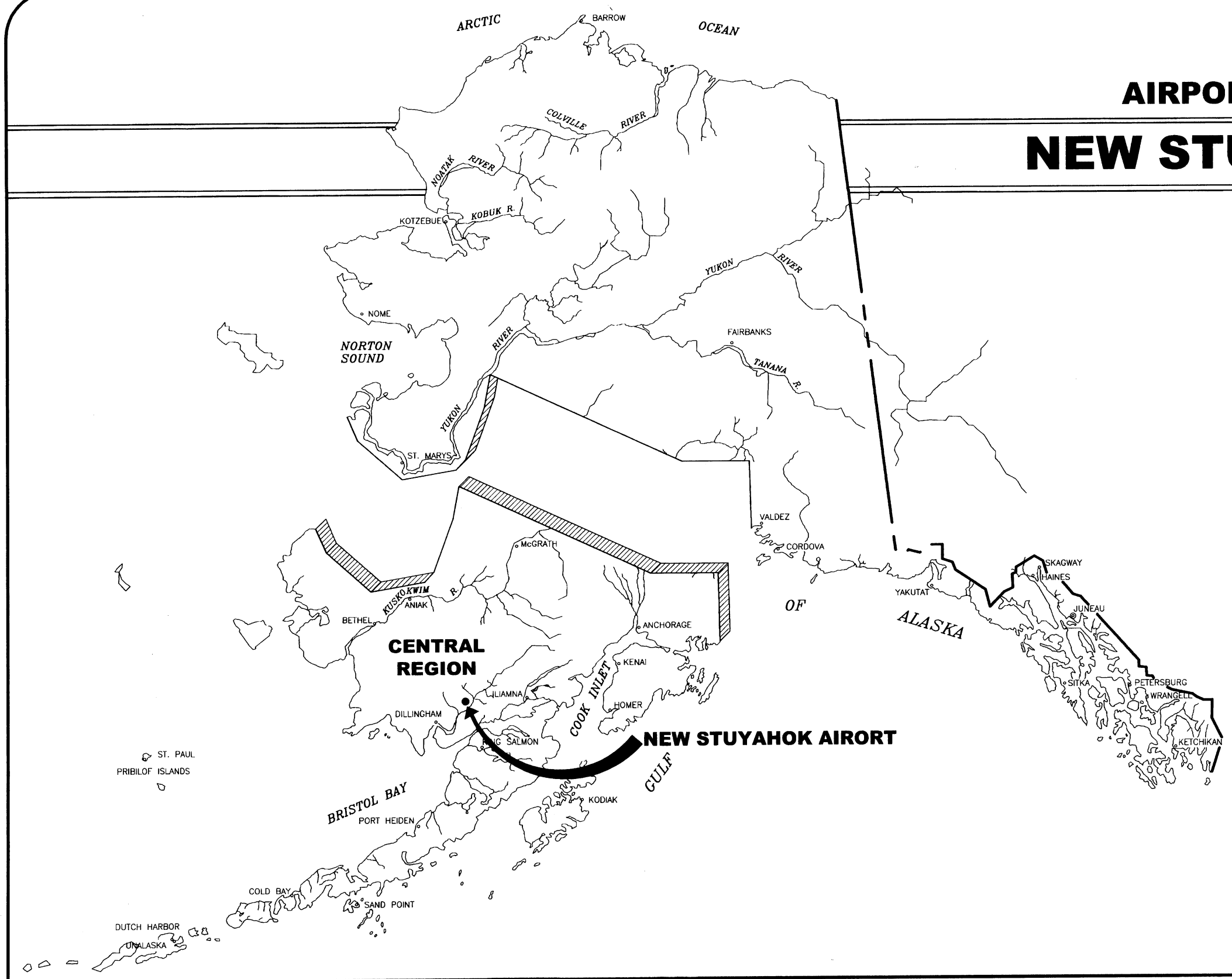
AIRPORT LAYOUT PLAN FOR

NEW STUYAHOK AIRPORT

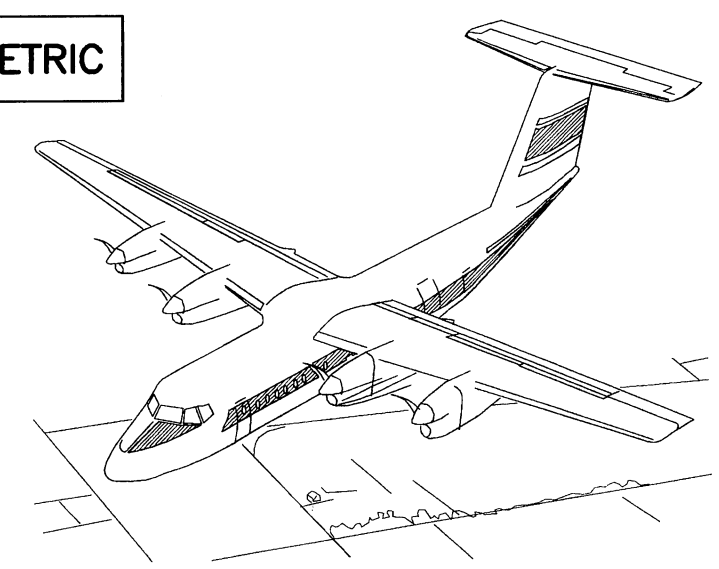
2003



DRAWING INDEX

1 – COVER SHEET AND INDEX
2 – VICINITY MAP AND DATA TABLES
3 – OVERALL LAYOUT PLAN
4 – AIRPORT AREA PLAN
5 – TERMINAL AREA PLAN
6 – RUNWAY PROFILES
7 – F.A.R. PART 77 SURFACES
8 – PROPERTY PLAN
9 – PROPERTY PLAN, ACCESS ROAD & PROPERTY STATUS
10 – NARRATIVE REPORT

METRIC



SPONSORED BY
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
CENTRAL REGION

CONCUR Gordon C. Keith **DATE** 5/2/03
GORDON C. KEITH, P.E. **DIRECTOR OF CONSTRUCTION AND OPERATIONS**

APPROVED Steven R. Horn **DATE** 5/2/03
STEVEN R. HORN, P.E. **REGIONAL PRECONSTRUCTION ENGINEER**

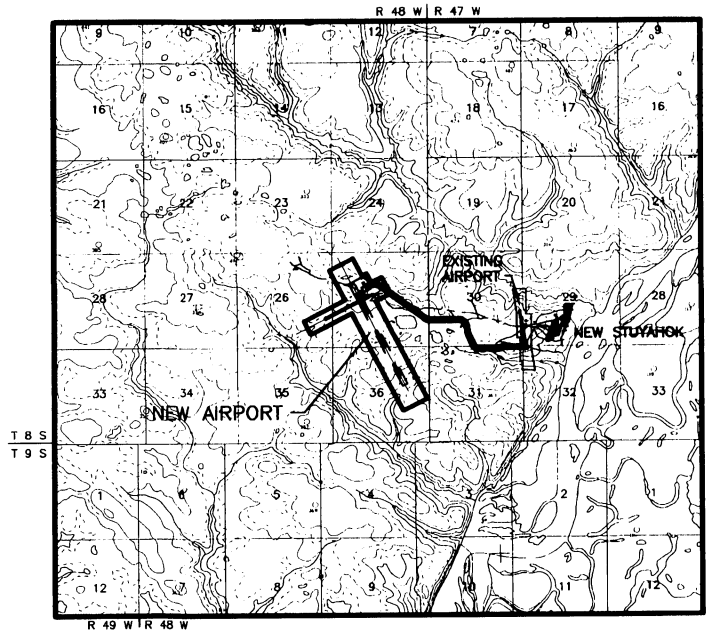
AIRPORT LAYOUT PLAN CONDITIONAL APPROVAL
By: [signature]
FAA AIRPORTS DIVISION
ALASKAN REGION, AAL-600
DATE: 9/27/04

FAA AIRSPACE REVIEW NUMBER
00-AAL-169-NRA

NEW STUYAHOK
AIRPORT LAYOUT PLAN

SHEET 1 OF 10

File: g:\data\newstuyahok2\alp\2002\plan layout=cover Date of Last Revision: 04/30/03 1=1 daveb

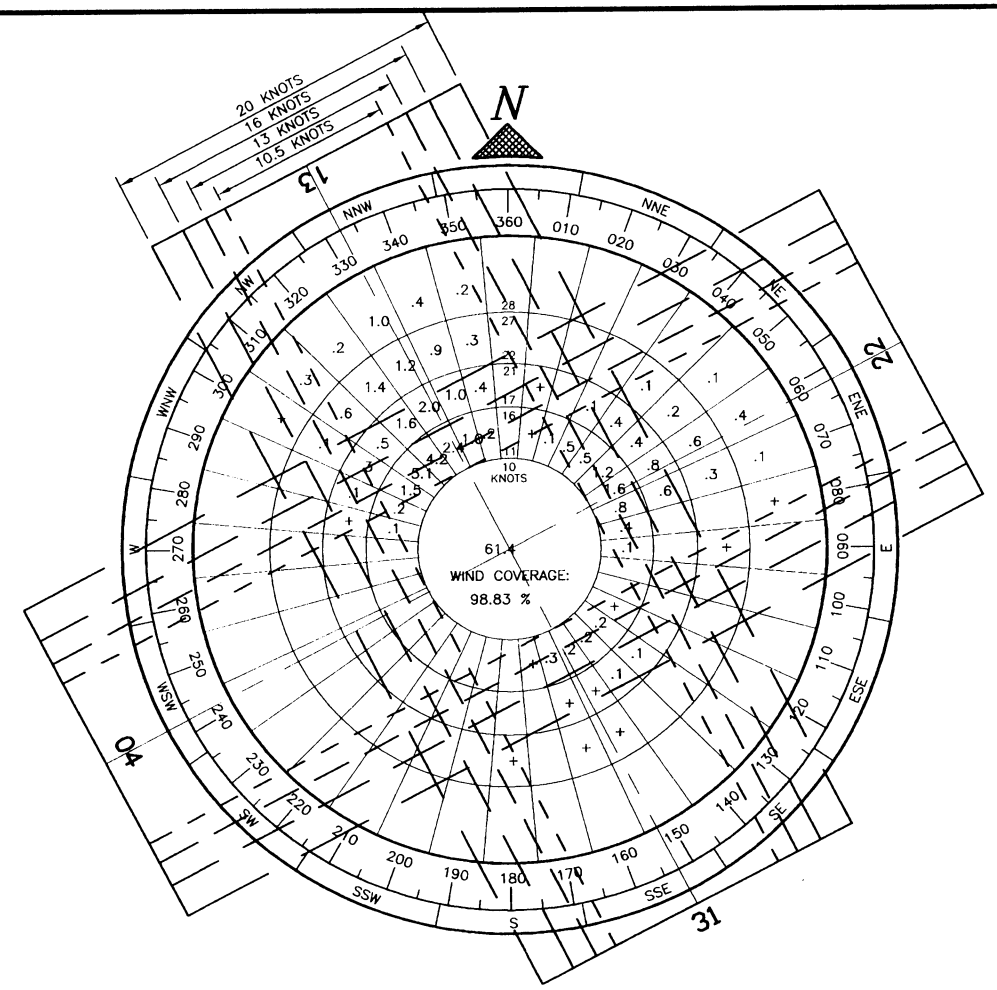


VICINITY MAP

1:63 360 (25.4mm = 1 MILE)
T 8 S, R 47 W, SEC. 30
T 8 S, R 48 W, SEC. 25, 26, 36
SEWARD MERIDIAN
U.S.G.S. DILLINGHAM (B-4), ALASKA 1954

CONVERSION FACTORS FROM SI UNITS

TO CONVERT FROM	TO	MULTIPLY BY
STATION (1000 METERS)	FEET	3280.84
KILOMETER (km)	MILE	0.6214
METER (m)	MILE	0.00062137
METER (m)	FOOT	3.28084
MILLIMETER (mm)	FOOT	0.00328084
MILLIMETER (mm)	INCH	0.03937
SQUARE METER (m^2)	SQUARE FOOT	10.76391042
SQUARE METER (m^2)	SQUARE YARD	1.19599
HECTARE	ACRE	2.4711
CUBIC METER (m^3)	CUBIC FOOT	35.3146667
CUBIC METER (m^3)	CUBIC YARD	1.3079506
CUBIC METER (m^3)	GALLON (US LIQUID)	264.17204
CUBIC METER (m^3)	M. GAL.	0.26417204
KILOGRAM (kg)	POUND-MASS (LBM)	2.2046225
MEGAGRAM (Mg)	TON (SHORT)	1.10231
NEWTON (n)	POUND-FORCE (LBF)	0.2248089
LUX (lx)	FOOTCANDLE	0.092903
DEGREE CELSIUS (°C)	DEGREE FAHRENHEIT (°F)	T°F=(1.8 x T°C)+32



