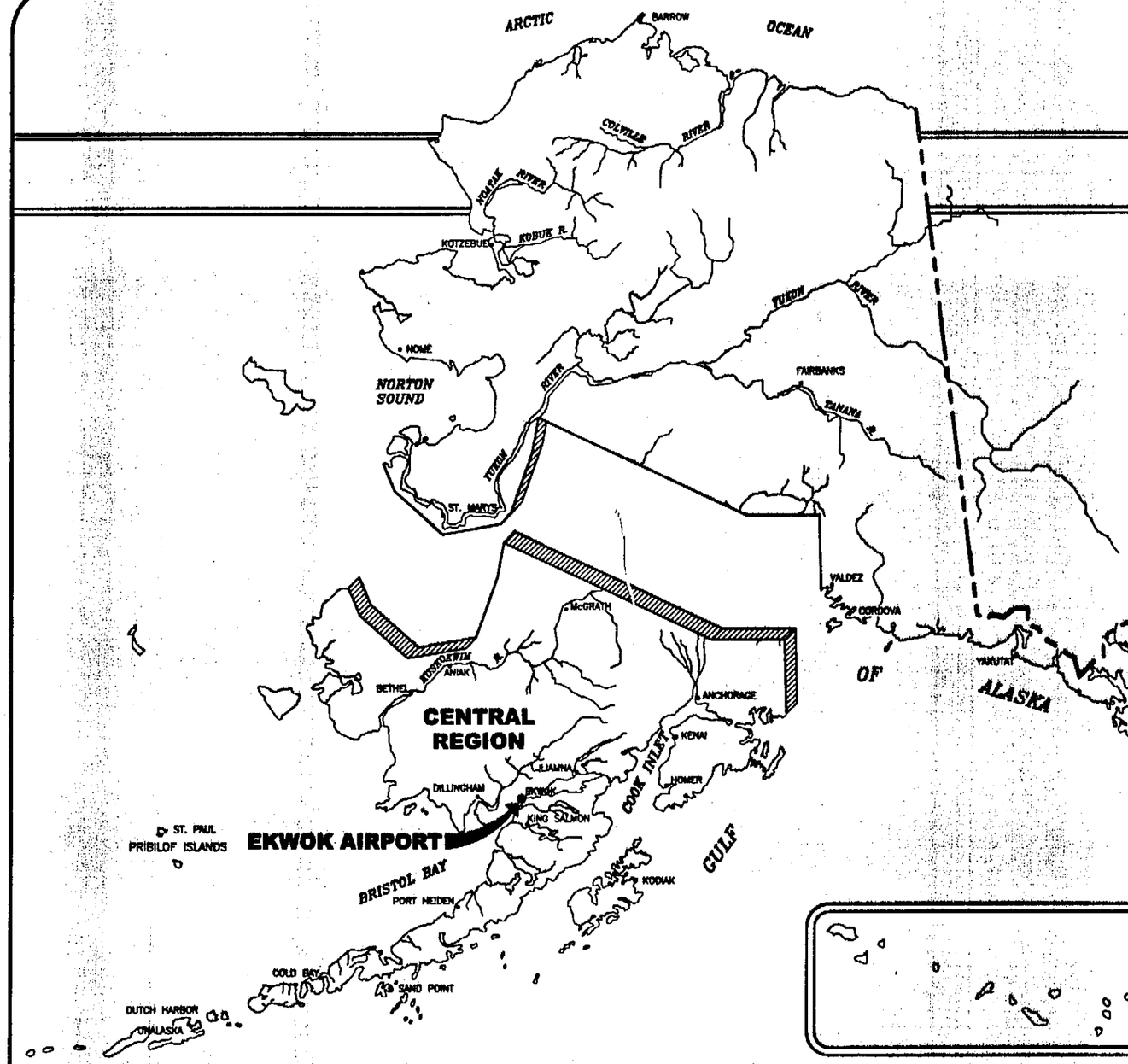
AIRPORT LAYOUT PLAN FOR

EKWOK AIRPORT

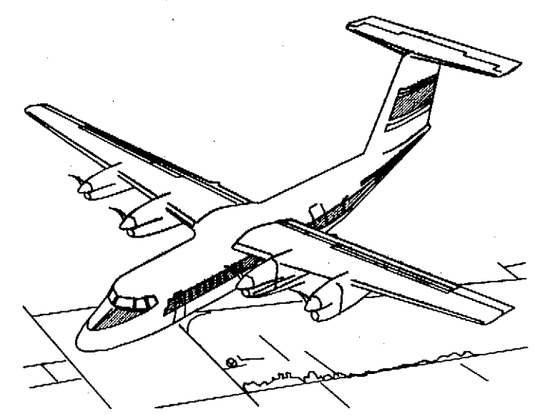
2004



FINAL

DRAWING INDEX

1 – COVER SHEET AND INDEX
2 – VICINITY MAP AND DATA TABLES
3 – RUNWAY 02/20 PLAN
4 – RUNWAY 02/20 INNER APPROACH SURFACES PLAN AND PROFILE
5 – TERMINAL AREA PLAN
6 – RUNWAY 02/20 APPROACH PROFILES
7 – F.A.R. PART 77 SURFACES
8 – NARRATIVE REPORT
EXHIBIT A – AIRPORT PROPERTY PLAN



