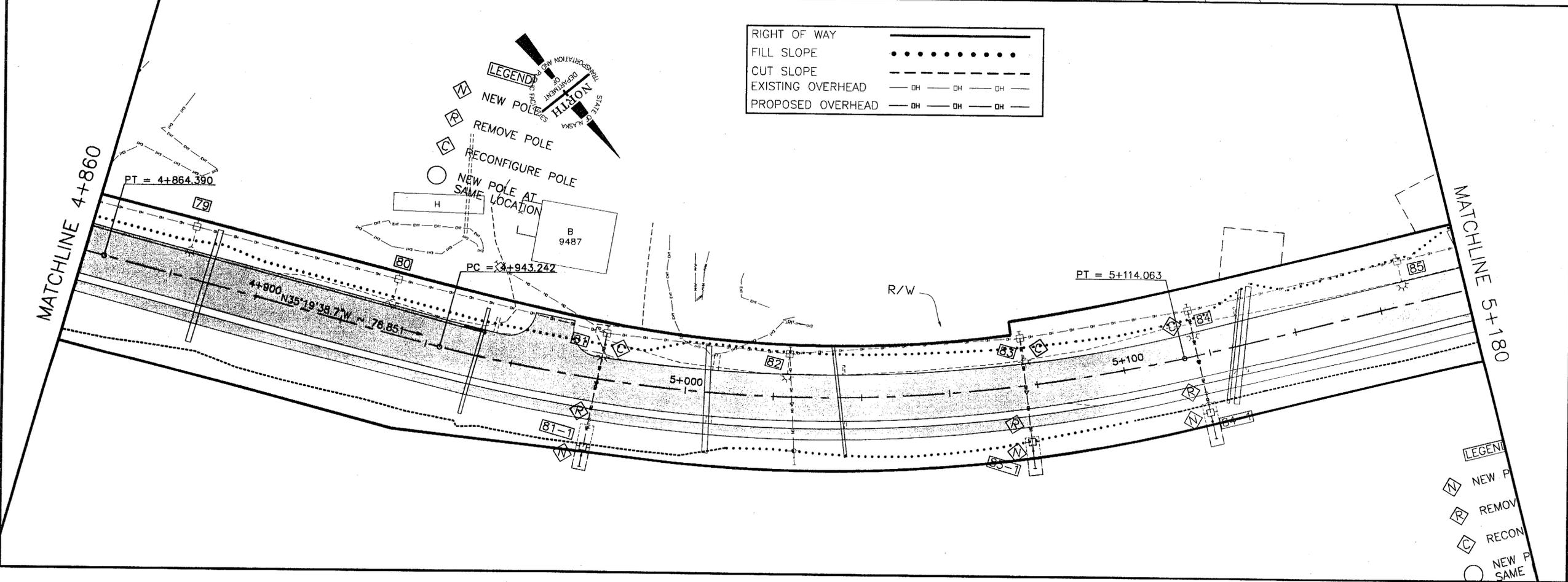
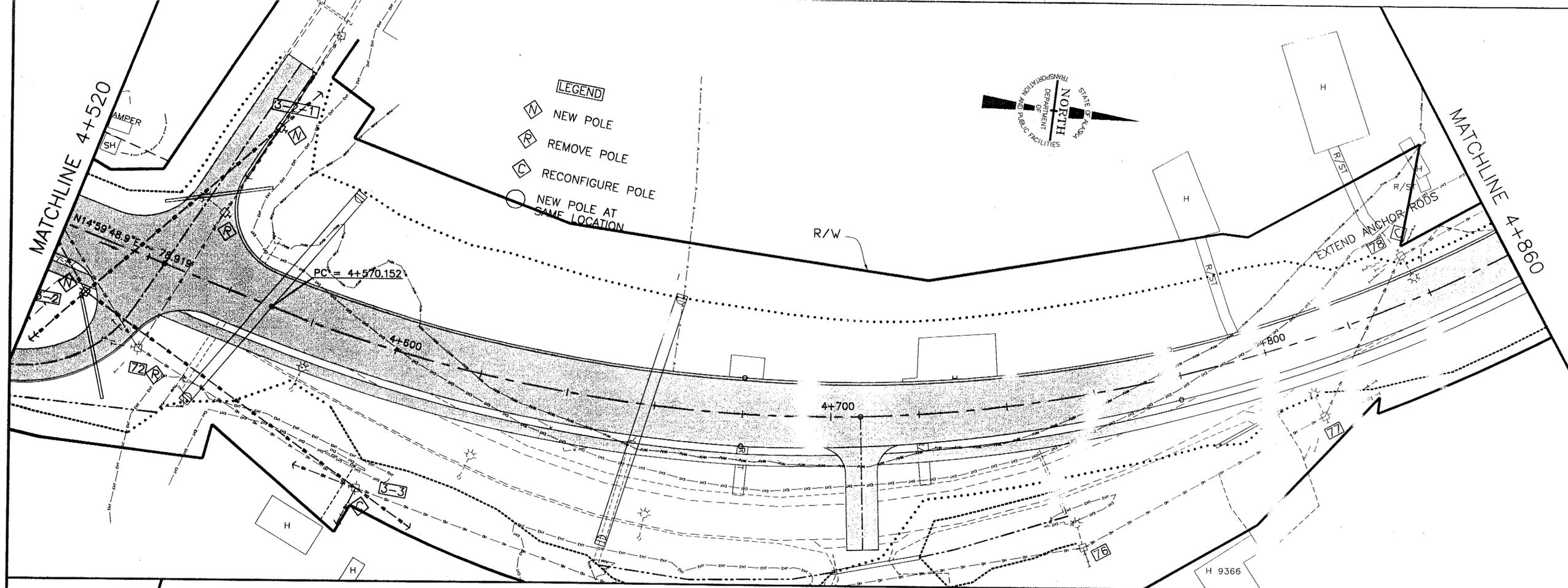
CHECKED BY:

DESIGNED BY: F. Mike Corson  
 DRAWN BY: Michael Limbaugh

STATE OF ALASKA  
 DEPARTMENT OF TRANSPORTATION  
 & PUBLIC FACILITIES  
 STATE WIDE DESIGN & ENGINEERING  
 SERVICES DIVISION

**KETCHIKAN  
 N. TONGASS HIGHWAY  
 WARD TO WHIPPLE  
 STAGE 1  
 Utility  
 Plan**

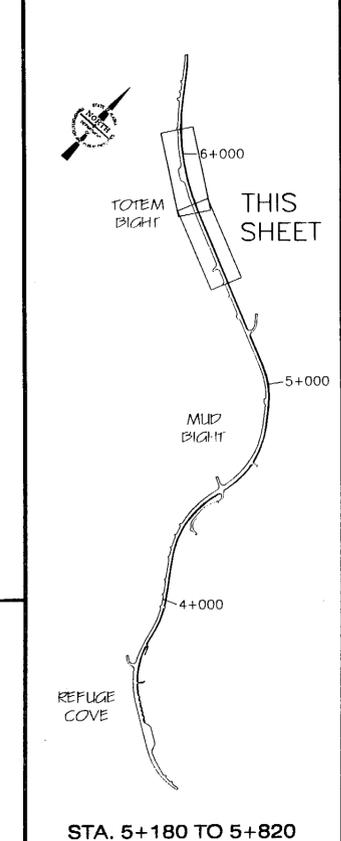
PROJECT DESIGNATION NUMBER	
<b>STP - 0920(19) / 68536</b>	
STATE	YEAR
<b>ALASKA</b>	<b>2004</b>
SHEET NUMBER	TOTAL SHEETS
<b>U5</b>	<b>65</b>