WIND DATA

WIND COVERAGE:

SPEED	R/W 13/31	R/W 4/22	TOTAL
10.5 KNOTS	89.78%	72.27%	98.86%
13 KNOTS	92.59%	78.90%	99.69%
16 KNOTS	95.60%	86.85%	99.95%
20 KNOTS	97.59%	91.85%	100.00%

SOURCE: UNIVERSITY OF ALASKA ANCHORAGE, ENVIRONMENT AND NATURAL RESOURCES, CLIMATE CENTER

PERIOD: 12/20/1995-12/31/1996

NON-STANDARD CONDITIONS

ITEM	EXISTING	STANDARD	FUTURE
NONE			

BASIC DATA TABLE

RUNWAY DATA

ITEM		RUNWAY 13/31 PROPOSED	RUNWAY 13/31 FUTURE	RUNWAY 04/22 EXISTING	RUNWAY 04/22 FUTURE
EFFECTIVE GRADE		1.30%	1.25%		2.00%
% WIND COVERAGE	10.5 KNOTS	89.78%	89.78%		72.27%
	13 KNOTS	92.59%	92.59%		78.90%
	16 KNOTS	95.60%	95.60%		86.85%
	20 KNOTS	97.59%	97.59%		91.85%
INSTRUMENT RUNWAY		NPI	NPI		NPI
RUNWAY SURFACE		GRAVEL	GRAVEL		GRAVEL
PAVEMENT STRENGTH	kg	N/A	N/A		N/A
	[lb.]	N/A	N/A		N/A
APPROACH SURFACES		34:1	34:1		20:1
VISIBILITY MINIMUM		>1200m	>1200m		>1200m
		>[3/4 MILE]	>[3/4 MILE]		>[3/4 MILE]
RUNWAY LIGHTING		M.I.	M.I.		M.I.
RUNWAY MARKING		NONE	NONE		NONE
VISUAL APPROACH AIDS		PAPI & REIL	PAPI, REIL & AWOS		PAPI
AIRCRAFT APPROACH CATEGORY		B	B		A
AIRCRAFT DESIGN GROUP		II	III		I
RUNWAY DIMENSION		23m x 1000m	30m x 1550m		18m x 700m
		[75'x3281']	[98'x5085']		[59'x2297']
RUNWAY SAFETY AREA DIMENSION		45m x 1180m	90m x 1910m		36m x 844m
		[148'x3871']	[295'x6266']		[118'x2769']
RUNWAY OBJECT FREE AREA DIMENSION		150m x 1180m	240m x 1910m		75m x 844m
		[492'x3871']	[787'x6266']		[246'x2769']
RUNWAY OBSTACLE FREE ZONE DIMENSION		120m x 1120m	120m x 1670m		75m x 820m
		[394'x3675']	[394'x5479']		[246'x2690']
GEODETIC POSITIONS (N.A.D. 83)					
THRESHOLD 13	LAT.	59°27'19.91"N	59°27'19.91"N		
	LONG.	157°22'37.88"W	157°22'37.88"W		
THRESHOLD 31	LAT.	59°26'51.16"N	59°26'35.34"N		
	LONG.	157°22'08.90"W	157°21'52.97"W		
THRESHOLD 04	LAT.				59°27'07.37"N
	LONG.				157°23'08.24"W
THRESHOLD 22	LAT.				59°27'17.70"N
	LONG.				157°22'28.69"W

AIRPORT DATA

ITEM		PROPOSED	FUTURE
AIRPORT ELEVATION (M.S.L.)		110.87m[363.7']	111.61m[366.2']
AIRPORT REFERENCE POINT (A.R.P.) (NAD 83)	LAT.	59°27'02.27"N	
	LONG.	157°22'25.70"W	
TAXIWAY LIGHTING		M.I.	M.I.
RAMP LIGHTING		NONE	FLOOD
MEAN MAX. TEMPERATURE, HOTTEST MONTH (JULY)		18.33°C (65°F)	
MAGNETIC DECLINATION, YEAR		18°06.8'E, 2000	
AIRPORT REFERENCE CODE		B-II	B-III
TERMINAL NAVIGATION AIDS		NONE	NONE
AIRPORT NAVIGATION AIDS		ROT. BEACON	ROT. BEACON

LEGEND

ITEM	EXISTING	FUTURE
PROPERTY LINE		
BUILDING RESTRICTION LINE		
NAVIGATION & HAZARD EASEMENT		
AIRPORT REFERENCE POINT (A.R.P.)		
WIND CONE AND SEGMENTED CIRCLE		
CONTOURS	100	100
ROADWAYS		
BUILDINGS		
ROTATING BEACON		
SHORELINE		
ANTENNA		
VASI		
BLUFF		
FENCE	X X X	X X X
MALSF		
REIL		
PAPI		
TREES		

FILE: g:\data\newstuyahok2\alp\2002\plan
DATE: 04/30/03 1=1 layout=data

AIRPORT LAYOUT PLAN CONDITIONAL APPROVAL 9/27/04
SUBJECT TO ALP APPROVAL LETTER DATED
By: DATE: 9/27/04
FAA, AIRPORTS DIVISION
ALASKAN REGION, AAL-600

FAA AIRSPACE REVIEW NUMBER: 00-AAL-169-NRA

BY	DATE	REVISIONS
		REVISED PER FAA APPROVAL LETTER DATED 9/26/02

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

APPROVED: STEPHEN M. RYAN, P.E. — DESIGN SECTION CHIEF
APPROVED: JOHN G. WAHL, P.E. — PROJECT MANAGER

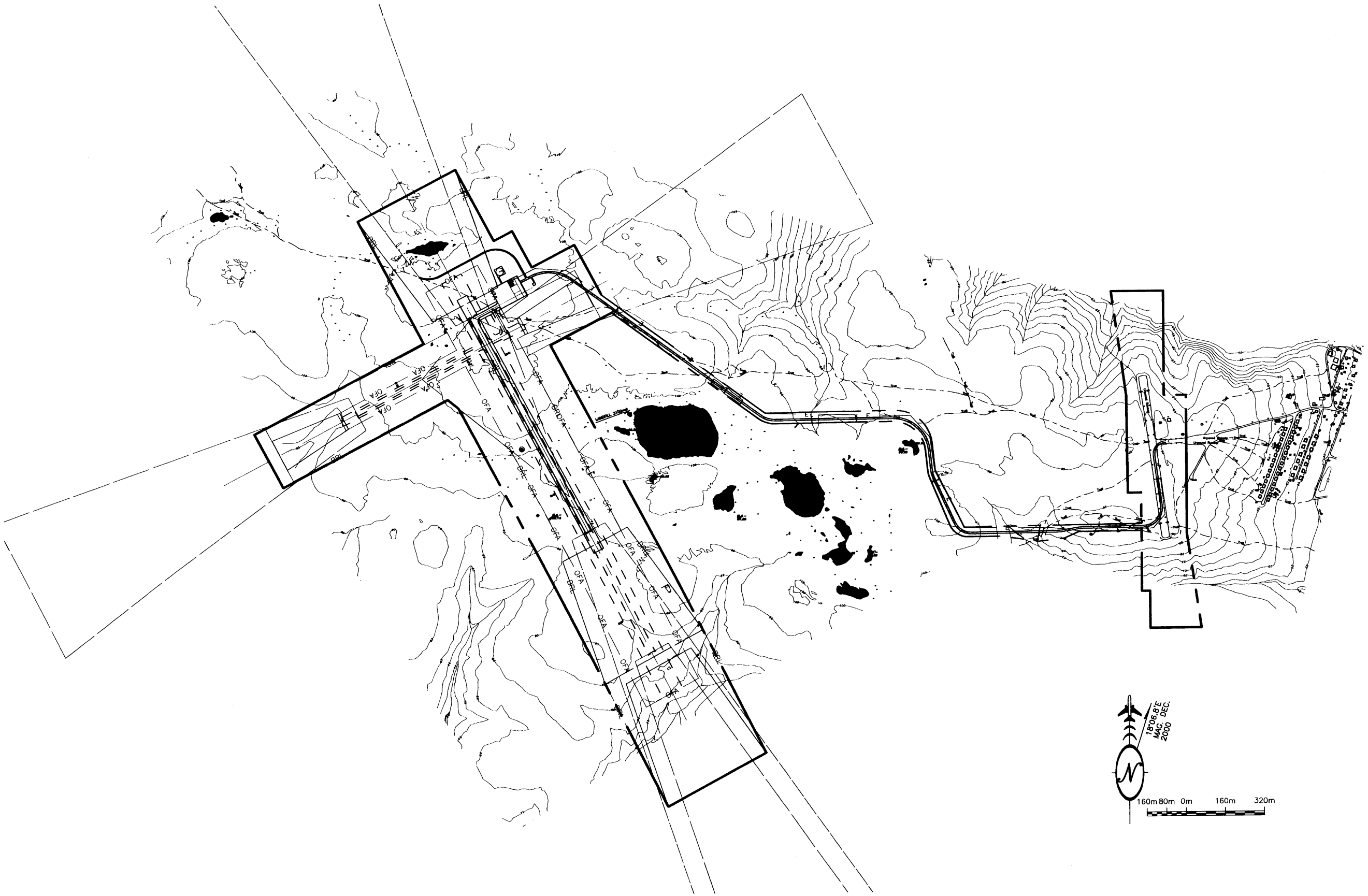
DATE 5-02-03
DESIGN RK
DRAWN
CHECKED RK

NEW STUYAHOK AIRPORT

AIRPORT LAYOUT PLAN

VICINITY MAP AND DATA TABLES

SHEET 2 OF 10



AIRPORT LAYOUT PLAN CONDITIONAL APPROVAL 9/07/04
SUBJECT TO ALP APPROVAL LETTER DATED

By: DATE: 9/07/04
FAA, AIRPORTS DIVISION
ALASKAN REGION, AAL-600

FAA AIRSPACE REVIEW NUMBER: 00-AAL-169-NRA

BY	DATE	REVISIONS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

APPROVED: STEPHEN M. RYAN, P.E. — DESIGN SECTION CHIEF
APPROVED: JOHN G. WAHL, P.E. — PROJECT MANAGER

DATE 5-02-03
DESIGN RK
DRAWN
CHECKED RK

NEW STUYAHOK AIRPORT

AIRPORT LAYOUT PLAN

OVERALL LAYOUT PLAN

SHEET 3 OF 10

FILE: g:\data\newstuyahok\alp\2002\plan
DATE: 04/30/03 1=1 layout=overall daveb

ULTIMATE 20:1 APPROACH
PROPOSED 7.5m x 3472m ACCESS ROAD
PROPOSED SINGLE-PHASE OVERHEAD ELECTRIC
PROPOSED 5m x 531m ACCESS TRAIL
PROPOSED LIGHTED WIND CONE AND SEGMENTED CIRCLE
ULTIMATE 75m x 135m x 300m RPZ
ULTIMATE 10m x 10m AWOS PAD
LANDFILL 3100m±
STA. 4+697.75 END PROPOSED RUNWAY ELEV. 97.89
STA. 1+787.75 END PROPOSED RUNWAY SAFETY AREA
ULTIMATE UNLIGHTED WIND CONE
STA. 2+287.75 END ULTIMATE RUNWAY ELEV. 91.45
STA. 2+432.75 END ULTIMATE RUNWAY SAFETY AREA
ULTIMATE 300m x 453m x 510m RPZ
ULTIMATE 34:1 APPROACH
PROPOSED UNLIGHTED WIND CONE
RUNWAY VISIBILITY ZONE
STA. 3+288.44 BEGIN ULTIMATE RUNWAY SAFETY AREA
STA. 3+360.44 BEGIN ULTIMATE RUNWAY ELEV. 111.61
22
13
31
S 27°42' E
120m
ULTIMATE 30m x 1550m RUNWAY WITH 90m x 1910m RUNWAY SAFETY AREA
AIRPORT REFERENCE POINT
PROPOSED 23m x 1000m RUNWAY WITH 45m x 1180m RUNWAY SAFETY AREA
ULTIMATE 240m x 1910m OFA
PROPOSED 34:1 APPROACH
PROPOSED & ULTIMATE 34:1 APPROACH
PROPOSED AND ULTIMATE 300m X 453m X 510m RPZ
ULTIMATE 75m x 844m OFA
PROPOSED 300m x 453m x 510m RPZ
ULTIMATE 18m x 700m RUNWAY WITH 36m x 844m RUNWAY SAFETY AREA
STA. 0+517.75 BEGIN ULTIMATE RUNWAY SAFETY AREA
STA. 0+607.75 BEGIN PROPOSED RUNWAY SAFETY AREA
STA. 0+697.75 BEGIN RUNWAY ELEV. 110.67
37.5 37.5
120m 120m
STA. 4+060.44 END ULTIMATE RUNWAY ELEV. 97.62
04
STA. 4+132.44 END ULTIMATE RUNWAY SAFETY AREA
ULTIMATE 75m x 135m x 300m RPZ
ULTIMATE 20:1 APPROACH
18°06.8'E MAG. DEC. 2000
80m 40m 0m 80m 160m

NOTE

NO THRESHOLD SITING SURFACE OBJECT PENETRATIONS. NO OBJECT FREE ZONE OBJECT PENETRATIONS.