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STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

CONCUR Gordon C. Keith DATE 6/15/04
GORDON C. KEITH — CONSTRUCTION & OPERATIONS DIRECTOR

APPROVED DATE 6.14.04
ROBERT A. CAMPBELL, P.E. — REGIONAL PRECONSTRUCTION ENGINEER

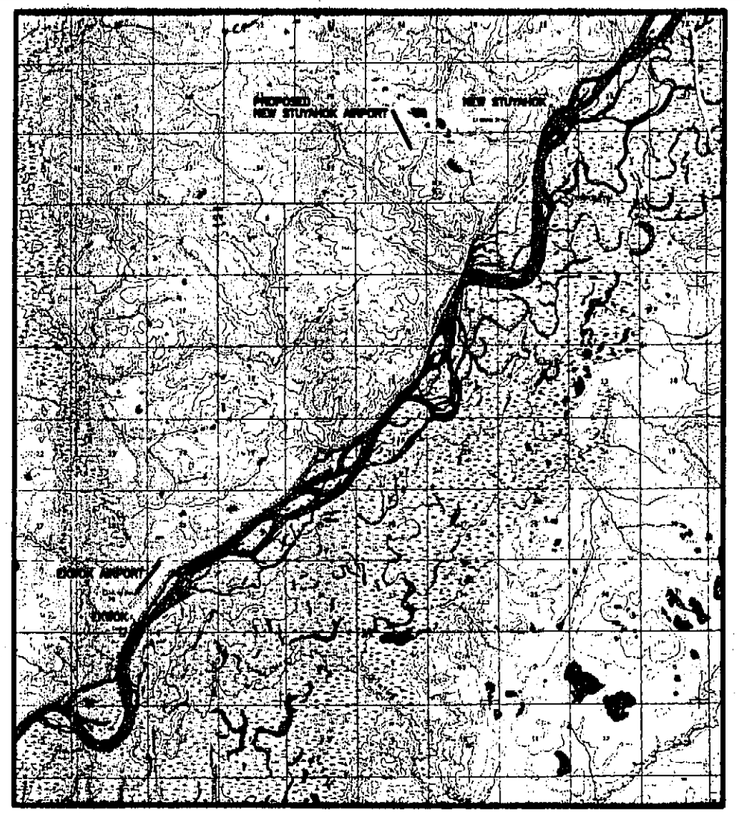
AIRPORT LAYOUT PLAN CONDITIONAL APPROVAL SUBJECT TO ALP APPROVAL LETTER DATED 6/18/04
By: DATE: 6/18/04
FAA, AIRPORTS DIVISION
ALASKAN REGION, AAL-601