RIGHT OF WAY	—————
FILL SLOPE	•••••
CUT SLOPE	-----
EXISTING OVERHEAD	—DH—DH—DH—
PROPOSED OVERHEAD	—DH—DH—DH—

LEGEND	
N	NEW P
R	REMOV
C	RECON
O	NEW P SAME

ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION



STA. 5+180 TO 5+820

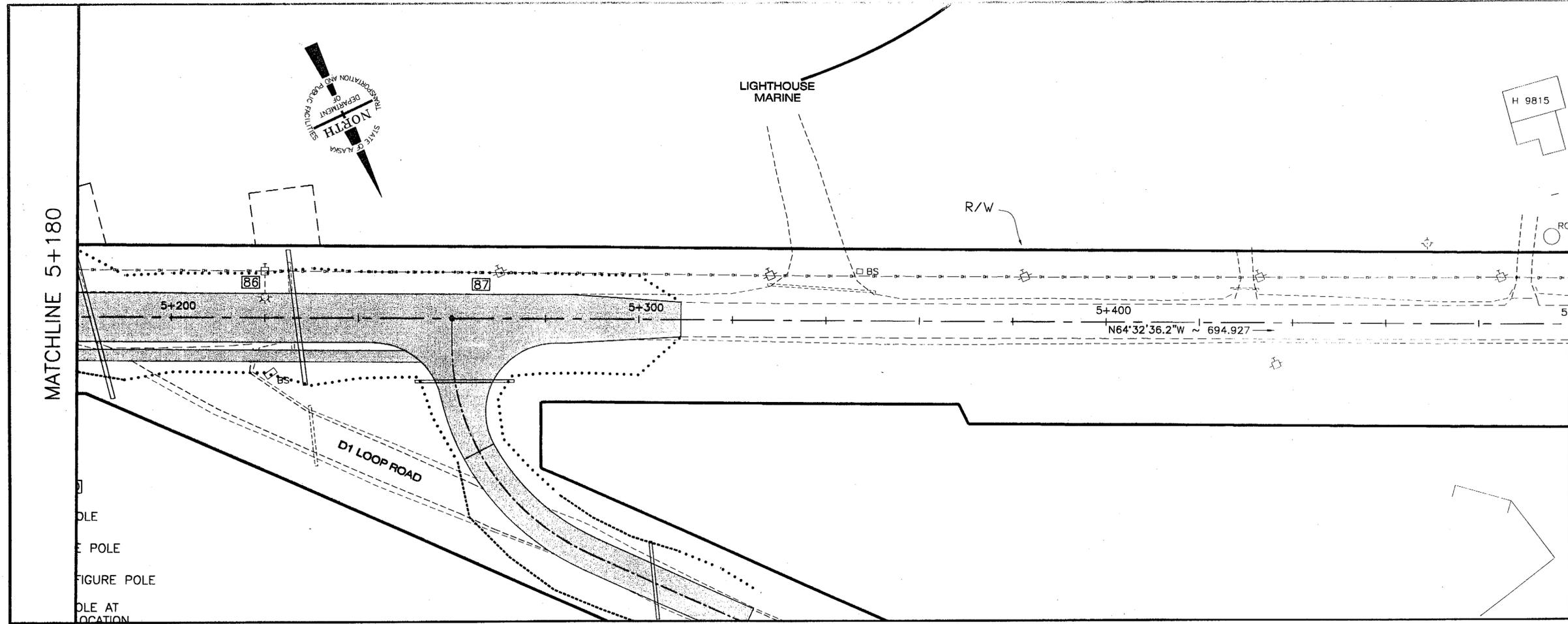
CHECKED BY:

DESIGNED BY: F. Mike Carson  
 DRAWN BY: Michael Limbaugh

STATE OF ALASKA  
 DEPARTMENT OF TRANSPORTATION  
 & PUBLIC FACILITIES  
 STATEWIDE DESIGN & ENGINEERING  
 SERVICES DIVISION

**KETCHIKAN  
 N. TONGASS HIGHWAY  
 WARD TO WHIPPLE  
 STAGE 1  
 Utility  
 Plan**

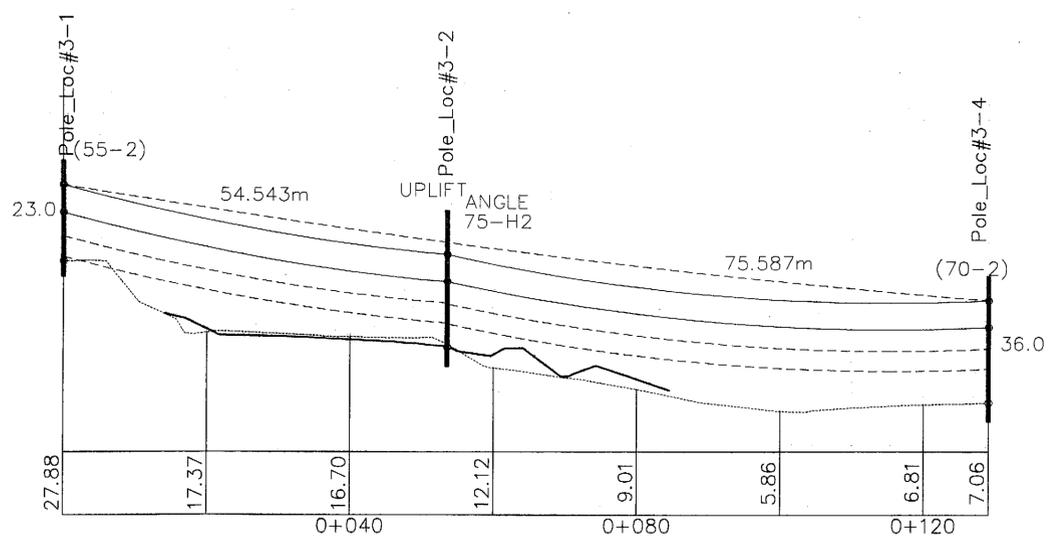
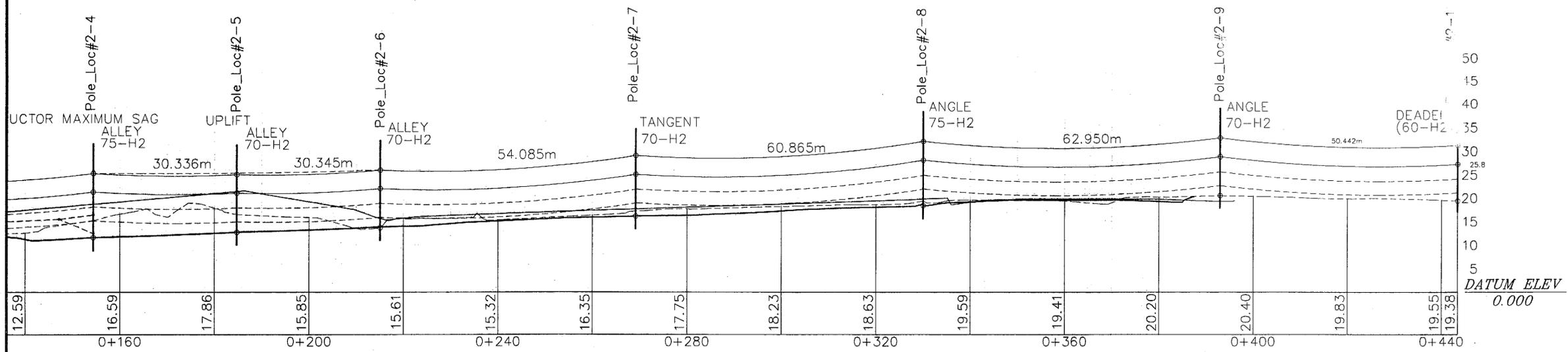
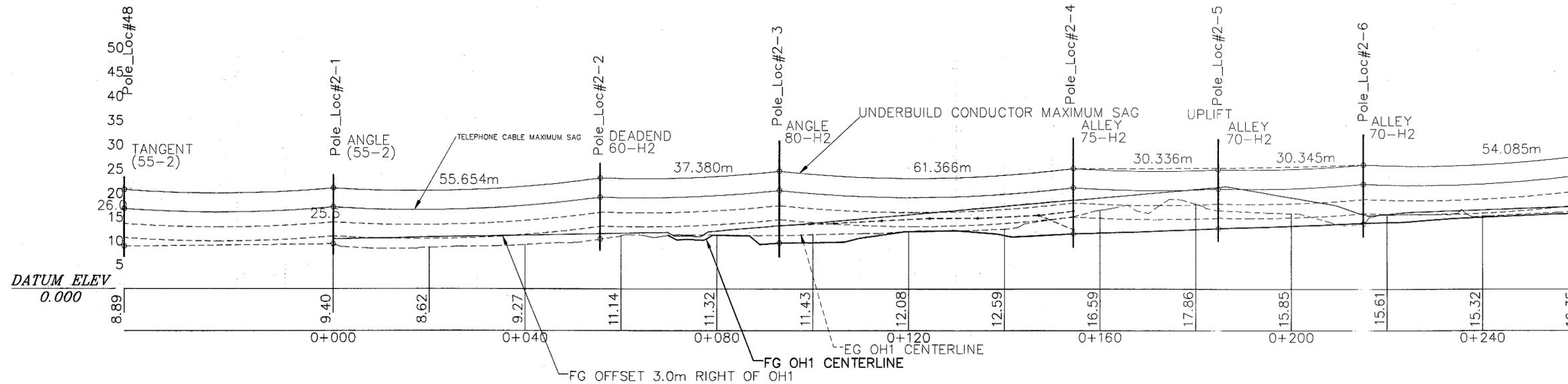
PROJECT DESIGNATION NUMBER	
<b>STP - 0920(19) / 68536</b>	
STATE	YEAR
<b>ALASKA</b>	<b>2004</b>
SHEET NUMBER	TOTAL SHEETS
<b>U6</b>	<b>65</b>



RIGHT OF WAY	—————
FILL SLOPE	.....
CUT SLOPE	-----
EXISTING OVERHEAD	— OH — OH — OH —
PROPOSED OVERHEAD	— OH — OH — OH —

MATCHLINE 5+180

POLE  
 POLE  
 FIGURE POLE  
 POLE AT LOCATION



PATH

PLOT:  
PSPACE 1=(F) OR MSPACE 1=(F)

ADDENDUM NUMBER

ATTACHMENT NUMBER

RECORD OF REVISIONS

No.	DATE	DESCRIPTION

DESIGNED BY: MIKE CARSON



CHECKED BY: MIKE CARSON  
DRAWN BY: M.C./M.L.