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AIRPORT LAYOUT PLAN CONDITIONAL APPROVAL SUBJECT TO ALP APPROVAL LETTER DATED 9/27/04
By: _____ DATE: 9/27/04
FAA, AIRPORTS DIVISION
ALASKAN REGION, AAL-600

FAA AIRSPACE REVIEW NUMBER: 00-AAL-169-NRA

BY	DATE	REVISIONS
		REVISED PER FAA APPROVAL LETTER DATED 9/26/02

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

APPROVED: _____ STEPHEN M. RYAN, P.E. — DESIGN SECTION CHIEF
APPROVED: _____ JOHN G. WAHL, P.E. — PROJECT MANAGER

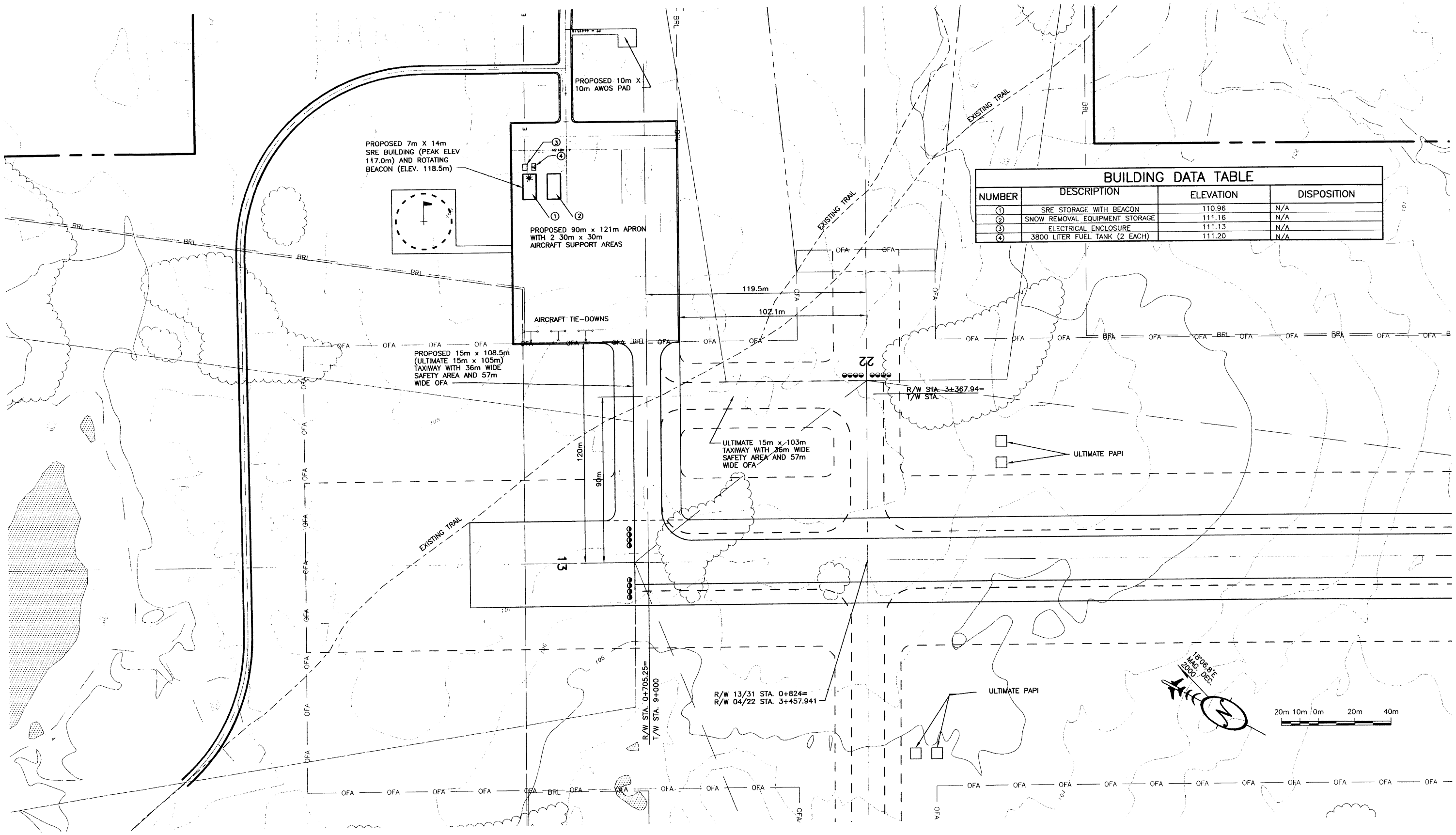
DATE 5-02-03
DESIGN RK
DRAWN
CHECKED RK

NEW STUYAHOK AIRPORT

AIRPORT LAYOUT PLAN

AIRPORT AREA PLAN

SHEET 4 OF 10



BUILDING DATA TABLE

NUMBER	DESCRIPTION	ELEVATION	DISPOSITION
1	SRE STORAGE WITH BEACON	110.96	N/A
2	SNOW REMOVAL EQUIPMENT STORAGE	111.16	N/A
3	ELECTRICAL ENCLOSURE	111.13	N/A
4	3800 LITER FUEL TANK (2 EACH)	111.20	N/A

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04/30/03 1=1 layout=terminal daveb

AIRPORT LAYOUT PLAN CONDITIONAL APPROVAL SUBJECT TO ALP APPROVAL LETTER DATED 9/27/04

By: [signature] DATE: 9/27/04
FAA, AIRPORTS DIVISION
ALASKAN REGION, AAL-600

FAA AIRSPACE REVIEW NUMBER: 00-AAL-169-NRA

BY	DATE	REVISIONS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

APPROVED: [signature]
STEPHEN M. RYAN, P.E. — DESIGN SECTION CHIEF
APPROVED: [signature]
JOHN G. WAHL, P.E. — PROJECT MANAGER

DATE 5-02-03
DESIGN RK
DRAWN [illegible]
CHECKED RK

NEW STUYAHOK AIRPORT

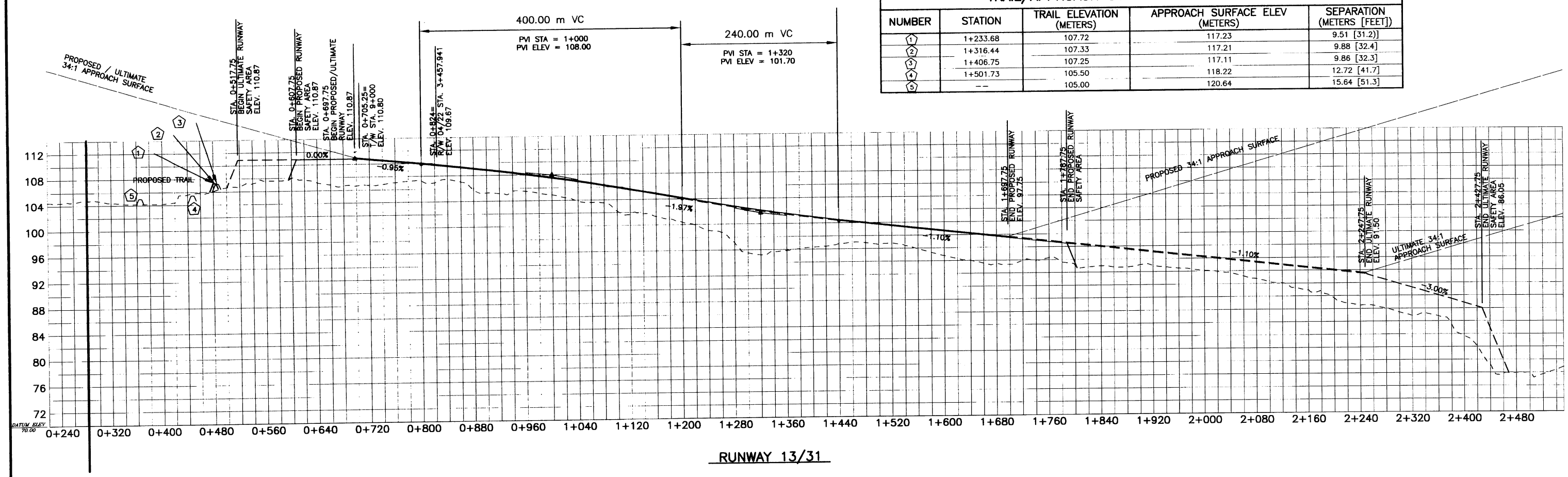
AIRPORT LAYOUT PLAN

TERMINAL AREA PLAN

SHEET 5 OF 10

TRAIL/APPROACH SURFACE SEPARATION TABLE

NUMBER	STATION	TRAIL ELEVATION (METERS)	APPROACH SURFACE ELEV (METERS)	SEPARATION (METERS [FEET])
1	1+233.68	107.72	117.23	9.51 [31.2)]
2	1+316.44	107.33	117.21	9.88 [32.4]
3	1+406.75	107.25	117.11	9.86 [32.3]
4	1+501.73	105.50	118.22	12.72 [41.7]
5	--	105.00	120.64	15.64 [51.3]



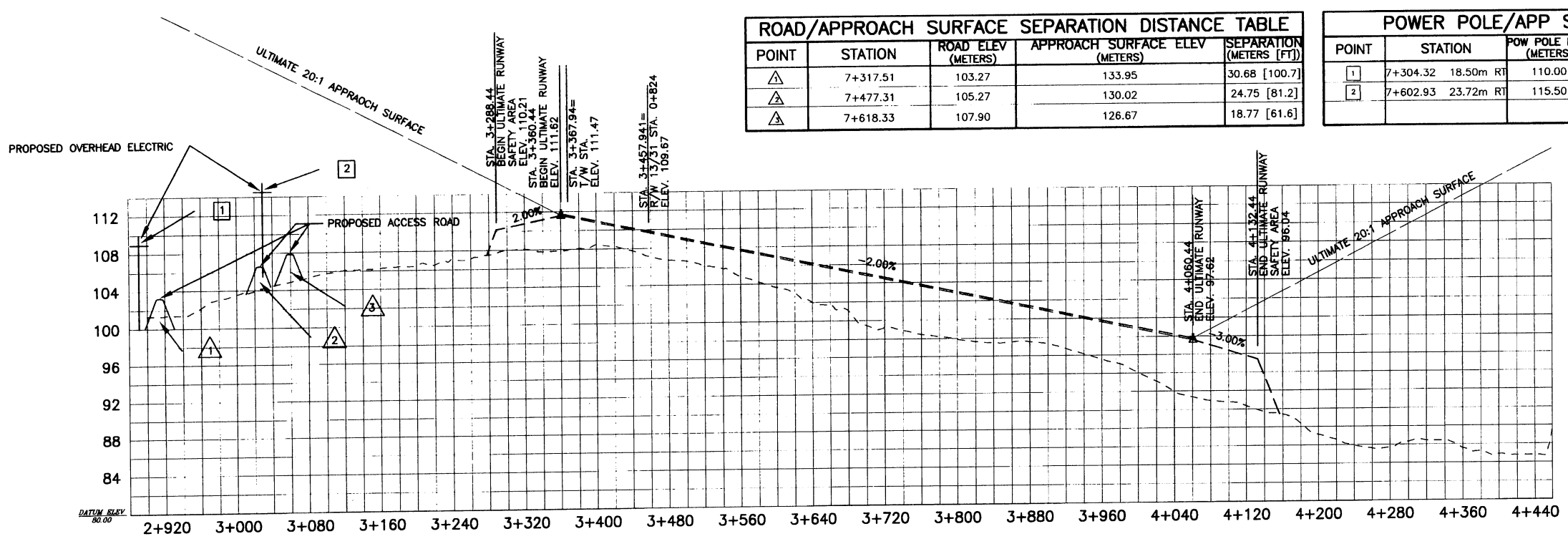
RUNWAY 13/31

ROAD/APPROACH SURFACE SEPARATION DISTANCE TABLE

POINT	STATION	ROAD ELEV (METERS)	APPROACH SURFACE ELEV (METERS)	SEPARATION (METERS [FT])
1	7+317.51	103.27	133.95	30.68 [100.7]
2	7+477.31	105.27	130.02	24.75 [81.2]
3	7+618.33	107.90	126.67	18.77 [61.6]