F.A.A. AIRSPACE REVIEW NUMBER: 03AAL-173NRA

EKWOK AIRPORT
AIRPORT LAYOUT PLAN

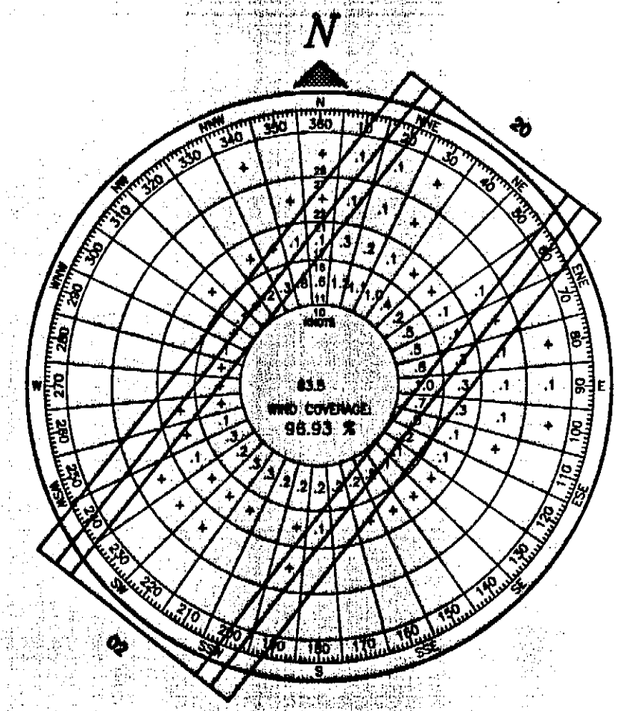
SHEET 1 OF 8

File: P:\2002\FD2008\[illegible]\CDOT\04y06m10d_[illegible] 1=1 GS



VICINITY MAP

1"=1 MILE (APPROXIMATE)
T 9 S, R 49 W, SEC. 25, 35 & 36
SEWARD MERIDIAN
U.S.G.S. DILLINGHAM B-4, ALASKA



WIND DATA

WIND COVERAGE:

SPEED	R/W 02/20
10.5 KNOTS	94.13%
13 KNOTS	96.93%
16 KNOTS	98.77%
20 KNOTS	99.37%

SOURCE: DRYDEN INSTRUMENTATION, ANCHORAGE, ALASKA

PERIOD: 5/2002 - 5/2003

NOTES:

1. ALL COORDINATES ARE NAD83 UNLESS OTHERWISE SPECIFIED.
2. LARGER THAN UTILITY RUNWAY; 500' PRIMARY SURFACE.
3. NO OFZ OBJECT PENETRATIONS.
4. NO THRESHOLD SITING SURFACE OBJECT PENETRATIONS.
5. THE VERTICAL DATUM IS NAVD88, IN FEET, ESTABLISHED BY TIES TO CORS STATIONS AT KENAI AND KODIAK, ALASKA.
6. WITHIN AIRPORT PROPERTY ALL ROADS AND TRAILS SHALL BE CLOSED / RELOCATED UNLESS OTHERWISE NOTED. CROSS HATCH NOT SHOWN FOR CLARITY ON THESE ROADS AND TRAILS.
7. PROPOSED WORK INCLUDES ALL (FUTURE) WORK EXCEPT: 34:1 APPROACH SURFACE, TAXIWAY "B", ALL APPURTENANCES OF TAXIWAY "B", AND ALL LEASE AREAS.

NON-STANDARD CONDITIONS

ITEM	EXISTING	STANDARD	FUTURE
LANDFILL PROXIMITY TO RUNWAY	2000'	5,000	CITY TO RELOCATE
RUNWAY PROTECTION ZONE	RESIDENTIAL PENETRATIONS	NONE	NONE
LAGOON PROXIMITY	1,800	5,000	2,200