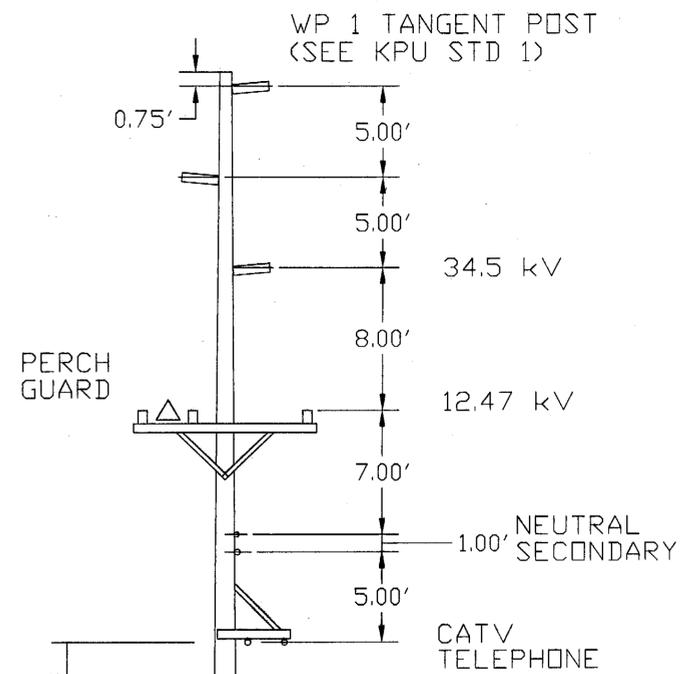
STATE OF ALASKA  
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES  
STATEWIDE DESIGN & ENGINEERING SERVICES DIVISION

**KETCHIKAN NORTH TONGASS HIGHWAY**

PROJECT DESIGNATION NUMBER  
**STP - 0920(19) / 68536**

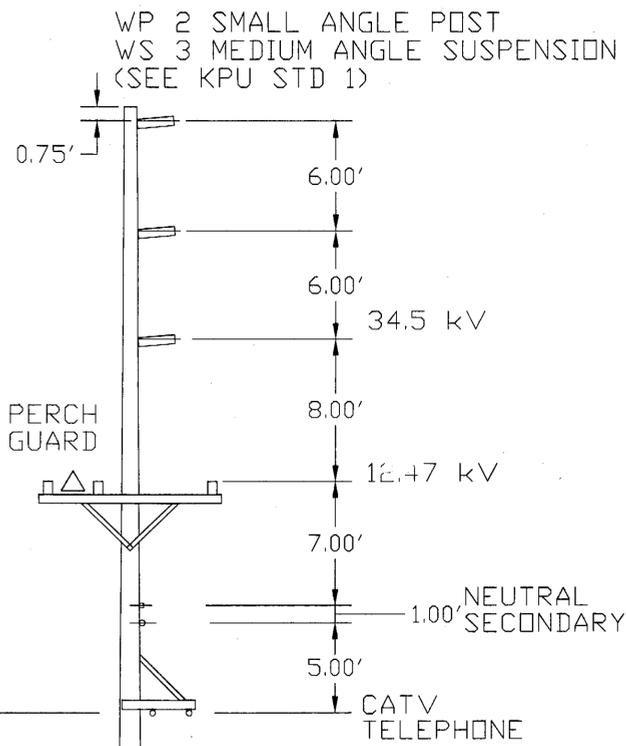
STATE	YEAR
<b>ALASKA</b>	<b>2004</b>

SHEET NUMBER	TOTAL SHEETS
<b>U 7</b>	<b>65</b>



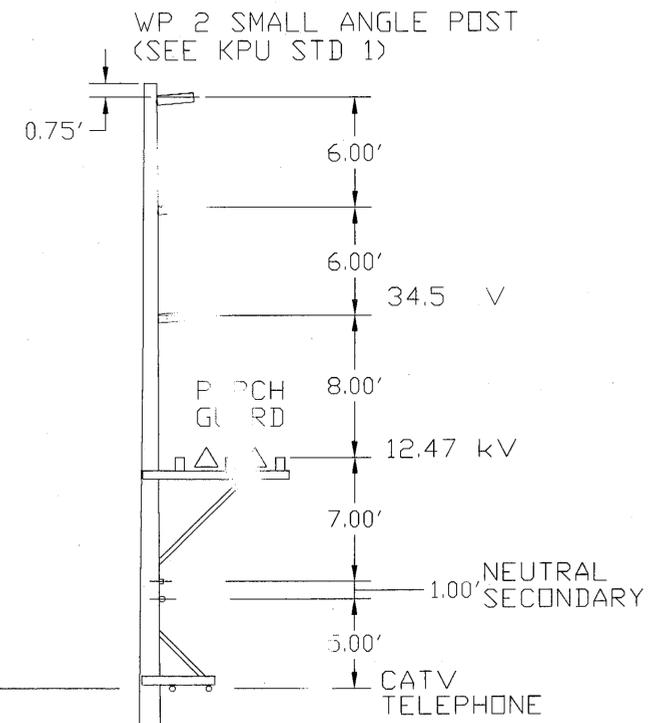
ROAD ELEVATION

KPU TANGENT STRUCTURES



ROAD ELEVATION

KPU ANGLE STRUCTURES



ROAD ELEVATION

KPU ALLEYARM STRUCTURES

PATH:

PLOT:  
PSPACE 1=1(F) DP MSPACE 1=1(F)

ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION

KPU STRUCTURE OUTLINES AND SPACINGS

DESIGNED BY: MIKE CARSON



CHECKED BY: MIKE CARSON

DRAWN BY: M.C./M.L.

STATE OF ALASKA  
DEPARTMENT OF TRANSPORTATION  
& PUBLIC FACILITIES  
STATEWIDE DESIGN & ENGINEERING  
SERVICES DIVISION

**KETCHIKAN  
NORTH TONGASS  
HIGHWAY**

PROJECT DESIGNATION NUMBER  
**STP - 0920(19) / 68536**

STATE	YEAR
<b>ALASKA</b>	<b>2004</b>
SHEET NUMBER	TOTAL SHEETS
<b>U 8</b>	<b>65</b>



# PROJECT NARRATIVE

THE FOLLOWING INFORMATION IS BASED ON THE A.D.O.T. ORDER TO PROVIDE PRELIMINARY DESIGN AND COST ESTIMATES DATED JANUARY 8, 2004 AND A.D.O.T. NORTH TONGASS WARD TO WHIPPLE, STAGE 1 PRELIMINARY CONSTRUCTION DRAWINGS DATED DECEMBER 16, 2003, AND A.D.O.T. REVISION #1 PER EMAIL DATED JANUARY 14, 2004. REVISION #2 AS PER MR. ROB KNORR AND MR. FRED THORSTEINSON ELECTRONIC REVIEW ON FEBRUARY 20, 2004.