POWER POLE/APP SURF SEP DISTANCE TABLE

POINT	STATION	POW POLE ELEV (METERS)	APPROACH SURFACE ELEV (METERS)	SEPARATION (METERS [FT])
1	7+304.32 18.50m RT	110.00	135.08	25.08 [82.3]
2	7+602.93 23.72m RT	115.50	128.17	12.67 [41.6]



RUNWAY 04/22

AIRPORT LAYOUT PLAN CONDITIONAL APPROVAL SUBJECT TO ALP APPROVAL LETTER DATED 9/27/04

By: [signature] DATE: 9/27/04
FAA, AIRPORTS DIVISION
ALASKAN REGION, AAL-____

FAA AIRSPACE REVIEW NUMBER: 00-AAL-169-NRA

BY	DATE	REVISIONS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

APPROVED: [signature] STEPHEN M. RYAN, P.E. — DESIGN SECTION CHIEF
APPROVED: [signature] JOHN G. WAHL, P.E. — PROJECT MANAGER

DATE 5-02-03
DESIGN RK
DRAWN [signature]
CHECKED RK

NEW STUYAHOK

AIRPORT LAYOUT PLAN

RUNWAY PROFILES

SHEET 6 OF 10

FILE: g:\data\newstuyahok2\alp\2002\plan
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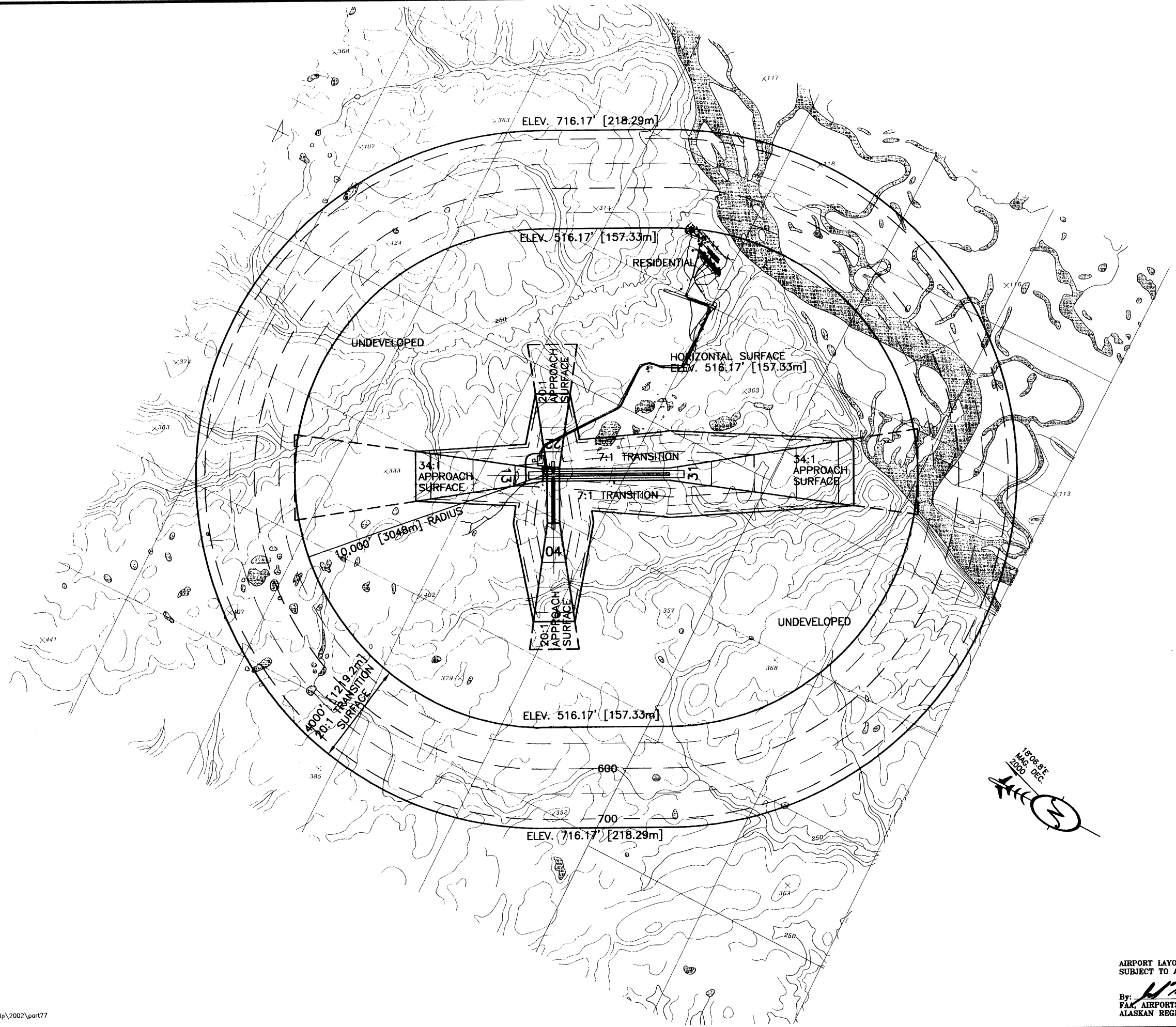

600m 300m 0m 600m 1200m
SCALE IN METERS

2000' 1000' 0' 1000' 2000' 3000' 4000'
SCALE IN FEET

LEGEND

WATER SURFACE

× Feet SPOT ELEVATIONS

NOTES

1. AIRPORT AND RUNWAY ELEVATIONS ARE 366.20' [111.61m].

OBSTRUCTION DATA TABLE

NUMBER	PENETRATION DISTANCE [METERS (FEET)]	DESCRIPTION	DISPOSITION
NONE	NONE	NONE	NONE

F.A.A. AIRSPACE REVIEW NUMBER:
00-AAL-169-NRA

AIRPORT LAYOUT PLAN CONDITIONAL APPROVAL
SUBJECT TO ALP APPROVAL LETTER DATED 9/27/04

By: [signature] DATE: 9/27/04
FAA, AIRPORTS DIVISION
ALASKAN REGION, AAL-600

BY	DATE	REVISIONS

DATE 5-02-03
DESIGN [initials]
DRAWN [initials]
CHECKED [initials]

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

DESIGN SECTION CHIEF
PROJECT MANAGER

APPROVED: [signature]
STEPHEN M. RYAN P.E.
APPROVED: [signature]
JOHN G. WAHL, P.E.

NEW STUYAHOK AIRPORT

AIRPORT LAYOUT PLAN

F.A.R. PART 77 SURFACES

SHEET 7 OF 10

FILE:
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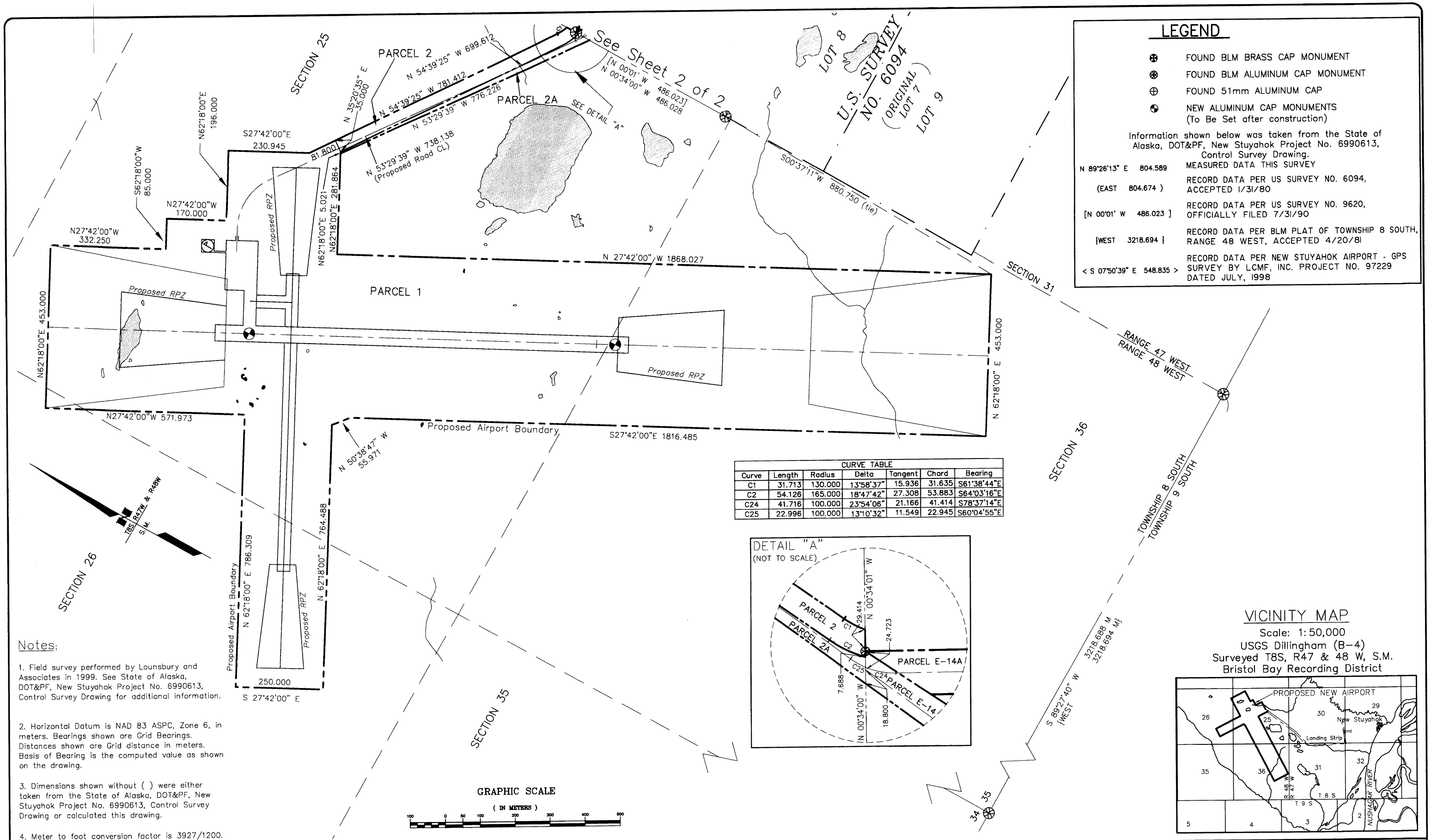
DATE:
04/30/03 1=1 daveb



LEGEND

- FOUND BLM BRASS CAP MONUMENT
- FOUND BLM ALUMINUM CAP MONUMENT
- FOUND 51mm ALUMINUM CAP
- NEW ALUMINUM CAP MONUMENTS (To Be Set after construction)

Information shown below was taken from the State of Alaska, DOT&PF, New Stuyahok Project No. 6990613, Control Survey Drawing.

N 89°26'13" E 804.589	MEASURED DATA THIS SURVEY
(EAST 804.674)	RECORD DATA PER US SURVEY NO. 6094, ACCEPTED 1/31/80
[N 00°01' W 486.023]	RECORD DATA PER US SURVEY NO. 9620, OFFICIALLY FILED 7/31/90
{WEST 3218.694 }	RECORD DATA PER BLM PLAT OF TOWNSHIP 8 SOUTH, RANGE 48 WEST, ACCEPTED 4/20/81
< S 07°50'39" E 548.835 >	RECORD DATA PER NEW STUYAHOK AIRPORT - GPS SURVEY BY LCMF, INC. PROJECT NO. 97229 DATED JULY, 1998

CURVE TABLE

Curve	Length	Radius	Delta	Tangent	Chord	Bearing
C1	31.713	130.000	13°58'37"	15.936	31.635	S61°38'44"E
C2	54.126	165.000	18°47'42"	27.308	53.883	S64°03'16"E
C24	41.716	100.000	23°54'06"	21.166	41.414	S78°37'14"E
C25	22.996	100.000	13°10'32"	11.549	22.945	S60°04'55"E

Notes:

1. Field survey performed by Lounsbury and Associates in 1999. See State of Alaska, DOT&PF, New Stuyahok Project No. 6990613, Control Survey Drawing for additional information.

2. Horizontal Datum is NAD 83 ASPC, Zone 6, in meters. Bearings shown are Grid Bearings. Distances shown are Grid distance in meters. Basis of Bearing is the computed value as shown on the drawing.