BASIC DATA TABLE

RUNWAY DATA

ITEM		RUNWAY 03/21 EXISTING	RUNWAY 02/20 FUTURE
EFFECTIVE GRADE		0.56%	0.528%
% WIND COVERAGE	10.5 KNOTS	94.06%	94.13%
	13 KNOTS	96.86%	96.93%
	16 KNOTS	98.90%	98.77%
INSTRUMENT RUNWAY		VISUAL	NPI APPROACH
RUNWAY SURFACE		AGGREGATE	AGGREGATE
PAVEMENT STRENGTH	lbs.	N/A	N/A
APPROACH SURFACES		20:1	34:1
VISIBILITY MINIMUM		1 MILE	1 MILE
RUNWAY LIGHTING		NONE	MIRL
RUNWAY MARKING		NONE	NONE
RUNWAY NAVIGATION AIDS		PASSIVE ASI	PAPI/REIL
AIRCRAFT APPROACH CATEGORY		A	B
AIRCRAFT DESIGN GROUP		I	II
RUNWAY SAFETY AREA DIMENSION		120'x3200'	150'x3900'
RUNWAY DIMENSION		75'x2720'	75'x3300'
RUNWAY OBJECT FREE AREA DIMENSION		250'x3200'	500'x3900'
RUNWAY OBSTACLE FREE ZONE DIMENSION		250'x3120'	400'x3700'
RUNWAY PROTECTION ZONE DIMENSION		1000'x250'x450'	1000'x500'x700'
GEODETIC POSITIONS			
THRESHOLD 3	LAT.	N 59°21'06.06"	
	LONG.	W 157°28'38.77"	
THRESHOLD 21	LAT.	N 59°21'27.00"	
	LONG.	W 157°28'01.65"	
THRESHOLD 2	LAT.		N 59°21'11.93"
	LONG.		W 157°28'35.98"
THRESHOLD 20	LAT.		N 59°21'37.31"
	LONG.		W 157°27'56.22"
TOUCHDOWN ZONE ELEVATION			
R/W 3		122.6	
R/W 21		122.6	
R/W 2			129.1
R/W 20			131.0

AIRPORT DATA

ITEM		EXISTING	FUTURE
NATIONAL AIRPORT IDENTIFIER		KEK	KEK
ICAO AIRPORT IDENTIFIER		NONE	
AIRPORT ELEVATION (M.S.L.)		122.6	131.00
AIRPORT REFERENCE POINT (A.R.P.)	LAT.		N 59°21'25"
	LONG.		W 157°28'16"
TAXIWAY LIGHTING		NONE	MI
RAMP LIGHTING		NONE	FLOOD
MEAN MAX. TEMPERATURE, HOTTEST MONTH (JULY)		65°F	65°F
MAGNETIC DECLINATION, YEAR		17°27'E, 2003	17°27'E, 2003
AIRPORT REFERENCE CODE		A-I	B-II
AIRPORT AND TERMINAL NAVIGATION AIDS		NONE	AWOS, GPS, ROTATING BEACON
SURVEY SOURCE AND TYPE		NONE	C

LEGEND

ITEM	EXISTING	PROPOSED/ FUTURE
PROPERTY LINE		
BUILDING RESTRICTION LINE (BRL)		BRL
AIRPORT REFERENCE POINT (A.R.P.)		
WIND CONE AND SEGMENTED CIRCLE		
ROADWAYS		
FENCE ON BERM		
TRAILS		
BUILDINGS		
REIL		
ROTATING BEACON		
AIRCRAFT TIE DOWNS		
POWER POLE		
THRESHOLD LIGHTING		

ITEM	TO BE CLOSED/RELOCATED	EXISTING	PROPOSED/ FUTURE
DEVELOPMENT	SEE NOTE 6		
TREE CLEARING LIMIT			
OCEAN / LAKE / PONDS / RIVERS			
CONTOURS - MAJORS @ 20' INTERVALS		20	20
CONTOURS - MINORS @ 4' INTERVALS			

AIRPORT LAYOUT PLAN CONDITIONAL APPROVAL SUBJECT TO ALP APPROVAL LETTER DATED 6/18/04
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ALASKAN REGION, AAL-601

F.A.A. AIRSPACE REVIEW NUMBER: 03AAL-173NRA

BY	DATE	REVISIONS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

APPROVED: STEPHEN W. [illegible] DESIGN SECTION CHIEF
APPROVED: DONALD W. [illegible], P.E. PROJECT MANAGER