# GENERAL NOTES

- ALL HDPE DUCT AND PVC DUCT SHALL BE BURIED AT A DEPTH OF 48" (1.22m) BELOW FINISH GRADE UNLESS OTHERWISE NOTED BY THE ENGINEER. ALL HDPE DUCT TO HAVE COPPER TRACE OR #6 COPPER WIRE IN TRENCH, BE EQUIPPED WITH A POLYPROPYLENE PULL ROPE (1500lbs (680.39kg) TENSILE STRENGTH), AND SHALL BE EQUIPPED WITH EXPANDING PLUGS OF THE PROPER SIZE. ALL PULL ROPES SHALL BE ATTACHED TO THE PLUGS. UNDERGROUND CABLE WARNING TAPE SHALL BE BURIED AT ONE FOOT (.30m) ABOVE FINAL CABLE GRADE.
- EXTRA DEPTH MAY BE REQUIRED AT UTILITY CROSSINGS.
- COMPLIANCE WITH OSHA CONSTRUCTION REGULATIONS WILL BE MANDATORY WHILE WORKING. HARD-HATS AND SAFETY VESTS WILL BE WORN BY ALL WORKERS.
- CONTRACTOR IS REQUIRED TO COMPACT THE TRENCH FILL AND WILL BE RESPONSIBLE FOR THE LANDSCAPE, CONCRETE AND ASPHALT RESTORATION FOR A PERIOD OF ONE YEAR FROM DATE OF AS-BUILT.
- CONTRACTOR IS REQUIRED TO PROVIDE DENSITY TESTING OF THE TRENCH BACKFILL AT THE REQUEST OF THE GCI PROJECT MANAGER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE DENSITY TESTING.
- GCI FURNISHED MATERIAL MAY BE PICKED UP AT THE GCI WAREHOUSE, LOCATED AT 104 PLAZA PORT WEST KETCHIKAN, ALASKA BETWEEN THE HOURS OF 1PM - 4PM MONDAY THROUGH FRIDAY.
- CHANGES IN ROUTE REQUIRE APPROVAL FROM THE PROJECT MANAGER, CHARLES ROBERTS, (907)868-6157. CHANGE ORDERS THAT AFFECT THE CONTRACTOR'S BID PRICE WILL BE IN WRITTEN FORMAT AND APPROVED BY THE GCI PROJECT ENGINEER AND A.D.O.T. PRIOR TO IMPLEMENTATION.
- GCI, AT ITS DISCRETION, MAY HAVE AN INSPECTOR ON THE PROJECT TO MONITOR PRODUCTION, CRAFTSMANSHIP, AND SAFETY COMPLIANCE.
- A.D.O.T., CITY OF KETCHIKAN, AND/OR OTHER PERMITS MAY REQUIRE ADDITIONAL DEPTH OR HEIGHTS. CONTRACTOR SHALL COMPLY WITH ALL PERMIT REQUIREMENTS.
- THE CONTRACTOR IS REQUIRED TO BACK FILL, COMPACT AND PROVIDE PROPER BEDDING MATERIALS AS CALLED FOR BY A.D.O.T. WHEN CROSSING OR WORKING WITHIN A.D.O.T. RIGHT-OF-WAY AND AS PER THE GCI TYPICAL TRENCH DETAIL. BACKFILL, COMPACTION AND PROPER BEDDING MATERIALS, LABOR AND ASSOCIATED COSTS ETC. SHALL BE INCIDENTAL TO THE TRENCHING.
- BRADY STAKES (FIBERGLASS UNDERGROUND CABLE WARNING SIGNS) TO BE PLACED AT ALL LOCATIONS AS SHOWN.
- ALL WORK SHALL CONFORM TO: RUS/REA FORMS 515 a, b, c, d AND GCI CONSTRUCTION SPECIFICATIONS. BOTH ARE AVAILABLE FOR REVIEW AT NORTHERN TELECOMMUNICATIONS CONSULTANTS, INC. THE RUS/REA FORM 515 FORMS ARE ALSO AVAILABLE ON-LINE AT [www.usda.gov/rus/telecom/publications/bulletins.htm](http://www.usda.gov/rus/telecom/publications/bulletins.htm)
- THE CONTRACTOR IS RESPONSIBLE FOR PROPOSING ALL TRAFFIC CONTROL PLANS, AND FURNISHING ALL TRAFFIC CONTROL AND SAFETY DEVICES TO PROPERLY ROUTE TRAFFIC AND TO PROTECT PEDESTRIAN TRAFFIC FROM POSSIBLE HARM. TRAFFIC CONTROL PLANS MUST BE APPROVED BY A.D.O.T./PF TRAFFIC ENGINEER PRIOR TO IMPLEMENTATION.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL ENVIRONMENTAL PROTECTION PLANS AND IMPLEMENTATION OF NECESSARY PLANS. FOR EXAMPLE: EROSION AND POLLUTION CONTROL. THE PLANS MUST BE APPROVED BY GCI PRIOR TO IMPLEMENTATION.
- CONTRACTOR OR CONTRACTORS ARE REQUIRED TO PROVIDE AS-BUILT DRAWINGS WHICH SHALL INCLUDE ALL UNITS, QUANTITIES, DISTANCES AND SEQUENTIALS. AS-BUILTS SHALL CONFORM TO RUS FORM 515 AND GCI SPECIFICATIONS.
- ADDITIONAL WORK ITEMS INCLUDING LABOR AND MATERIALS MAY BE REQUIRED IN ORDER TO COMPLETE THIS PROJECT. ADDITIONAL WORK ITEM REQUESTS SHALL BE SUBMITTED IN WRITING TO GCI. THE CONTRACTOR SHALL RECEIVE IN WRITING NOTICE TO PROCEED WITH ADDITIONAL WORK. ALL UNITS OF WORK SHALL BE PAID AT ORIGINAL BID PRICE. ANY ADDITIONAL WORK UNITS NOT INCLUDED IN THE ORIGINAL CONTRACT MUST BE APPROVED AND SET BY THE A.D.O.T.
- ALL REMOVALS SHALL BE DISPOSED OF BY THE CONTRACTOR, ALL COST, LABOR, AND TRANSPORTATION SHALL BE INCIDENTAL TO THE REMOVALS.
- ALL WORK SHALL CONFORM TO NESC.
- CONTRACTOR TO COORDINATE ALL ATTACHMENTS AND REMOVALS WITH KETCHIKAN PUBLIC UTILITIES (KPU) AND THE GCI INSPECTOR MR. ROB KNORR CELL: 723-8834, OR ENGINEER IN ADVANCE OF ANY AERIAL WORK ACTIVITIES.
- ALL NEW GCI MESSENGER AND CABLES SHALL BE ATTACHED ON THE HIGHWAY SIDE OF THE POLES AND APPROXIMATELY 12" (1 FOOT) ABOVE THE TELECOMMUNICATIONS CROSSARM. COMPLIANCE WITH NESC IS MANDATORY.
- ALL ANCHORS TO BE PROVIDED BY KPU IN ACCORDANCE WITH A.D.O.T./PF SHEETS U1 & U2, WITH THE EXCEPTION OF POLE #78 AT STATION 4+837. SEE NOTE 35.
- GCI PLACED ANCHORS TO BE SCREW TYPE, 10,000 LBS. RATED, 5/8" DIA. TWIN EYE 8' ROD, AND BE PLACED AS STAKED BY THE GCI INSPECTOR.

# UTILITY SYMBOL LEGEND

## NEW



4 PORT CATV TAP



2 WAY SPLITTER



3 WAY SPLITTER



LINE EXTENDER



LINE TERMINATOR



AMPLIFIER



CONDUIT OR DUCT



GCI VAULT



BRADY STAKE



CATV PEDESTAL



DIRECTIONAL COUPLER



LOAD CENTER



UTILITY POLE



ANCHOR

## EXISTING



4 PORT CATV TAP



2 WAY SPLITTER



3 WAY SPLITTER



LINE EXTENDER



LINE TERMINATOR



AMPLIFIER



CONDUIT OR DUCT



GCI VAULT



BRADY STAKE



CATV PEDESTAL



DIRECTIONAL COUPLER



LOAD CENTER



UTILITY POLE



ANCHOR

# GENERAL SYMBOL LEGEND



SPEED LIMIT SIGN



PED XING SIGN



STOP SIGN



STEAM HUT



RISER POLE



TREES



ALDERS AND BRUSH



FIRE HYDRANT



WATER VALVE



MAN HOLE



ROW RIGHT-OF-WAY



EOP EDGE OF PAVEMENT



STREET LAMP



TRAFFIC LIGHT



SURVEY MARKER FOUND

REMOVAL	=	XX	XX
ABANDON IN PLACE	=	XA	XA
REMOVE AND SALVAGE	=	XZ	XZ
NON REIMBURSABLE	=	NR	NR
RELOCATE EXISTING	=	W	W

## CALL BEFORE YOU DIG

ALASKA ONE CALL SYSTEM.....	1-800-478-3121
KETCHIKAN PUBLIC UTILITIES.....	1-907-225-1000
KPU TELECOMMUNICATIONS.....	1-907-225-1000

---.500 CABLE---
---.625 CABLE---
---.750 CABLE---
---.875 CABLE---
---1.000 CABLE---
---F288---
---FIBER OPTIC CABLE---
---UNDERGROUND ROUTING---
---AERIAL ROUTING---

SHEET NO. TOTAL SHEETS

2 18

STATE YEAR

ALASKA 2004

PROJECT DESIGNATION

STP-0920(19)/(67600)

REVISIONS

NO. DATE DESCRIPTION

1 2/12/04 ADOT PROJECT LIMITS

2 2/20/04 ADOT REVIEW REVISIONS

PLANS DATED: 1/27/2004

STATE OF ALASKA

DEPARTMENT OF TRANSPORTATION

AND

PUBLIC FACILITIES

KETCHIKAN

NORTH TONGASS HWY

WARD TO WHIPPLE

STAGE 1

GENERAL PROJECT

INFORMATION

# SPECIAL UNITS

**AMPLIFIER** THIS UNIT CONSISTS OF ALL LABOR AND MATERIALS NECESSARY TO INSTALL A CATV AMPLIFIER AND CUTOVER. CONNECTORS AND HEAT SHRINK ARE INVENTORIED SEPARATELY.