3. Dimensions shown without ( ) were either taken from the State of Alaska, DOT&PF, New Stuyahok Project No. 6990613, Control Survey Drawing or calculated this drawing.

4. Meter to foot conversion factor is 3927/1200.

FILE: g:\data\newstuyahok2\row\prop-plan\property-plan-rev2.dwg
DATE: 02/05/03 v=1 plh

AIRPORT LAYOUT PLAN CONDITIONAL APPROVAL SUBJECT TO ALP APPROVAL LETTER DATED 9/27/04
By: [signature] DATE: 9/27/04
FAA, AIRPORTS DIVISION
ALASKAN REGION, AAL-600

FAA AIRSPACE REVIEW NUMBER: 00-AAL-169-NRA

BY	DATE	REVISIONS
PLH	2/10/03	Added Parcel E-14A
PLH	9/10/02	Deleted Parcels 3-5, added Parcels 2A,7-14, revised Parcel 6
PLH	4/18/02	Removed Protracted Sec. Lines from US Surveys
PLH	12/12/01	Revised Parcel 1, 5, Ownership Table

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

APPROVED: [signature] STEPHEN M. RYAN, P.E. — DESIGN SECTION CHIEF
APPROVED: [signature] JOHN G. WAHL, P.E. — PROJECT MANAGER

DATE 5-02-03
DESIGN RK
DRAWN plh
CHECKED RK

NEW STUYAHOK AIRPORT

PROPERTY PLAN

(AIRPORT LAYOUT PLAN SHEET 8 OF 10)

SHEET 1 OF 2

CURVE TABLE						
Curve	Length	Radius	Delta	Tangent	Chord	Bearing
C1	31.713	130.000	13°58'37"	15.936	31.635	S61°38'44"E
C2	54.126	165.000	18°47'42"	27.308	53.883	S64°03'16"E
C3	39.382	180.000	12°32'09"	19.770	39.304	S49°57'34"E
C4	25.664	150.000	9°48'10"	12.863	25.632	S48°35'34"E
C5	23.097	135.000	9°48'10"	11.577	23.069	S48°35'34"E
C6	34.947	150.000	13°20'56"	17.553	34.868	S50°21'57"E
C7	87.772	150.000	33°31'35"	45.183	86.525	S73°48'13"E
C8	17.716	165.000	6°09'07"	8.867	17.708	S46°46'03"E
C9	117.275	165.000	40°43'24"	61.237	114.822	S70°12'18"E
C10	22.926	150.000	8°45'25"	11.485	22.903	N85°03'17"E
C11	22.999	150.000	8°47'06"	11.522	22.976	N85°04'08"E

CURVE TABLE						
Curve	Length	Radius	Delta	Tangent	Chord	Bearing
C12	110.346	65.000	97°16'03"	73.816	97.565	S40°47'58"E
C13	87.772	150.000	33°31'35"	45.183	86.525	S73°48'13"E
C14	49.442	30.000	94°25'38"	32.412	44.033	N39°22'46"E
C15	82.399	50.000	94°25'21"	54.016	73.386	N39°22'38"E
C16	98.884	60.000	94°25'38"	64.825	88.067	N39°22'46"E
C17	26.867	75.000	20°31'30"	13.579	26.724	S32°07'13"E
C18	36.006	130.000	15°52'08"	18.119	35.890	S13°55'24"E
C19	27.697	100.000	15°52'08"	13.938	27.608	S13°55'24"E
C20	22.194	70.000	18°09'56"	11.191	22.101	S15°04'18"E
C21	177.149	120.000	84°34'57"	109.158	161.496	S48°16'48"E
C22	221.437	150.000	84°34'57"	136.448	201.870	S48°16'48"E
C23	265.724	180.000	84°34'57"	163.737	242.244	S48°16'48"E
C24	41.716	100.000	23°54'06"	21.166	41.414	S78°37'14"E

PROPERTY STATUS TABLE

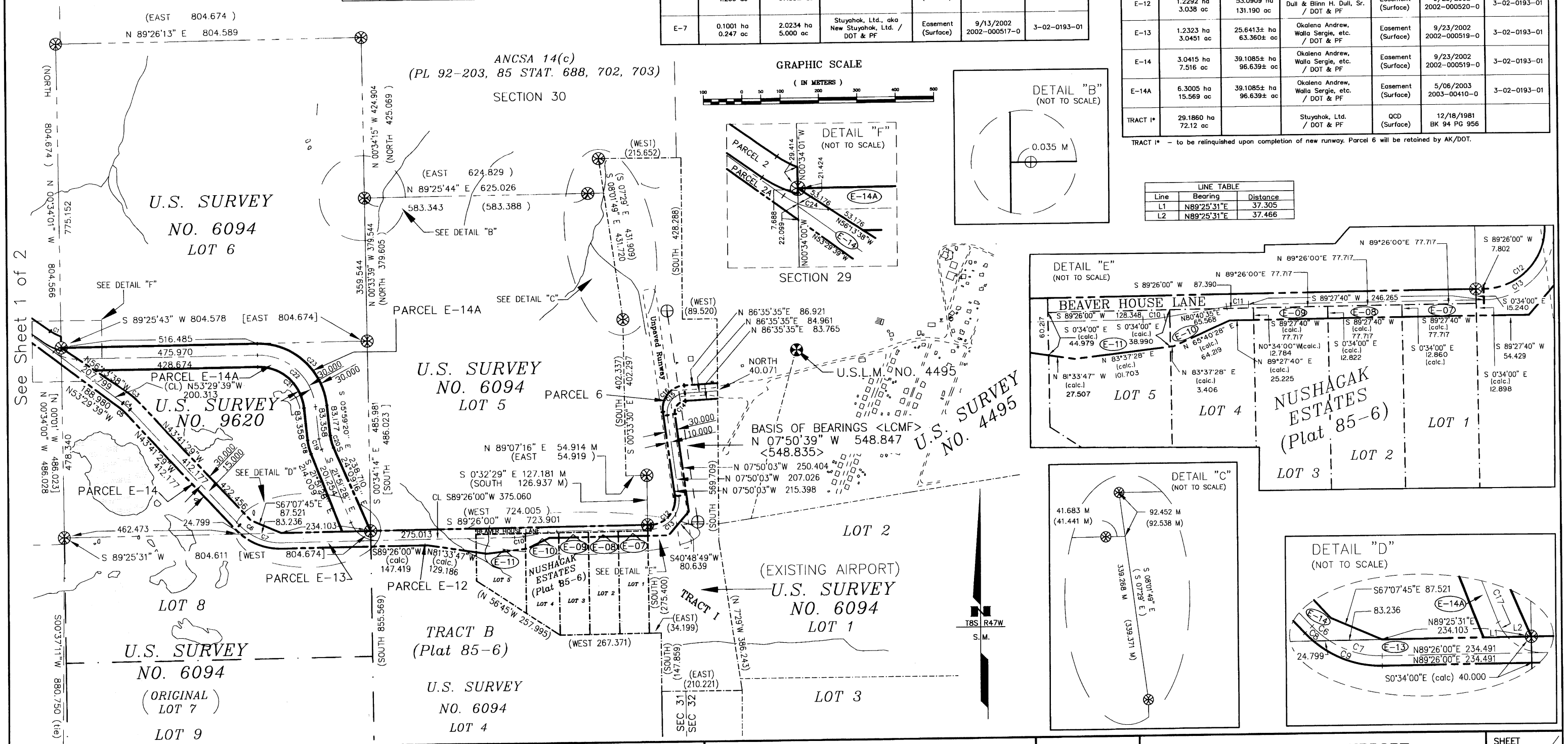
Parcel Number	Area Take	Remainder	Grantor/Grantee	Grantee Interest	Date Acquired Document #	Acquired Under A.I.P. No.
1	152.169 ha 376.02 ac	large	Bristol Bay Native Corp. / DOT & PF	Fee (Subsurface)	2/26/2002 2002-000053-0	3-02-0193-01
			Stuyahok, Ltd./DOT & PF	Fee (Surface)	2/08/2002 2002-000052-0	
2	2.5990 ha 6.422 ac	large	Bristol Bay Native Corp. / DOT & PF	Fee (Subsurface)	2/26/2002 2002-000053-0	3-02-0193-01
			Stuyahok, Ltd./DOT & PF	Fee (Surface)	2/08/2002 2002-000052-0	
2A	0.9612 ha 2.376 ac	large	Bristol Bay Native Corp. / DOT & PF	Fee (Subsurface)	8/29/2002 2002-000508-0	3-02-0193-01
			Stuyahok, Ltd./DOT & PF	Fee (Surface)	9/05/2002 2002-000507-0	
6	1.7277 ha 4.269 ac	27.46± ha 67.85± ac	DOT & PF	QCD (Surface)	12/18/1981 BK 94 PG 956	
E-7	0.1001 ha 0.247 ac	2.0234 ha 5.000 ac	Stuyahok, Ltd., aka New Stuyahok, Ltd. / DOT & PF	Easement (Surface)	9/13/2002 2002-000517-0	3-02-0193-01

PROPERTY STATUS TABLE

Parcel Number	Area Take	Remainder	Grantor/Grantee	Grantee Interest	Date Acquired Document #	Acquired Under A.I.P. No.
E-8	0.0998 ha 0.247 ac	2.0234 ha 5.000 ac	Stuyahok, Ltd., aka New Stuyahok, Ltd. / DOT & PF	Easement (Surface)	9/13/2002 2002-000517-0	3-02-0193-01
E-9	0.0995 ha 0.246 ac	2.0234 ha 5.000 ac	Victor L. Dull, aka Vicki L. Dull / DOT & PF	Easement (Surface)	9/23/2002 2002-000518-0	3-02-0193-01
E-10	0.1965 ha 0.4856 ac	2.0234 ha 5.000 ac	Stuyahok, Ltd., aka New Stuyahok, Ltd. / DOT & PF	Easement (Surface)	9/13/2002 2002-000517-0	3-02-0193-01
E-11	0.5747 ha 1.420 ac	2.0639 ha 5.100 ac	Stuyahok, Ltd., aka New Stuyahok, Ltd. / DOT & PF	Easement (Surface)	9/13/2002 2002-000517-0	3-02-0193-01
E-12	1.2292 ha 3.038 ac	53.0909 ha 131.190 ac	Victor L. Dull, aka Vicki L. Dull & Blinn H. Dull, Sr. / DOT & PF	Easement (Surface)	9/23/2002 2002-000520-0	3-02-0193-01
E-13	1.2323 ha 3.0451 ac	25.6413± ha 63.360± ac	Okalena Andrew, Walla Sergie, etc. / DOT & PF	Easement (Surface)	9/23/2002 2002-000519-0	3-02-0193-01
E-14	3.0415 ha 7.516 ac	39.1085± ha 96.639± ac	Okalena Andrew, Walla Sergie, etc. / DOT & PF	Easement (Surface)	9/23/2002 2002-000519-0	3-02-0193-01
E-14A	6.3005 ha 15.569 ac	39.1085± ha 96.639± ac	Okalena Andrew, Walla Sergie, etc. / DOT & PF	Easement (Surface)	5/06/2003 2003-00410-0	3-02-0193-01
TRACT I*	29.1860 ha 72.12 ac		Stuyahok, Ltd. / DOT & PF	QCD (Surface)	12/18/1981 BK 94 PG 956	

TRACT I* – to be relinquished upon completion of new runway. Parcel 6 will be retained by AK/DOT.

LINE TABLE		
Line	Bearing	Distance
L1	N89°25'31"E	37.305
L2	N89°25'31"E	37.466



PLH	5/30/03	Updated Property Status Table – Parcel E-14A
PLH	4/22/03	Revised Parcel E-14A
PLH	9/10/02	Deleted Parcels 3-5, added Parcels 2A,7-14, revised Parcel 6
PLH	4/18/02	Removed Protracted Sec. Lines from US Surveys
PLH	12/12/01	Revised Parcel 1, 5, Ownership Table
BY	DATE	REVISIONS

AIRPORT LAYOUT PLAN CONDITIONAL APPROVAL SUBJECT TO ALP APPROVAL LETTER DATED 9/22/04

By: DATE: 9/22/04
FAA, AIRPORTS DIVISION
ALASKAN REGION, AAL-600

FAA AIRSPACE REVIEW NUMBER: 00-AAL-169-NRA

FILE: g:\data\newstuyahok2\row\prop-plan\property-plan-rev2.dwg
DATE: 04/21/03 v=2 plh

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

APPROVED: STEPHEN M. RYAN, P.E. — DESIGN SECTION CHIEF
APPROVED: JOHN G. WAHL, P.E. — PROJECT MANAGER

DATE 5-30-03
DESIGN RK
DRAWN PLH
CHECKED RK

NEW STUYAHOK AIRPORT

PROPERTY PLAN

(AIRPORT LAYOUT PLAN SHEET 9 OF 10)

SHEET 2 OF 2

PURPOSE

THIS AIRPORT LAYOUT PLAN NARRATIVE REPORT IS INCLUDED WITH THE AIRPORT LAYOUT PLAN ACCORDING TO FEDERAL AVIATION ADMINISTRATION (FAA) AIRPORT DESIGN ADVISORY CIRCULAR 150/5300-13, APPENDIX 7. DIMENSIONS FOR FUTURE CONSTRUCTION ITEMS ARE ACCORDING TO FAA AC 150/5300-13, CHANGE 5. THIS REPORT DESCRIBES THE DESIGN RATIONALE FOR THE RELOCATION OF THE NEW STUYAHOK AIRPORT.