DATE MAY 2004
DESIGN KR, KK
DRAWN RP/GDS
CHECKED RLC

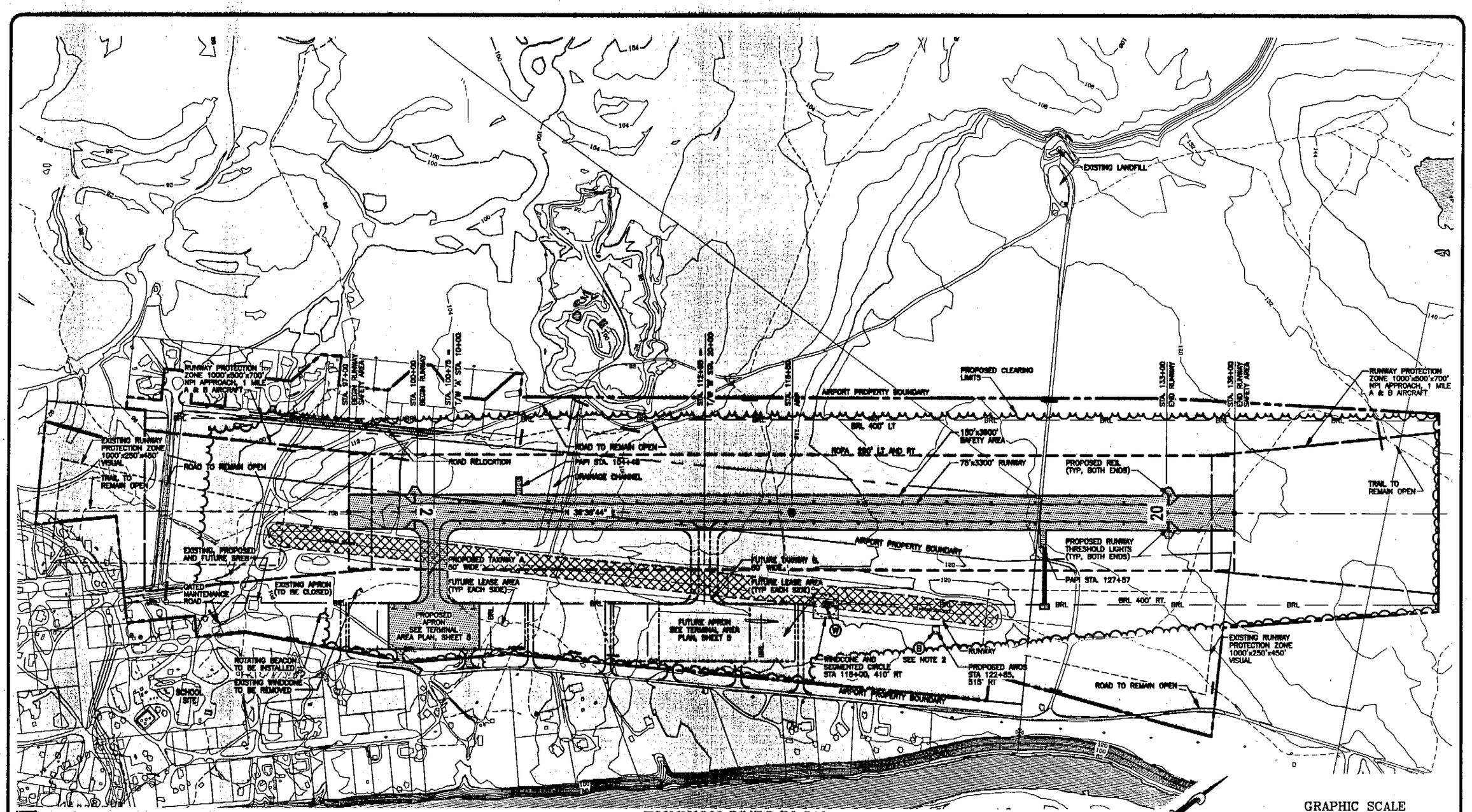
EKWOK AIRPORT

AIRPORT LAYOUT PLAN

VICINITY MAP AND DATA TABLES

SHEET 2 OF 8

FILE: C:\2000\#02008 Ekwok
DATE: 06/10/2004 10:02:56AM 1=1 02



NOTES:
1. WITHIN AIRPORT PROPERTY, ALL ROADS AND TRAILS SHALL BE CLOSED / RELOCATED UNLESS OTHERWISE NOTED.
2. SEE SHEET 5 FOR BUILDING DATA TABLE AND SHEET 7 FOR STRUCTURES AND TOPOGRAPHIC FEATURES DATA TABLE.