**C.625** THIS UNIT CONSISTS OF ALL LABOR AND MATERIALS FOR PLACEMENT IN ACCORDANCE WITH RUS, BULLETIN 1753F-152, OF ONE (1) FOOT OF .625 COAX CABLE TO EXISTING OR NEW MESSENGER STRAND. THIS UNIT IS TO INCLUDE ANY LABOR AND MATERIALS NECESSARY TO REMOVE EXISTING LASHING WIRES OR RINGS THEN LASH NEW CABLE AND EXISTING CABLE OR CABLES TO STRAND. THIS UNIT ALSO INCLUDES PROVIDING TEMPORARY SUPPORT IN ROLLERS FOR EXISTING CABLES WHERE MULTIPLE CABLES ARE ATTACHED TO THE SAME MESSENGER. THE SIZE OF CABLE IS DENOTED BY THE OUTSIDE DIAMETER OF THE CABLE. THE CONTRACTOR IS TO TAKE INTO CONSIDERATION WHEN NEW STRAND IS TO BE PLACED AND ADJUST THE BID ACCORDINGLY. THE .625 COAX SHALL BE COMMSCOPE, PARAMETER III, (P3), .625 AERIAL JCA VERSION. COMMSCOPE PART NUMBER P3 625 JCA.

**C.875** THIS UNIT CONSISTS OF ALL LABOR AND MATERIALS FOR PLACEMENT IN ACCORDANCE WITH RUS, BULLETIN 1753F-152, OF ONE (1) FOOT OF .875 COAX CABLE TO EXISTING OR NEW MESSENGER STRAND. THIS UNIT IS TO INCLUDE ANY LABOR AND MATERIALS NECESSARY TO REMOVE EXISTING LASHING WIRES OR RINGS THEN LASH NEW CABLE AND EXISTING CABLE OR CABLES TO STRAND. THIS UNIT ALSO INCLUDES PROVIDING TEMPORARY SUPPORT IN ROLLERS FOR EXISTING CABLES WHERE MULTIPLE CABLES ARE ATTACHED TO THE SAME MESSENGER. THE SIZE OF CABLE IS DENOTED BY THE OUTSIDE DIAMETER OF THE CABLE. THE CONTRACTOR IS TO TAKE INTO CONSIDERATION WHEN NEW STRAND IS TO BE PLACED AND ADJUST THE BID ACCORDINGLY. THE .875 COAX SHALL BE COMMSCOPE, PARAMETER III, (P3), .875 AERIAL JCA VERSION. COMMSCOPE PART NUMBER P3 875 JCA.

**CFTV-1300** THIS UNIT CONSISTS OF ALL LABOR AND MATERIALS NECESSARY FOR THE PLACEMENT OF (1) 6" (15.24cm) CFTV-1300 HEAT SHRINKABLE TUBING AT A COAX SPLICE/CONNECTION.

**DC ( )** THIS UNIT CONSISTS OF ALL LABOR AND MATERIALS NECESSARY TO INSTALL AND CUT OVER A DIRECTIONAL COUPLER ON A COAX. THE NUMBER IN THE ( ) REPRESENTS THE ELECTRONIC RESISTANCE. CONNECTORS AND HEAT SHRINKS ARE INVENTORIED SEPARATELY.

**LINE EXTENDER** THIS UNIT CONSISTS OF ALL LABOR AND MATERIALS NECESSARY TO INSTALL A CATV LINE EXTENDER AND CUT OVER. CONNECTORS AND HEAT SHRINKS (CFTV-1300) ARE INVENTORIED SEPARATELY.

**LINE TERMINATOR** THIS UNIT CONSISTS OF ALL LABOR AND MATERIALS FOR PLACEMENT OF A LINE TERMINATION DEVICE ON A COAX CABLE. CONNECTORS AND HEAT SHRINKS (CFTV-1300) ARE INVENTORIED SEPARATELY.

**SNOW SHOE** THIS UNIT CONSISTS OF ALL LABOR AND MATERIAL FOR THE INSTALLATION OF OPTILOOP BRAND SNOWSHOE FOR AN AERIAL SLACK COIL. TWO (2) SNOWSHOES ARE NEEDED PER SLACK COIL.

**2-WAY SPLITTER** THIS UNIT CONSISTS OF ALL LABOR AND MATERIAL NECESSARY TO INSTALL AND CUT OVER A 2-WAY SPLITTER ON A COAX CABLE. CONNECTORS AND HEAT SHRINKS SHALL BE INVENTORIED SEPARATELY.

**4-PORT TAP ( )** THIS UNIT CONSISTS OF ALL LABOR AND MATERIAL NECESSARY TO INSTALL AND CUT OVER A 4-PORT TAP ON A COAX CABLE. THE NUMBER IN THE ( ) REPRESENTS THE ELECTRONIC RESISTANCE. CONNECTORS AND HEAT SHRINKS SHALL BE INVENTORIED SEPARATELY.

**2-PORT TAP ( )** THIS UNIT CONSISTS OF ALL LABOR AND MATERIAL NECESSARY TO INSTALL AND CUT OVER A 2-PORT TAP ON A COAX CABLE. THE NUMBER IN THE ( ) REPRESENTS THE ELECTRONIC RESISTANCE. CONNECTORS AND HEAT SHRINKS SHALL BE INVENTORIED SEPARATELY.

**SEA > 150 RG11** THIS UNIT SHALL CONSIST OF ALL LABOR AND MATERIAL FOR THE PLACEMENT OF A SERVICE ENTRANCE AERIAL. THE SEA FOR 150' AND GREATER SHALL BE RG11. AERIAL ATTACHMENTS, GROUNDING, CONNECTORS, AND CUTOVER SHALL BE INCIDENTAL TO THIS SEA UNIT.

**SEA < 150 RG6** THIS UNIT SHALL CONSIST OF ALL LABOR AND MATERIAL FOR THE PLACEMENT OF A SERVICE ENTRANCE AERIAL. THE SEA FOR LESS THAN 150' SHALL BE RG6. AERIAL ATTACHMENTS, GROUNDING, CONNECTORS, AND CUTOVER SHALL BE INCIDENTAL TO THIS SEA UNIT.

**.625 CONNECTOR (EI)** THIS UNIT CONSISTS OF ALL LABOR AND MATERIALS NECESSARY TO INSTALL A .625 COAX CONNECTOR. THIS UNIT DOES NOT INCLUDE HEAT SHRINK (CFTV-1300). THE SUFFIX (EI) FOR CONNECTION TO AN ELECTRONIC DEVICE.

**.750 CONNECTOR (SI)** THIS UNIT CONSISTS OF ALL LABOR AND MATERIALS NECESSARY TO INSTALL A .750 COAX CONNECTOR. THIS UNIT DOES NOT INCLUDE HEAT SHRINK (CFTV-1300). THE SUFFIX (SI) DENOTES A SPLICE ONLY CONNECTOR.

**.875 CONNECTOR (EI)** THIS UNIT CONSISTS OF ALL LABOR AND MATERIALS NECESSARY TO INSTALL A .875 COAX CONNECTOR. THIS UNIT DOES NOT INCLUDE HEAT SHRINK (CFTV-1300). THE SUFFIX (EI) DENOTES A CONNECTOR USED FOR CONNECTION TO AN ELECTRONIC DEVICE.

**.875 CONNECTOR (SI)** THIS UNIT CONSISTS OF ALL LABOR AND MATERIALS NECESSARY TO INSTALL A .875 COAX CONNECTOR. THIS UNIT DOES NOT INCLUDE HEAT SHRINK (CFTV-1300). THE SUFFIX (SI) DENOTES A SPLICE ONLY CONNECTOR.

SHEET NO.	TOTAL SHEETS	
3	18	
STATE	YEAR	
ALASKA	2004	
PROJECT DESIGNATION		
STP-0920(19)/(67600)		
REVISIONS		
NO.	DATE	DESCRIPTION
1	2/12/04	ADOT PROJECT LIMITS
2	2/20/04	ADOT REVIEW REVISIONS



CPH819  
CPH1022

1230  
150

**ISSUED FOR CONSTRUCTION**

Top of Base  
Final Grade  
GC Pedestal Det  
Top of Base is to be 2-3' above final grade of all pedestals.