I. INTRODUCTION

THIS AIRPORT LAYOUT PLAN (ALP) SUPERSEDES A PREVIOUS AIRPORT LAYOUT PLAN APPROVED BY THE FAA ON MAY 8, 1981. THIS ALP PROPOSES CONSTRUCTING A NEW AIRPORT APPROXIMATELY 2.4 KM WEST OF THE VILLAGE IN ACCORDANCE WITH REQUEST FROM THE CITY AND LOCAL VILLAGERS.

THE CITY OF NEW STUYAHOK IS LOCATED ON THE NORTHERN BANK OR THE NUSHAGAK RIVER, ABOUT 12 MILES UPRIVER FROM EKWOK AND 52 MILES NORTHEAST OF DILLINGHAM. IT LIES AT APPROXIMATELY 59° 29' N LATITUDE, 157° 20' W LONGITUDE (SEC. 29, T008S, R047W, SEWARD MERIDIAN). THE COMMUNITY IS LOCATED IN THE BRISTOL BAY RECORDING DISTRICT. THE AREA OF THE CITY ENCOMPASSES 6 SQ. MILES OF LAND AND 2 SQ. MILES OF WATER.

AIR TRANSPORT IS MOST FREQUENTLY USED TO REACH THE COMMUNITY. REGULAR AND CHARTER FLIGHTS ARE AVAILABLE FROM DILLINGHAM. THE STATE-OWNED GRAVEL AIRSTRIP IS 1,800' AND LIGHTED. IT IS LOCATED ON A HILLTOP; WINDY CONDITIONS OFTEN PRECLUDE LANDING. THE COMMUNITY HAS REQUESTED FUNDS FOR CONSTRUCTION OF A CROSSWIND LANDING STRIP. SKIFFS, ATVS AND SNOWMACHINES ARE PREVALENT FORMS OF LOCAL TRANSPORTATION.

THE PRESENT LOCATION IS THE THIRD SITE THAT VILLAGERS CAN REMEMBER. THE VILLAGE MOVED DOWNRIVER TO THE MULCHATNA AREA FROM THE "OLD VILLAGE" IN 1918. DURING THE 1920S AND 30S, THE VILLAGE WAS ENGAGED IN HERDING REINDEER FOR THE U.S. GOVERNMENT. HOWEVER, BY 1942 THE HERD HAD DWINDLED TO NOTHING; THE VILLAGE HAD BEEN SUBJECTED TO FLOODING; AND THE SITE WAS TOO FAR INLAND EVEN TO RECEIVE BARGE SERVICE. IN 1942, THE VILLAGE MOVED DOWNRIVER AGAIN TO ITS PRESENT LOCATION. STUYAHOK CAN BE TRANSLATED AS "GOING DOWNRIVER PLACE." THE FIRST SCHOOL WAS BUILT IN 1961. A POST OFFICE WAS ALSO ESTABLISHED DURING THAT YEAR. AN AIRSTRIP WAS BUILT SOON THEREAFTER, AND THE 1960S SAW A 40% INCREASE IN THE VILLAGE POPULATION.

THE ALASKA AVIATION SYSTEM PLAN (AASP) DESIGNATES THIS AIRPORT AS A "COMMUNITY" CLASS FACILITY. THE AIRPORTS IN THIS CLASS PROVIDE PRIMARY ACCESS TO A SMALL RURAL COMMUNITY OF AT LEAST 25 PERMANENT RESIDENTS.

III. AIRPORT USAGE AND FORECAST

THE ALASKA AVIATION MASTER RECORD (FAA FORM 5010-1, LAST REVISED 5/04/98) REPORTS THE FOLLOWING DATA FOR ANNUAL AIRCRAFT OPERATIONS:

TABLE 1: REPORTED ANNUAL ENPLANEMENTS

YEAR	ENPLANEMENTS
1995	1602
1996	1610
1997	1502
1998	1331

SUCH VOLUNTARY REPORTS USUALLY INDICATE FEWER FLIGHTS THAN ARE ACTUALLY FLOWN. IN RESPONDING TO A RECENT SURVEY (SEPTEMBER 2000), AIR TAXI OPERATORS STATED THAT THEY FLY APPROXIMATELY 28 SCHEDULED FLIGHTS PER WEEK IN THE SUMMER AND 21 FLIGHTS DURING THE WINTER. NON-SCHEDULED CHARTERS RANGE FROM AS LOW AS 40 FLIGHTS PER WEEK DURING THE SUMMER TO AS HIGH AS 77 FLIGHTS PER WEEK DURING THE WINTER, DEPENDING ON DEMAND. DEMAND INCREASES IN WINTER DUE TO SCHOOL SPORTS TRAVEL. THERE ARE NO AIRCRAFT CURRENTLY BASED AT NEW STUYAHOK. BASE-YEAR (2000) OPERATIONS ARE ESTIMATED FROM THESE DATA. PROJECTIONS OF FUTURE AIRCRAFT OPERATIONS (TABLE 2) ARE BASED ON THE OBSERVED APPROXIMATE 2% PER YEAR POPULATION GROWTH RATE.

TABLE 2: FORCAST OF FUTURE OPERATIONS

	2000	2005	2010	2015
TOTAL ANNUAL OPERATIONS	9,112	10,060	11,107	12,263
ANNUAL LOCAL OPERATIONS	0	0	0	0
ANNUAL ITINERANT OPERATIONS	9,112	10,060	11,107	12,263
ANNUAL ENPLANEMENTS	1,732	1,912	2,111	2,331
ANNUAL INSTRUMENT APPROACHES	0	0	0	0
ANNUAL OPERATIONS (CURRENT CRITICAL AIRCRAFT)*	7,290	8,048	8,886	9,810
ANNUAL OPERATIONS (FUTURE CRITICAL AIRCRAFT)**	91	101	111	123

*ASSUME: CURRENT CRITICAL AIRCRAFT = 80% OF TOTAL OPERATIONS
**ASSUME: FUTURE CRITICAL AIRCRAFT = 1% OF TOTAL OPERATIONS, INCREASING AT ABOUT 2 % PER YEAR

IV. DESIGN RATIONALE

THIS SECTION DISCUSSES THE DESIGN AIRCRAFT, THE AIRPORT REFERENCE CODE AND RUNWAY LENGTH FOR EFFECTIVE SERVICE BY THIS AIRPORT. ADDITIONAL SUBSECTIONS DISCUSS AND SUMMARIZE THE PROPOSED DIFFERENCES IN PRIMARY FEATURE DIMENSIONS (TABLE 3).

A. DESIGN AIRCRAFT – TO DETERMINE THE DESIGN AIRCRAFT, AIR CARRIERS WITH SCHEDULED FLIGHTS WERE ASKED ABOUT THEIR CURRENT FLEET AND WHAT AIRPLANES WOULD BE SERVING THIS AREA WITHIN THE PLANNING INTERVAL. THEIR RESPONSES INDICATE THAT THE CURRENT STRIP CAN ACCEPTABLY SERVE ONLY SMALL SINGLE-ENGINED AIRCRAFT AND PREDICTED THAT PASSENGER SERVICE AT A NEW AIRPORT WOULD BE ACCOMPLISHED BY AIRCRAFT OF DESIGN GROUP I AND II FOR THE FORESEEABLE FUTURE. NEW STUYAHOK IS PRESENTLY SERVED BY AIR TAXIS OPERATING FROM DILLINGHAM. PENAIR CURRENTLY FLIES SARATOGA (PA-32), PIPER NAVAJO (PA-31) AND CESSNA CARAVAN (C-208) FROM DILLINGHAM. OTHER CHARTER CARRIERS FLY A VARIETY OF AIRCRAFT INCLUDING CESSNA 172, 185, 206 AND 207 AND PIPER PA 32 CHEROKEE AND SARATOGA.

THE COMMUNITY OF NEW STUYAHOK HAS REQUESTED THAT THE AIRPORT BE SIZED TO ACCOMMODATE LARGE CARGO AIRCRAFT SUCH AS THE DOUGLAS DC-6 FLOWN BE NORTHERN AIR CARGO AND AIR CARGO EXPRESS.

THERE IS NO SINGLE DESIGN AIRCRAFT THAT WILL BE USED AT THE NEW STUYAHOK AIRPORT. AIRCRAFT THAT CURRENTLY USE THE AIRPORT AND ARE EXPECTED TO USE THE AIRPORT IN THE NEAR-TERM INCLUDE MAINLY SMALL SINGLE- AND TWIN-ENGINED AIRCRAFT. ACCORDING TO FAA ADVISORY CIRCULAR 150/5325-4A, SECTION 1.2.A, A FAMILY OR GROUP OF AIRPLANES SHOULD BE SELECTED FOR DESIGN AIRCRAFT WHEN CONSIDERING AIRPORTS OF THIS SIZE. THE PERTINENT CIRCUMSTANCES IN THE DISCUSSION ABOVE SUPPORTS AIRPLANE DESIGN GROUP B-II AS THE NEAR TERM DESIGN AIRCRAFT. TO ACCOMMODATE THE POTENTIAL FOR GROWTH TO MATCH THE INTEREST EXPRESSED BY THE LOCAL COMMUNITY, DESIGN GROUP B-III SHOULD BE THE ULTIMATE DESIGN AIRCRAFT. THE FOLLOWING SECTIONS APPLY THESE CHOICES TO THE STANDARDS PROPOSED FOR THIS AIRPORT.

B. AIRPORT REFERENCE CODE, SITE SELECTION AND ALTERNATIVES -- FEATURES OF THE EXISTING AIRPORT MET DIMENSIONAL STANDARDS FOR "BASIC UTILITY" AIRPORTS FOLLOWING CONSTRUCTION IN THE EARLY 80'S. EXISTING AIRPORT FEATURES MEET MOST OF THE CURRENT STANDARDS FOR AN A-I (SMALL AIRCRAFT EXCLUSIVELY) FACILITY. THE CRITERIA THAT FAIL TO MEET THE CURRENT A-I STANDARD INCLUDE THE EXISTING RUNWAY SAFETY AREA LENGTH AND WIDTH AND TRANSITIONAL SURFACE ENCROACHMENTS. THE RUNWAY LENGTH IS ALSO LESS THAN THAT RECOMMENDED TO ACCOMMODATE 75% OF SMALL AIRCRAFT.

THE EXISTING AIRPORT IS TIGHTLY CONSTRAINED BY TERRAIN AND ADJACENT DEVELOPMENT. THE RUNWAY IS BOUNDED BY STEEP DROP OFFS AND STREAMS AT THE RUNWAY ENDS. TO IMPROVE THE EXISTING AIRPORT WOULD INVOLVE EXPENSIVE FILLS OR REALIGNMENT OF THE RUNWAY.

THE NEAR-TERM DESIGN AIRCRAFT IS THE B-II FAMILY OF AIRCRAFT. THIS GROUP INCLUDES 100% OF SMALL AIRCRAFT WITH LESS THAN 10 SEATS. MODERNIZATION OF THE REGIONAL CARRIERS' AIRCRAFT FLEET IS ONE FACTOR THAT SUGGESTS THAT OTHER THAN UTILITY SHOULD APPLY TO THE PRIMARY SURFACE. TO MEET CURRENT STANDARDS, A WIDER AND LONGER RUNWAY MUST BE CONSTRUCTED.

SINCE THE NEW STUYAHOK POPULATION IS GROWING AT APPROXIMATELY 2% PER YEAR, THERE IS A POTENTIAL FOR FUTURE INCREASES IN PASSENGER FLIGHTS. TO ACCOMMODATE THE POTENTIAL FOR THIS AIRPORT TO SERVE THE AREA'S NEEDS, THE ULTIMATE FEATURES IN THIS PLAN WILL CONFORM TO A B-III AIRPORT REFERENCE CODE. SEPARATION STANDARDS FOR THE ULTIMATE AIRPORT CAN BE IMPLEMENTED AT MINIMAL COST BECAUSE THE PROPOSED NEW AIRPORT SITE LACKS CONFLICTING FEATURES SUCH AS TERRAIN AND ADJACENT DEVELOPMENT.