RUNWAY 02/20 PLAN

FILE: CS300L.pf02200: Sheet 3
DATE: 06/10/2004, 8:53am 1=1 ts

AIRPORT LAYOUT PLAN CONDITIONAL APPROVAL SUBJECT TO ALP APPROVAL LETTER DATED 6/18/04
By: [signature] DATE: 6/18/04
FAA, AIRPORTS DIVISION
ALASKAN REGION, AAL-601
F.A.A. AIRSPACE REVIEW NUMBER: 03AAL-173NRA

BY	DATE	REVISIONS

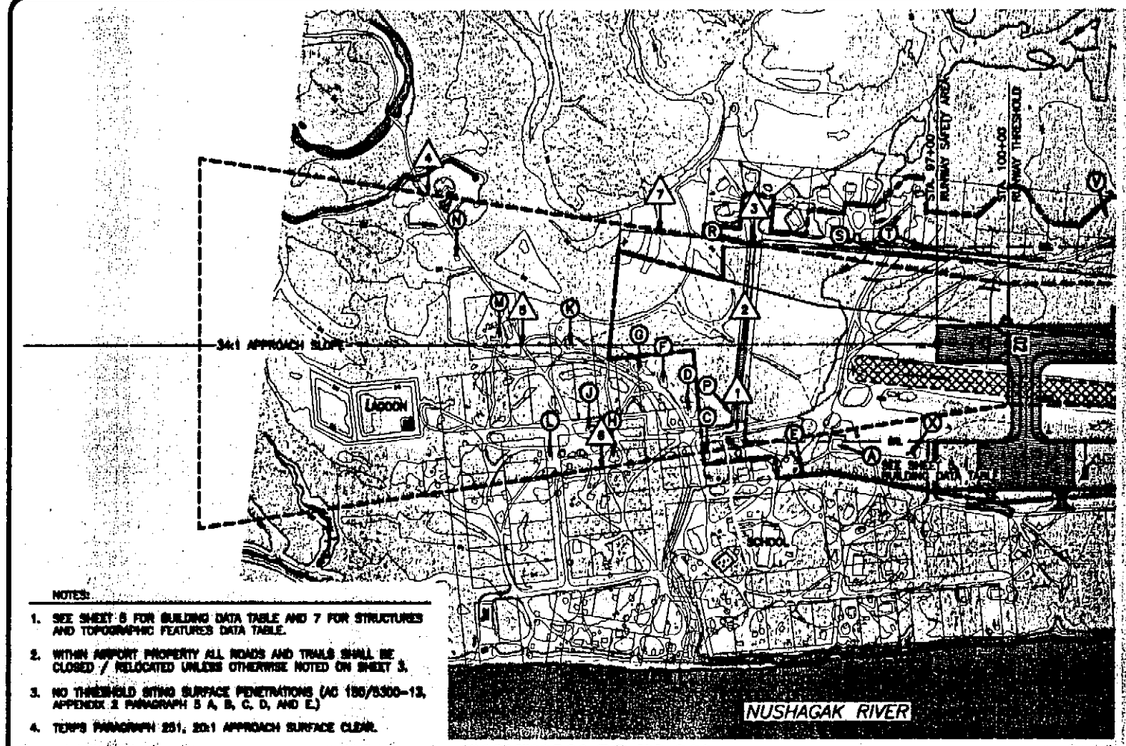
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION
APPROVED: STEPHEN M. RYBA, P.E. — DESIGN SECTION CHIEF
APPROVED: DONALD W. BAXTER, P.E. — PROJECT MANAGER