**MARCH 1, 2004**

Code Placement

GCI pedestals are to be set 2'-3' from phone pads opposite of power peds. When ground phone peds, GCI peds are to be minimum 6' from power.



PLANS DATED: 1/27/2004

STATE OF ALASKA  
DEPARTMENT OF TRANSPORTATION  
AND  
PUBLIC FACILITIES

**KETCHIKAN  
NORTH TONGASS HWY  
WARD TO WHIPPLE  
STAGE 1**

**SPECIAL  
UNITS**

I:\Projects\2004\Projects\DOT\Ketchikan - North Tongass Hwy\Station 2141C Construction Design\TDCS\SS - Station 21.41\Ketchikan - North Tongass Hwy\2004 Station 21.41.dwg



SHEET NO.	TOTAL SHEETS
5	18
STATE	YEAR
ALASKA	2004

PROJECT DESIGNATION  
STP-0920(19)/(67600)

REVISIONS		
NO.	DATE	DESCRIPTION
1	2/12/04	ADOT PROJECT LIMITS
2	2/20/04	ADOT REVIEW REVISIONS



**ISSUED FOR CONSTRUCTION**  
**MARCH 1, 2004**

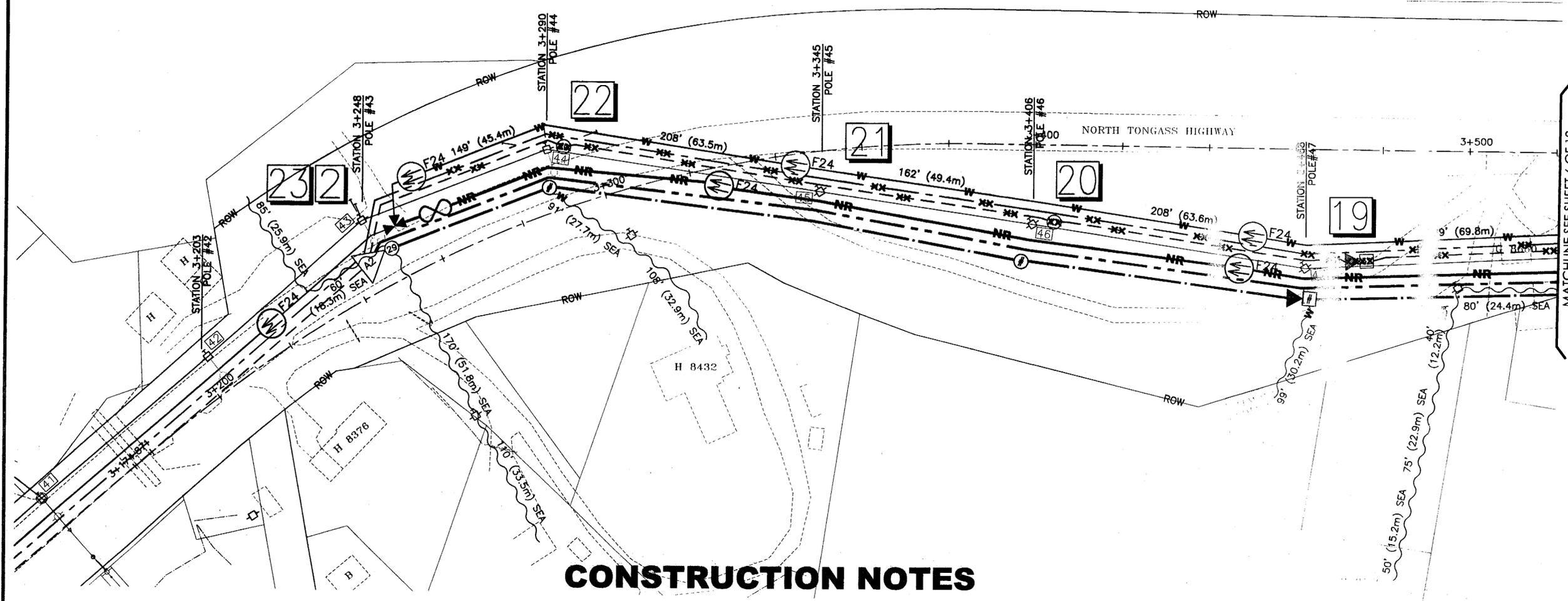


PLANS DATED: 1/27/2004

STATE OF ALASKA  
DEPARTMENT OF TRANSPORTATION  
AND  
PUBLIC FACILITIES

**KETCHIKAN  
NORTH TONGASS HWY  
WARD TO WHIPPLE  
STAGE 1**

**GCI CABLE  
CONSTRUCTION**



### CONSTRUCTION NOTES

**2** AT NORTH TONGASS HIGHWAY STATION 3+248, BEING THE KETCHIKAN PUBLIC UTILITIES (KPU) RENUMBERED POLE #43, BEGIN PLACEMENT OF A NEW 1/4" EHS 7 STRAND GALVANIZED MESSENGER STRAND ON THE NEW POLE LINE PROVIDED BY KPU, NORTHWEST TO STATION 3+972 BEING THE NEW KPU POLE #2-9, AND WEST ALONG SUNSET DRIVE FROM THE NEW KPU POLE #2-3 TO THE EXISTING KPU POLE 105-21.

AFTER MESSENGER STRAND CONSTRUCTION IS COMPLETE, GCI TECHNICIANS TO OPEN EXISTING SPLICE CASE AND CUTOUT NORTHWEST FOC24 FROM SPLICE CASE. CONTRACTOR TO THEN DELASH AND PLACE ON A REEL TRAILER THE EXISTING FOC24 NORTHWEST TO STATION 3+972, BEING THE NEW KPU POLE #2-9. CONTRACTOR TO USE EXTREME CAUTION WHILE HANDLING FIBER OPTIC CABLE.

**19** AT NORTH TONGASS HIGHWAY STATION 3+468, BEING THE RENUMBERED KPU POLE #47, CONTINUE PLACEMENT OF .625 COAX, .875 COAX, FOC24 ON THE 1/4" EHS 7 STRAND GALVANIZED MESSENGER STRAND SOUTHEAST TO THE RENUMBERED KPU POLE #46 AT STATION 3+406. PLACE A LINE EXTENDER AND 4 PORT TAP ON THE .625 COAX. MAKE PREPARATION TO CUT AND SWING EXISTING RG6 SERVICE DROP TO HOUSE AS SHOWN, AND PERFORM COLD SPLICING IN PREPARATION FOR CUT OVER.

**20** AT NORTH TONGASS HIGHWAY STATION 3+406, BEING THE RENUMBERED KPU POLE #46, CONTINUE PLACEMENT OF .625 COAX, .875 COAX, FOC24 ON THE 1/4" EHS 7 STRAND GALVANIZED MESSENGER STRAND SOUTHEAST TO THE RENUMBERED KPU POLE #45 AT STATION 3+345. PLACE A 2 PORT TAP ON THE .625 COAX, AND PERFORM COLD SPLICING IN PREPARATION FOR CUT OVER.

**21** AT NORTH TONGASS HIGHWAY STATION 3+345, BEING THE RENUMBERED KPU POLE #45, CONTINUE PLACEMENT OF .625 COAX, .875 COAX, FOC24 ON THE 1/4" EHS 7 STRAND GALVANIZED MESSENGER STRAND SOUTHEAST TO THE RENUMBERED KPU POLE #44 AT STATION 3+290.

**22** AT NORTH TONGASS HIGHWAY STATION 3+290, BEING THE RENUMBERED KPU POLE #44, CONTINUE PLACEMENT OF .625 COAX, .875 COAX, FOC24 ON THE 1/4" EHS 7 STRAND GALVANIZED MESSENGER STRAND SOUTHEAST TO THE RENUMBERED KPU POLE #43 AT STATION 3+248. PLACE A 2 PORT TAP ON THE .625 COAX. MAKE PREPARATION TO CUT AND SWING EXISTING RG11 SERVICE DROP TO HOUSE #8432 AS SHOWN, AND PERFORM COLD SPLICING IN PREPARATION FOR CUT OVER.

**23** AT NORTH TONGASS HIGHWAY STATION 3+248, BEING THE RENUMBERED KPU POLE #43, END PLACEMENT OF .625 COAX, .875 COAX, FOC24 ON THE 1/4" EHS 7 STRAND GALVANIZED MESSENGER STRAND. PERFORM COLD SPLICING IN PREPARATION FOR CUT OVER, PLACE EXTRA FOC24 IN STORAGE LOOPS. ONCE ALL CABLE CONSTRUCTION IS COMPLETE, GCI TECHNICIANS TO PERFORM CUT OVER AND FUSION SPLICING.