IF AN AIRPORT WERE AVAILABLE TO SERVE B-III AIRCRAFT, THE CURRENT USE BY THIS DESIGN GROUP WOULD BE ABOUT 3 TO 4 FLIGHTS PER MONTH. ANNUAL DEMAND PROBABLY FALLS WITHIN THE RANGE OF 30 TO 40 FLIGHTS PER YEAR. TO WARRANT BEGINNING THE IMPROVEMENTS TO B-III STANDARDS, THE ANNUAL DEMAND FOR SUCH AIRCRAFT SHOULD EXCEED 150 FLIGHTS OR 300 OPERATIONS PER YEAR WITH PROJECTIONS FOR DEMAND GROWTH TO A LEVEL EXCEEDING 500 OPERATIONS PER YEAR.

C. WIND COVERAGE – THE UNIVERSITY OF ALASKA ANCHORAGE, ENVIRONMENT AND NATURAL RESOURCES, CLIMATE CENTER SUPPLIED 1 YEAR OF WIND DATA FROM THEIR AUTOMATED WEATHER OBSERVATION SYSTEM UNDER AIP GRANT NO. 3-02-0000-S494. THESE DATA INCLUDED WIND VELOCITY AND DIRECTION OBSERVATIONS AT 1 HOUR INTERVALS BETWEEN DECEMBER 20, 1995 AND DECEMBER 31, 1996. WIND ANALYSES ACCORDING TO AC 10/5300-13, APPENDIX 1 WERE PERFORMED FOR RUNWAY ORIENTATIONS USING THIS DATA.

THE OPTIMUM RUNWAY ALIGNMENT FOR THE AIRPORT WHEN CONSIDERING THE SLOPE AND LAYOUT OF THE SITE IS 332.30 DEGREES NORTH AZIMUTH, WHICH WILL PROVIDE A CROSSWIND COVERAGE OF 89.78% AT 10.5 KTS, 92.59 AT 13 KTS AND 95.60 AT 16 KTS. THIS ALIGNMENT PROVIDES GREATER THAN 95% COVERAGE FOR ADG III AIRCRAFT. THIS INDICATES THAT A CROSS-WIND RUNWAY IS NEEDED FOR ADG I AND II AIRCRAFT. A CROSSWIND RUNWAY ALIGNMENT AT AN AZIMUTH OF 242.30 DEGREES INCREASES THE COVERAGE FOR 10.5 KTS AND 13 KTS TO GREATER THAN 99% FOR ADG I AND II AIRCRAFT.

D. PREFERRED LOCATION SELECTION - THE PREFERRED LOCATION AND ORIENTATION FOR THE PROPOSED RUNWAY WAS CHOSEN AFTER CONSIDERATION OF SEVERAL FACTORS INCLUDING WIND COVERAGE AND TERRAIN CONSTRAINTS. THE ORIENTATION LIES CLOSE TO THE AZIMUTH SUGGESTED BY THE BEST WIND COVERAGE. THE TERRAIN HAS MILD SLOPES AT THE SELECTED LOCATION WITH SUFFICIENT AREA FOR CONSTRUCTION TO B-II DESIGN STANDARDS AND POTENTIAL FOR FUTURE EXPANSION TO B-III DESIGN GROUP STANDARDS.

TWO OTHER ALTERNATIVE SITES WERE INVESTIGATED BEFORE THE PREFERRED SITE WAS CHOSEN. ONE IS THE SITE OF THE EXISTING AIRPORT AND THE SECOND IS ON A RIDGE LOCATED NORTH OF THE CITY.

THE EXISTING AIRPORT IS CONSTRAINED BY STEEP DROP-OFFS AT EITHER END. IT IS ALSO NOT ALIGNED WITH THE DOMINANT WIND. ROTATING THE RUNWAY TO PROVIDE OPTIMUM WIND COVERAGE WOULD PROVIDE A RUNWAY WITH A LENGTH OF APPROXIMATELY 950 METERS. ADDITIONAL LENGTH IS NOT POSSIBLE DUE TO TERRAIN LIMITATIONS. PROVIDING A LENGTH OF 1500 METERS WOULD REQUIRE REALIGNMENT TO 70 DEGREES AWAY FROM THE PREVAILING WIND. THE ALIGNMENT WOULD ALSO REQUIRE ACQUISITION OF SEVERAL NATIVE ALLOTMENTS. THE COMMUNITY AND THE ALLOTTEES EXPRESSED STRONG OPPOSITION TO ANY ACQUISITION INVOLVING THE ALLOTMENT. THIS SITE WAS REJECTED.

THE SECOND SITE IS LOCATED ON A RIDGE NORTH OF THE CITY. THIS SITE WOULD ALLOW CONSTRUCTION OF A 1500+ METER RUNWAY, HOWEVER, AS IN THE PREVIOUS CASE, THE ALIGNMENT WOULD BE AT ALMOST A DIRECT CROSSWIND TO THE PREVAILING WIND. TERRAIN WOULD ALSO LIMIT CONSTRUCTION OF A CROSSWIND RUNWAY. THE NEW COMMUNITY LANDFILL IS ALSO LOCATED AT THIS SITE AND WOULD REQUIRE RELOCATION. THIS SITE WAS REJECTED IN FAVOR OF THE PREFERRED ALIGNMENT.

E. RUNWAY – THE PRIMARY ULTIMATE RUNWAY LENGTH OF 1550 METERS (5,085')IS RECOMMENDED BY THE DESIGN PROGRAM, "AIRPORT DESIGN FOR MICROCOMPUTERS" IN AC 150/5300-13 AND BY CHAPTER 2 OF AC 150/5325-4A, RUNWAY LENGTH REQUIREMENTS. THE PRIMARY RUNWAY NEAR-TERM LENGTH OF 1000 METERS (3,280') MATCHES THIS PROGRAM'S RECOMMENDATION FOR 100% OF SMALL AIRCRAFT OF LESS THAN 10 PASSENGERS.

A CROSSWIND RUNWAY WILL BE PROVIDED FOR ADG I AND II AIRCRAFT TO PROVIDE GREATER THAN 95% CROSSWIND COVERAGE. DUE TO CONSTRAINTS AT THE SITE CAUSED BY TERRAIN AND NATIVE ALLOTMENTS, THE LENGTH PROVIDED WILL BE 700 METERS (2,296') AND PROVIDES FOR SERVICE TO 75% OF SMALL AIRCRAFT. THE CROSSWIND RUNWAY WILL NOT BE CONSTRUCTED IN THE NEAR-TERM.

THE NEAR-TERM RUNWAY SURFACE WILL BE 23 METERS (75.5') WIDE BY 1000 METERS (3280') LONG. NEAR-TERM SAFETY AREA DIMENSIONS WILL BE 45 METERS (147.6') WIDE BY 1180 METERS (3871') LONG TO PROVIDE 90 METERS (295') BEYOND EACH RUNWAY END.

F. TAXIWAY – THE ULTIMATE AIRPORT LAYOUT INCLUDES 2 EXIT TAXIWAYS CONNECTING THE RUNWAYS TO THE APRON. ONE TAXIWAY WILL BE CONSTRUCTED AS PART OF THE INITIAL DEVELOPMENT. THE OTHER WILL BE CONSTRUCTED WHEN THE CROSSWIND RUNWAY IS CONSTRUCTED. THE ULTIMATE SAFETY AREA AND SURFACING WIDTHS MATCH AIRPLANE DESIGN GROUP B-III STANDARDS WHICH ARE 36 METERS (118.1') AND 15 METERS (49.2') RESPECTIVELY. NEAR-TERM DEVELOPMENT WILL PROVIDE THE ULTIMATE WIDTHS TO INCREASE OPERATIONAL SAFETY IN ADVERSE CONDITIONS SUCH AS CROSSWINDS OVER ICY SURFACES.

G. AIRCRAFT PARKING AREA – THE DISTANCE FROM THE RUNWAY CENTERLINE TO THE NEAR EDGE OF THE APRON WILL BE 120 METERS (393.7') AND WILL MEET THE REQUIREMENTS OF ADG III. THE NEW APRON WILL BE 90 METERS (295.3') IN WIDTH AND 121 METERS (397') IN LENGTH AND WILL PROVIDE A PARKING AREA OF 8,190 SQUARE METERS (88,154 SQUARE FEET). THIS AIRCRAFT PARKING AREA WILL MEET THE GUIDELINES OF THE ALASKA AVIATION SYSTEMS PLAN FOR COMMUNITY CLASS AIRPORTS. IN ADDITION TO THE AIRCRAFT PARKING AREA, THE APRON WILL BE CONSTRUCTED FOR AVIATION SUPPORT ACTIVITIES SUCH AS UNLOADING AND STORING PASSENGERS AND FREIGHT AND WILL MEASURE 30 METERS (98.4') BY 60 METERS (98.4') AND A 30 METER (98.4') BY 30 METER (98.4') SNOW REMOVAL EQUIPMENT (SRE) BUILDING PAD. THE AREAS COMBINED WILL HAVE A TOTAL AREA OF 10,890 SQUARE METERS (117,220 SQUARE FEET).

H. ACCESS ROAD – PRESENTLY A ROAD CONNECTS THE VILLAGE TO THE EXISTING AIRPORT. A NEW 7.5 METER (24.6') BY 3,346 METER (10,978') ROAD WILL CONNECT THE EXITING ROAD TO THE NEW AIRPORT. A SECTION OF THE ROAD WILL CROSS THE EXISTING AIRPORT. THE RIGHT OF WAY FOR THAT SECTION, WHICH INCLUDES THE TAXIWAY, APRON, AND RUNWAY, WILL BE RETAINED FOR THE NEW AIRPORT. THE BALANCE OF THE NEW ROAD CROSSES NATIVE ALLOTMENTS AND NATIVE CORPORATION LAND BETWEEN THE EXISTING AND NEW AIRPORTS.

I. ACCESS TRAIL – AN EXISTING DOG SLED TRAIL CROSSES THE NEW AIRPORT SITE. A NEW 5-METER (16.4') WIDE BY 531 METER (1,742') LONG ACCESS TRAIL WILL BE INSTALLED CONNECTING THE EXISTING TRAIL TO THE NEW ACCESS ROAD TO ROUTE TRAFFIC AROUND THE NORTH END OF THE NEW AIRPORT.

J. AIRPORT LIGHTING – THE PROPOSED DEVELOPMENT WILL ADD MEDIUM INTENSITY LIGHTING TO BOTH THE RUNWAY AND TAXIWAY. A LIGHTED WINDCONE WILL BE INSTALLED. A ROTATING BEACON WILL BE PLACED ON THE NEW SRE STORAGE BUILDING.

K. ELECTRICAL TRANSMISSION LINE – THE PROPOSED DEVELOPMENT WILL REQUIRE A 3,480 METER (11,417') OVERHEAD ELECTRICAL POWER TRANSMISSION LINE EXTENSION FROM THE EXISTING AIRPORT TO THE NEW AIRPORT WITHIN THE ACCESS ROAD RIGHT-OF-WAY.

L. LANDFILL SITE – THE EXISTING LANDFILL LIES MORE THAN 3100 METERS WEST OF THE NEW AIRPORT SITE. THE SITE IS BEYOND THE RECOMMENDED 3048-METER (10,000') MINIMUM SEPARATION REQUIRED BETWEEN AIRPORTS AND LANDFILLS.

M. DIMENSION SUMMARY

TABLE 3: PRIMARY FEATURES DIMENSIONS
RUNWAY 13-31

FEATURE	NEAR TERM METERS	NEAR TERM FEET	STANDARD METERS	STANDARD FEET	FUTURE METERS	FUTURE FEET
RUNWAY LENGTH	1000	3281	1000	3281	1550	5085
RUNWAY WIDTH	23	75.5	23	75.5	30	98.4
RUNWAY SAFETY AREA WIDTH	45	147.6	45	147.6	90	295.3
RUNWAY SAFETY AREA LENGTH BEYOND RUNWAY ENDS	90	295.3	90	295.3	180	590.6
RUNWAY OBJECT FREE AREA WIDTH	150	492.1	150	492.1	240	787.4
TAXIWAY WIDTH	15	49.2	10.5	35	15	49.2
TAXIWAY SAFETY AREA WIDTH	36	78.7	24	78.7	36	118.1
TAXIWAY OBJECT FREE AREA WIDTH	57	187.0	40	131.2	57	187.0
RUNWAY CENTERLINE TO EDGE OF AIRCRAFT PARKING	120	393.7	75	246.1	120	393.7
RPZ LENGTH	510	1673.2	510	1673.2	510	1673.2
RPZ INNER WIDTH	300	984.3	300	984.3	300	984.3
RPZ OUTER WIDTH	453	1486.2	453	1486.2	453	1486.2
APPROACH INNER WIDTH	152.4	500	152.4	500	152.4	500
APPROACH OUTER WIDTH	1066.8	3500	1066.8	3500	1066.8	3500
APPROACH LENGTH	3048	10,000	3048	10,000	3048	10,000
APPROACH SLOPE ANGLE	34:1	34:1	34:1	34:1	34:1	34:1

1. STANDARD VALUES ARE FROM FAA AC 150/5300-13, TABLES 2-4, 3-1, 4-1, GROUP B-II AND NON-PRECISION APPROACH WITH VISIBILITY MINIMUM>3/4 MILE ACCORDING TO FAR PART 77C.
2. "FUTURE" COLUMN MATCHES STANDARD VALUES FOR DESIGN GROUP B-III. NARRATIVE SECTION IV.E DISCUSSES THE RUNWAY LENGTH STANDARD.

TABLE 3: PRIMARY FEATURES DIMENSIONS
RUNWAY 04-22

FEATURE	NEAR TERM METERS	NEAR TERM FEET	STANDARD METERS	STANDARD FEET	FUTURE METERS	FUTURE FEET
RUNWAY LENGTH			700	2297	700	2297
RUNWAY WIDTH			18	59	18	59
RUNWAY SAFETY AREA WIDTH			36	118	36	118
RUNWAY SAFETY AREA LENGTH BEYOND RUNWAY ENDS			72	236	72	236
RUNWAY OBJECT FREE AREA WIDTH			75	246	75	246
TAXIWAY WIDTH			15	49	15	49
TAXIWAY SAFETY AREA WIDTH			36	118	36	118
TAXIWAY OBJECT FREE AREA WIDTH			57	186	57	187
RUNWAY CENTERLINE TO EDGE OF AIRCRAFT PARKING			75	246	102	335
RPZ LENGTH			300	984	300	984
RPZ INNER WIDTH			75	246	75	246
RPZ OUTER WIDTH			135	443	135	443
APPROACH INNER WIDTH			152	500	152	500
APPROACH OUTER WIDTH			1067	3500	1067	3500
APPROACH LENGTH			3048	10,000	3048	10,000
APPROACH SLOPE ANGLE			34:1	34:1	20:1	20:1

1. STANDARD VALUES ARE FROM FAA AC 150/5300-13, TABLES 2-4, 3-1, 4-1, GROUP B-II AND NON-PRECISION APPROACH WITH VISIBILITY MINIMUM>3/4 MILE ACCORDING TO FAR PART 77C.
2. "FUTURE" COLUMN MATCHES STANDARD VALUES FOR DESIGN GROUP B-III. NARRATIVE SECTION IV.E DISCUSSES THE RUNWAY LENGTH STANDARD.

V. STAGED DEVELOPMENT

DEVELOPMENT OF THE NEW STUYAHOK AIRPORT WILL BE ACCOMPLISHED IN NEAR-TERM, MID-TERM, AND LONG-TERM PHASES. NEAR-TERM DEVELOPMENT WILL OCCUR IN 1 – 5 YEARS AND WILL INCLUDE INITIAL DEVELOPMENT OF THE AIRPORT. MID-TERM DEVELOPMENT WILL OCCUR IN 6 – 10 YEARS OR WITH OBSERVED OPERATIONS OF B-III AIRCRAFT GREATER THAN 300 PER YEAR AND PROJECTED TO GROW BEYOND 500 OPERATIONS PER YEAR. LONG-TERM DEVELOPMENT WILL OCCUR IN ABOUT 11 – 20 YEARS. EACH STAGE IS DISCUSSED IN MORE DETAIL IN THE FOLLOWING SECTIONS.

A. NEAR-TERM DEVELOPMENT -- NEAR TERM DEVELOPMENT WILL CONSTRUCT RUNWAY 13-31 TO A LENGTH OF 1,000 METERS. THE APRON, TAXIWAY AND ACCESS ROAD WILL ALSO BE CONSTRUCTED. A NEW SRE BUILDING AND MEDIUM INTENSITY LIGHTING SYSTEM WITH POWER LINE EXTENSION WILL BE INSTALLED. THE NEW AIRPORT WILL MEET ADG B-II STANDARDS WITH THE EXCEPTION THAT THE APRON WILL BE CONSTRUCTED TO MEET ADG B-III SETBACKS TO SAVE THE ADDITIONAL COST OF RELOCATION WHEN THE LARGER AIRCRAFT OPERATE FROM THE AIRPORT. THE WORK WILL COST $3 TO $5 MILLION.

NEAR-TERM WORK ELEMENTS:

1. CONSTRUCT A 1000 METER (3280') LONG RUNWAY. CONSTRUCT A 45 BY 1180 METER (148' BY 3871') SAFETY AREA. PROVIDE AN AGGREGATE SURFACE COURSE.
2. CONSTRUCT A 15 METER (49') WIDE TAXIWAY AND A 36 METER (79') TAXIWAY SAFETY AREA LEADING FROM THE PROPOSED RUNWAY TO THE NEW APRON. PROVIDE AN AGGREGATE SURFACE COURSE.
3. CONSTRUCT A 8,190 SQUARE METER (88,154 SQUARE FEET) APRON FOR AIRCRAFT PARKING AND TAXILANES. CONSTRUCT 2,700 SQUARE METERS (29,062 SQUARE FEET) OF ADDITIONAL EMBANKMENT FOR AVIATION SUPPORT ACTIVITY. SURFACE THE APRON AND TAXILANE WITH AN AGGREGATE SURFACE COURSE.
4. CONNECT THE APRON TO THE LOCAL SURFACE TRANSPORTATION SYSTEM BY BUILDING AN ACCESS ROAD AND TRAIL ACCESS. THE ROAD WILL BE ABOUT 3.3 KILOMETERS (2.08 MILES) LONG. PROVIDE AN AGGREGATE SURFACE THAT IS 7.5 METERS (25 FEET) WIDE. THE TRAIL WILL BE ABOUT 531 METERS (1,742 FEET) LONG. PROVIDE AN AGGREGATE SURFACE THAT IS 5 METERS (16.4 FEET) WIDE.
5. CONSTRUCT AN OVERHEAD SINGLE-PHASE ELECTRICAL POWER DISTRIBUTION SYSTEM ALONG THE NEW ACCESS ROAD FOR ABOUT 3,480 METERS (11,417') TO PROVIDE ELECTRICAL POWER TO THE NEW AIRPORT TO SUPPLY THE NEW SRE BUILDINGS AND LIGHTING SYSTEM.
6. OTHER WORK ELEMENTS INCLUDE THE INSTALLATION OF MEDIUM INTENSITY LIGHTING ALONG THE RUNWAY AND TAXIWAY AD THE PURCHASE OF A NEW MOTOR GRADER FOR SNOW REMOVAL. CONSTRUCT TWO SRE BUILDINGS TO HOUSE THE MOTOR GRADER AND INSTALLATION OF TWO 3,800-LITER (1000-GALLON) FUEL STORAGE TANKS. FUNDING CONSTRAINTS MAY POSTPONE SOME OF THESE FEATURES TO LATER DEVELOPMENT PHASES.

B. MID-TERM DEVELOPMENT

UPGRADE THIS AIRPORT TO B-III DESIGN STANDARDS FOR AIRCRAFT GREATER THAN 9 PASSENGERS. THIS WILL ALLOW SERVICE BY LARGER COMMUTER AIRCRAFT SUCH AS THE FAIRCHILD METRO, BEECHCRAFT 1900 AND KING AIR. THIS WORK WILL INCLUDE EXTENDING THE EXISTING RUNWAY TO 1550 METERS (5,085') AND WIDENING THE RUNWAY TO 30 METERS (98'). THIS WORK WILL COST $1.5 TO $2.5 MILLION.

MID-TERM WORK ELEMENTS:

7. EXPAND AND LENGTHEN THE RUNWAY AND SAFETY AREA BY 550 METERS (1,213') TO CONFORM TO B-II DESIGN STANDARDS FOR AIRCRAFT WITH GREATER THAN 9 PASSENGERS.
EXTEND AND WIDEN RUNWAY 13-31 TO MEET ADG B-III STANDARDS, RESURFACING THE RUNWAY, TAXIWAY AND OTHER OPERATIONAL SURFACES.
8. ADD A SECOND TAXIWAY IF WARRANTED BY OPERATIONAL ANALYSIS.
9. RESTORE AGGREGATE MATERIAL TO THE AIRPORT SURFACE COURSES AS NEEDED.
10.CONSTRUCT ADDITIONAL APRON AS REQUIRED.

C. LONG-TERM DEVELOPMENT

CONSTRUCT A NEW 18 METER (59') BY 700 METER (2,297') CROSS-WIND RUNWAY WITH A 36 METER (118') BY 844 METER (2,769') SAFETY AREA, PROVIDE A CRUSHED AGGREGATE SURFACE COURSE. THIS WORK WILL COST $2.5 TO $3.5 MILLION.

VI. PROPERTY STATUS

PROPERTY INTERESTS AT THE NEW SITE ARE UNDER THE OWNERSHIP OF THE LOCAL AND REGIONAL NATIVE CORPORATION WHO SUPPORT THE RELOCATION AND IMPROVEMENT OF THE AIRPORT. THE ACCESS ROAD CROSSES THREE NATIVE ALLOTMENTS. SUFFICIENT PROPERTY INTERESTS WILL BE ACQUIRED TO CONTAIN THE FEATURES OF THE ULTIMATE AIRPORT IN THIS PLAN.

VII. COMMUNITY INVOLVEMENT

THE RESIDENTS OF THE VILLAGE OF NEW STUYAHOK HAVE BEEN INFORMED OF THE PLANNED DEVELOPMENT BY THE ALASKA DOT&PF. MEETINGS WERE HELD TO OBTAIN COMMENTS AND INPUT FROM THE LOCAL RESIDENTS. THE COMPLETION OF THIS PROJECT REQUIRES AN ENVIRONMENTAL ASSESSMENT THAT ALSO PROVIDES OPPORTUNITIES FOR COMMUNITY INPUT. LETTER AND COMMENTS FROM RESIDENTS AND LOCAL GOVERNMENT OFFICIALS REMAIN FILED WITH DOT&PF, CENTRAL REGION OFFICES. THE COMMUNITY SUPPORTS RELOCATING THE AIRPORT AND THE PROPOSED DEVELOPMENT PROGRAM.

VIII. MODIFICATIONS TO DESIGN STANDARDS

THE PROPOSED AIRPORT CONSTRUCTION CAN BE COMPLETED WITHOUT MODIFICATIONS TO CURRENT DESIGN STANDARDS. THERE ARE NO THRESHOLD SITING SURFACE OBJECT PENETRATIONS. THERE ARE NO OBSTACLE FREE ZONE OBJECT PENETRATIONS EXISTING OR PROPOSED AT THIS LOCATION. THE DESIGN STANDARDS PROPOSED FOR THIS NEW AIRPORT WILL MEET OR EXCEED THE MINIMUM VALUES FOR THE DESIGN AIRCRAFT FAMILY. NEAR-TERM DEVELOPMENT WILL CONSTRUCT THE RUNWAY TO ADG B-II STANDARDS. THE TAXIWAY AND APRON WILL BE CONSTRUCTED TO MEET ADG B-III (ULTIMATE) STANDARDS. THIS WILL SAVE THE COST OF RELOCATING THE APRON AT A FUTURE DATE.

IX. ENCROACHMENTS INTO PART 77 SURFACE

THE PROPOSED LOCATION FOR THE NEW AIRPORT DOES NOT CONTAIN ANY ENCROACHMENTS INTO PART 77 SURFACES.

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AIRPORT LAYOUT PLAN CONDITIONAL APPROVAL SUBJECT TO ALP APPROVAL LETTER DATED 2/27/04
By: [signature] DATE: 2/27/04
FAA, AIRPORTS DIVISION
ALASKAN REGION, AAL-

FAA AIRSPACE REVIEW NUMBER: 00-AAL-169-NRA

BY	DATE	REVISIONS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

APPROVED: [signature]
STEPHEN M. RYAN, P.E. — DESIGN SECTION CHIEF

APPROVED: [signature]
JOHN G. WAHL, P.E. — PROJECT MANAGER

DATE 5-02-03
DESIGN RK
DRAWN [initials]
CHECKED RK

NEW STUYAHOK AIRPORT

AIRPORT LAYOUT PLAN

NARRATIVE REPORT

SHEET 10 OF 10