ONCE ALL CABLE PLACEMENT, COLD SPLICING AND PREPARATION IS COMPLETE FROM STATIONS 3+248 TO STATION 3+972, GCI TECHNICIANS TO PERFORM CUT OVER. AFTER CUT OVER IS COMPLETE, WRECK OUT ABANDONED AERIAL PLANT, DOWNGUYS AND ANCHORS AS SHOWN.



Known utility lines are shown in approximate locations only. All exact locations to be determined by the contractor during construction.

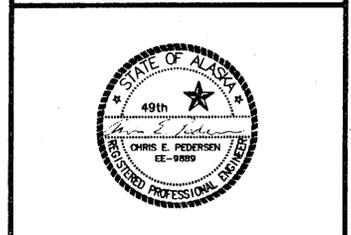
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SHEET NO.	TOTAL SHEETS	
7	18	
STATE	YEAR	
ALASKA	2004	
PROJECT DESIGNATION		
STP-0920(19)/(67600)		
REVISIONS		
NO.	DATE	DESCRIPTION
1	2/12/04	ADOT PROJECT LIMITS
2	2/20/04	ADOT REVIEW REVISIONS



**ISSUED FOR CONSTRUCTION**  
**MARCH 1, 2004**



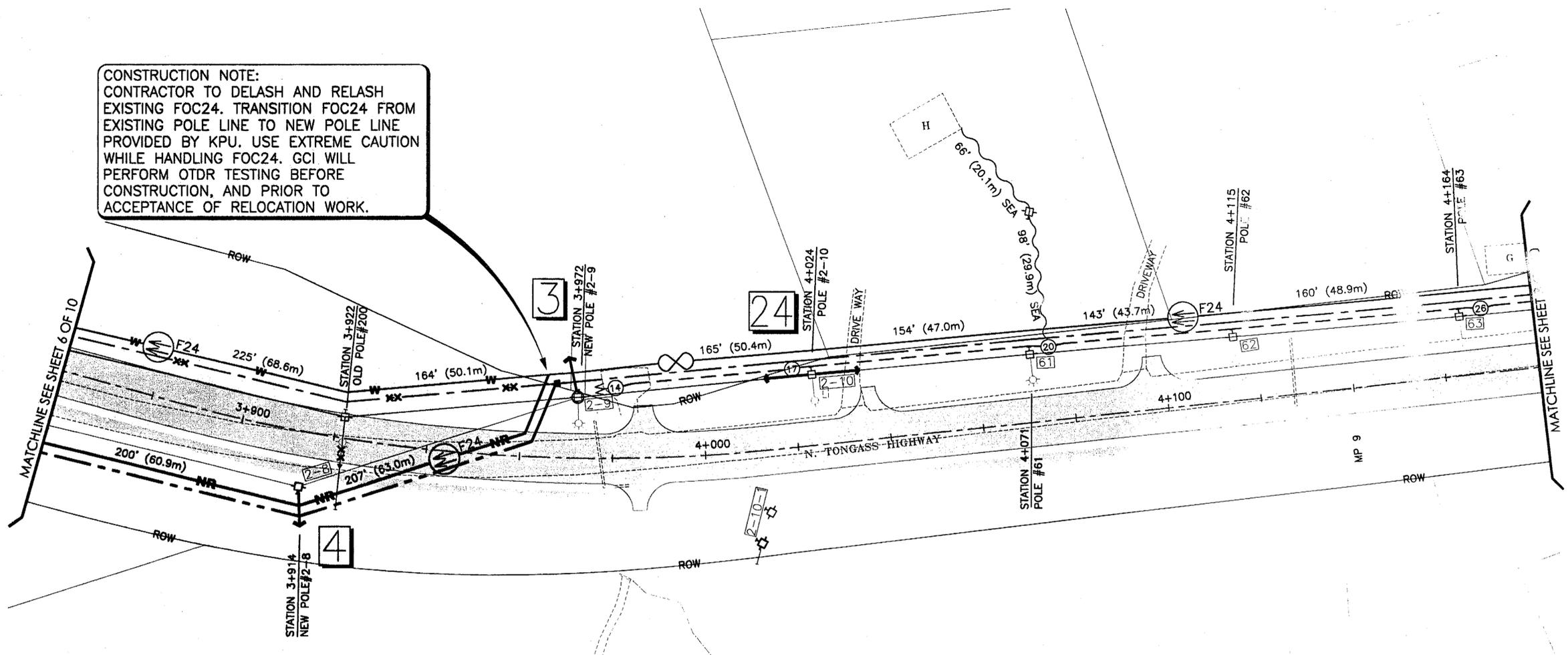
PLANS DATED: 1/27/2004

STATE OF ALASKA  
DEPARTMENT OF TRANSPORTATION  
AND  
PUBLIC FACILITIES

**KETCHIKAN  
NORTH TONGASS HWY  
WARD TO WHIPPLE  
STAGE 1**

**GCI CABLE  
CONSTRUCTION**

**CONSTRUCTION NOTE:**  
CONTRACTOR TO DELASH AND RELASH EXISTING FOC24. TRANSITION FOC24 FROM EXISTING POLE LINE TO NEW POLE LINE PROVIDED BY KPU. USE EXTREME CAUTION WHILE HANDLING FOC24. GCI WILL PERFORM OTDR TESTING BEFORE CONSTRUCTION, AND PRIOR TO ACCEPTANCE OF RELOCATION WORK.



### CONSTRUCTION NOTES

- 3** AT NORTH TONGASS HIGHWAY STATION 3+972, BEING THE NEW KPU POLE #2-9, END 1/4" EHS 7 STRAND GALVANIZED MESSENGER STRAND PLACEMENT. BEGIN PLACEMENT OF (1) .875 COAX AND (1) FOC24 ON THE 1/4" EHS 7 STRAND GALVANIZED MESSENGER STRAND SOUTHEAST TO THE NEW KPU POLE #2-8 AT STATION 3+914. CONTRACTOR TO PERFORM ALL COLD SPLICING IN PREPARATION FOR CUT OVER. PLACE A DOWN GUY AND ATTACH TO ANCHOR PROVIDED BY KPU IN ACCORDANCE WITH A.D.O.T./PF SHEETS U1 & U2.
- 4** AT NORTH TONGASS HIGHWAY STATION 3+914, BEING THE NEW KPU POLE #2-8, CONTINUE PLACEMENT OF .875 COAX AND FOC24 ON THE 1/4" EHS 7 STRAND GALVANIZED MESSENGER STRAND SOUTHEAST TO THE NEW KPU POLE #2-7 AT STATION 3+854. PLACE A DOWN GUY AND ATTACH TO ANCHOR PROVIDED BY KPU IN ACCORDANCE WITH A.D.O.T./PF SHEETS U1 & U2.
- 24** AT NORTH TONGASS HIGHWAY STATION 4+024, BEING THE RENUMBERED KPU POLE #2-10, DETACH FROM EXISTING POLE #202 AND RE-ATTACH TO NEW KPU POLE #2-10, AT STATION 4+024. PLACE DOWN GUYS AND ATTACH TO ANCHORS PROVIDED BY KPU IN ACCORDANCE WITH A.D.O.T./PF SHEETS U1 & U2.



Known utility lines are shown in approximate locations only. All exact locations to be determined by the contractor during construction.

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SHEET NO.		TOTAL SHEETS	
8		18	
STATE		YEAR	
ALASKA		2004	
PROJECT DESIGNATION			
STP-0920(19)/(67600)			
REVISIONS			
NO.	DATE	DESCRIPTION	
1	2/12/04	ADOT PROJECT LIMITS	
2	2/20/04	ADOT REVIEW REVISIONS	



**ISSUED FOR CONSTRUCTION**  
**MARCH 1, 2004**

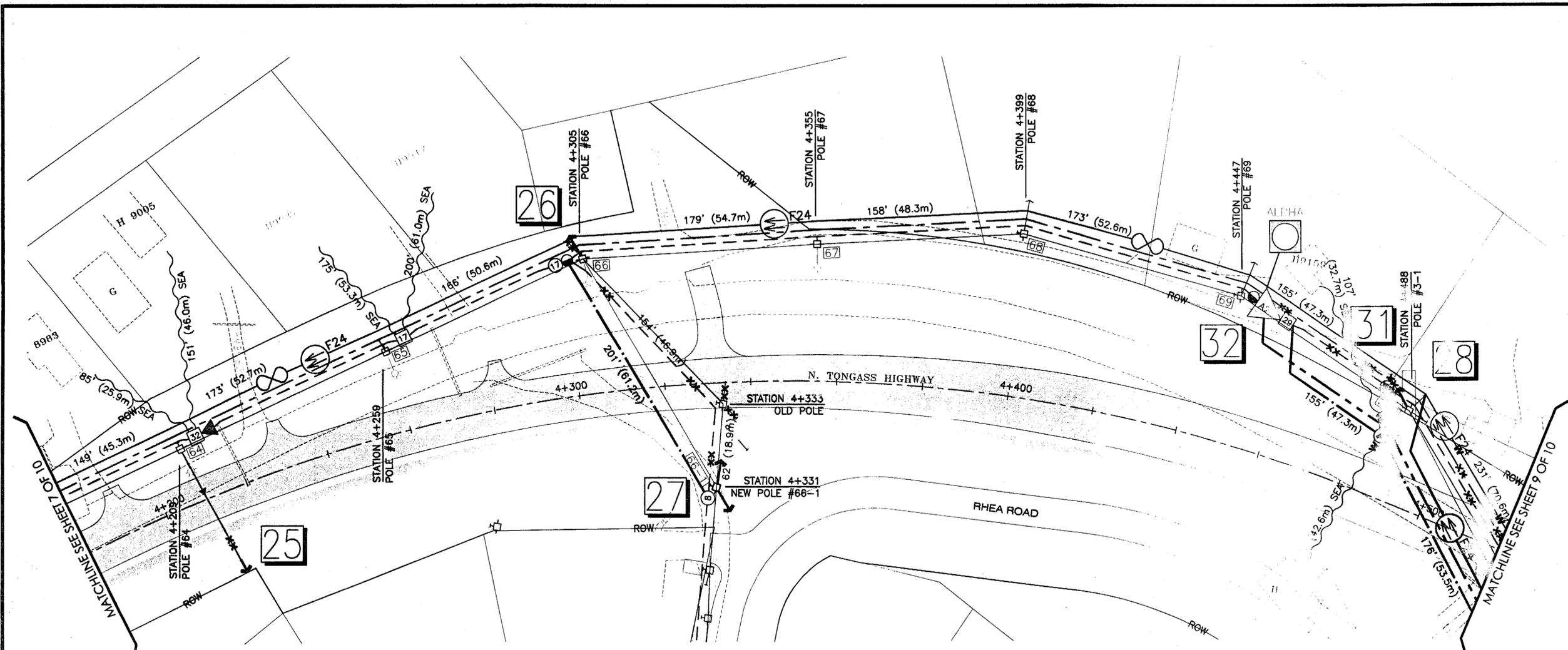


PLANS DATED: 1/27/2004

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CONSTRUCTION**



### CONSTRUCTION NOTES

- 25** AT NORTH TONGASS HIGHWAY STATION 4+209, BEING THE RENUMBERED KPU POLE #64, PLACE A 1/4" EHS 7 STRAND GALVANIZED DOWNGUY AND ATTACH TO ANCHOR ON STEEP HILL PROVIDED BY KPU IN ACCORDANCE WITH A.D.O.T./PF SHEETS U1 & U2.
- 26** AT NORTH TONGASS HIGHWAY STATION 4+305, BEING THE RENUMBERED KPU POLE #66, BEGIN PLACEMENT OF (1) 1/4" EHS 7 STRAND GALVANIZED MESSENGER STRAND AND (1) .625 COAX EAST TO THE NEW KPU POLE #66-1 AT STATION 4+331, AND PERFORM COLD SPLICING IN PREPARATION FOR CUT OVER. PLACE A DOWN GUY AND ATTACH TO ANCHOR PROVIDED BY KPU IN ACCORDANCE WITH A.D.O.T./PF SHEETS U1 & U2.
- 27** AT NORTH TONGASS HIGHWAY STATION 4+331, BEING THE NEW KPU POLE #66-1, END PLACEMENT OF .625 COAX AND 1/4" EHS 7 STRAND GALVANIZED MESSENGER STRAND. PLACE A DOWN GUY AND ATTACH TO ANCHOR PROVIDED BY KPU IN ACCORDANCE WITH A.D.O.T./PF SHEETS U1 & U2. PERFORM COLD SPLICING IN PREPARATION FOR CUT OVER.

ONCE ALL CABLE PLACEMENT, COLD SPLICING AND PREPARATION IS COMPLETE FROM STATIONS 4+305 TO STATION 4+331, GCI TECHNICIANS TO PERFORM CUT OVER. AFTER CUT OVER IS COMPLETE, WRECK OUT ABANDONED AERIAL PLANT AS SHOWN.

- 28** AT NORTH TONGASS HIGHWAY STATION 4+488, BEING THE RENUMBERED KPU POLE #3-1, BEGIN PLACEMENT OF (1) 1/4" EHS 7 STRAND GALVANIZED MESSENGER STRAND ON THE NEW POLE LINE PROVIDED BY KPU NORTHEAST TO STATION 4+600, BEING THE RENUMBERED KPU POLE #3-3. PLACE A DOWN GUY AND ATTACH TO ANCHOR PROVIDED BY KPU IN ACCORDANCE WITH A.D.O.T./PF SHEETS U1 & U2.
- 31** AT NORTH TONGASS HIGHWAY STATION 4+488, BEING THE RENUMBERED KPU POLE #3-1, END RELOCATION OF FOC24. CONTINUE PLACEMENT OF (1) .625 COAX AND (1) .875 COAX SOUTHWEST TO THE EXISTING AMPLIFIER AT RENUMBERED KPU POLE #69, DELASHING AND RELASHING EXISTING AND NEW CABLES. PLACE 2 PORT TAP ON THE .625 COAX. MAKE PREPARATION FOR CUT AND SWING OF EXISTING RG6 SERVICE DROP TO HOUSE #9180 AS SHOWN. PERFORM ALL COLD SPLICING IN PREPARATION FOR CUT OVER.
- 32** AT NORTH TONGASS HIGHWAY STATION 4+447, BEING THE EXISTING KPU RENUMBERED POLE #69, END PLACEMENT OF (1) .625 COAX AND (1) .875 COAX ON THE 1/4" EHS 7 STRAND GALVANIZED MESSENGER STRAND, AND PERFORM COLD SPLICING IN PREPARATION FOR CUT OVER.

ONCE ALL CABLE PLACEMENT, COLD SPLICING AND PREPARATION IS COMPLETE FROM STATIONS 4+447 TO STATION 4+600 (INCLUDING SUNSET DRIVE SPANS), GCI TECHNICIANS TO PERFORM CUT OVER. AFTER CUT OVER IS COMPLETE, WRECK OUT ABANDONED AERIAL PLANT, DOWNGUYS AND ANCHORS AS SHOWN.



Known utility lines are shown in approximate locations only. All exact locations to be determined by the contractor during construction.

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# TABULATION OF COMPLETED UNITS (CABLE)

TABULATION PERIOD, FROM: \_\_\_\_\_ TO: \_\_\_\_\_  
 EXCH. \_\_\_\_\_ W.O.# \_\_\_\_\_ CONTRACT# STP-0920(19)/(67600)  
 CONTRACTOR NTC P.O.# ?  
 PROJECT TITLE KETCHIKAN - NORTH TONGASS HIGHWAY

ACTUAL CONSTRUCTION		TABBED (INITIALS/CO.) JC	DATE 1/27/04	PAGE 2 OF 3
START DATE	COMP. DATE	INSP. (INITIALS/CO.)	DATE	ISSUE 1
UNITS AGREED UPON				SHEET NO. 12 OF 18
CO. CONST. SUPT.	DATE	CONTRA. SUPT.	DATE	

WORK LOCATION NUMBER	2-PORT TAP	4-PORT TAP	2-WAY SPLITTER	AMPLIFIER	C.625	C.875	CONNECTOR .500 (EI)	CONNECTOR .625(EI)	CONNECTOR .625(SI)	CONNECTOR .750 (EI)	CONNECTOR .750(SI)	CONNECTOR .875(EI)	CONNECTOR .875 (SI)	CFTV 1300	DC-8	H01	LINE EXTENDER	LINE TERMINTOR	PE1-3G	PE2-2	PF-35	PM11	SEA<150	SEA>150	SNOWSHOE	STRAND ¼ EHS	PF5-4
18		1			142'	142'		2						2													
19		1			229'	229'		4						4			1										
20	1				208'	208'		2						2													
21					162'	162'																					
22	1				208'	208'		2						2													
23					149'	149'		1				1		2		24									2		
24																				2			2				
25																					1		1				
26								1						1					1				1				
27					201'			1						1					2				2			201'	
28																			1				1				
29								1			1		1	3					3				3			579'	
30			1		248'	248'		3						3					1				1				
31	1				176'	176'		2						2													
32					155'	155'		1				1	1	2													
33					190'														2				2			190'	
34					82'			1						1												82'	
PAGE TOTAL	3	2	1	0	2,150'	1,677'	0	21	0	0	1	2	2	25	0	24	1	0	12	1	0	13	0	0	2	1,052'	0

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