DATE MAY 2004
DESIGN KR, KK
DRAWN RP/GDS
CHECKED RLC

EKWOK AIRPORT

AIRPORT LAYOUT PLAN
RUNWAY 02/20
PLAN

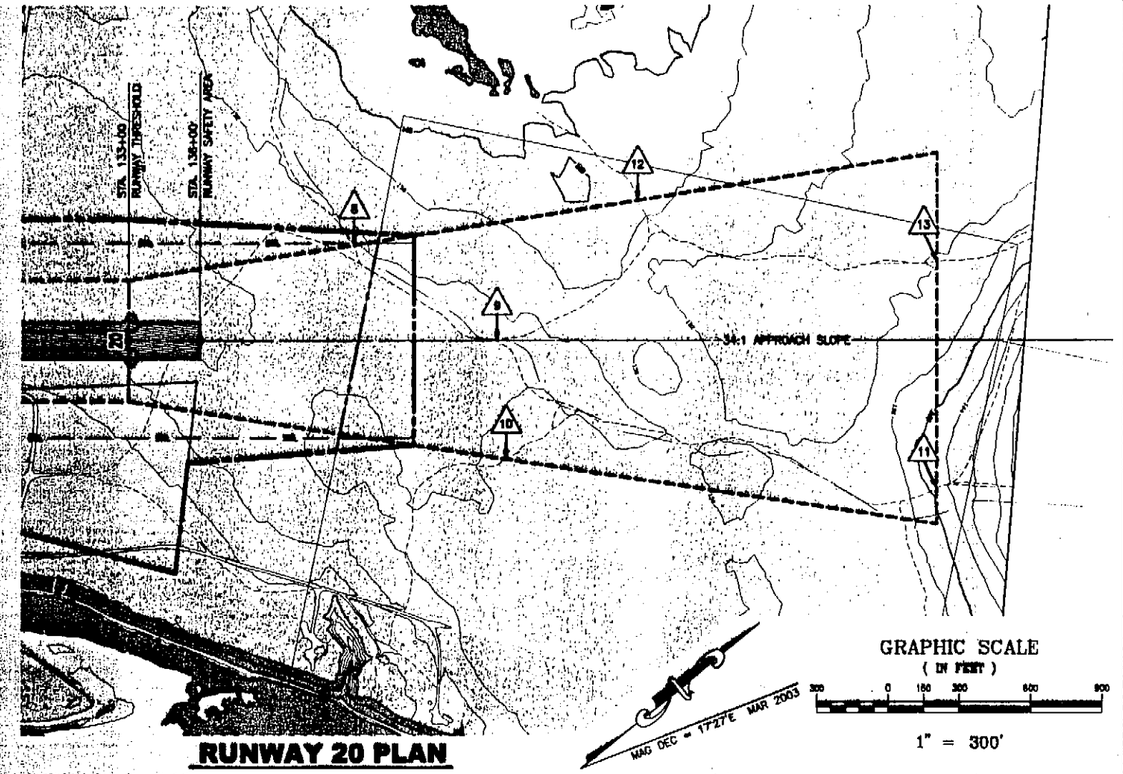
SHEET 3 OF 8



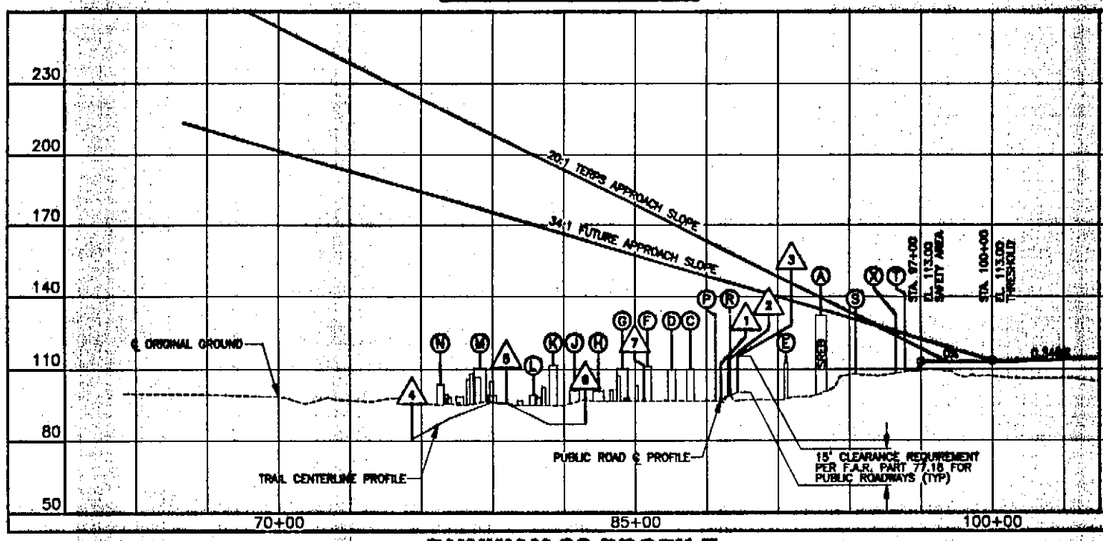
NOTES:

1. SEE SHEET 5 FOR BUILDING DATA TABLE AND 7 FOR STRUCTURES AND TOPOGRAPHIC FEATURES DATA TABLE.
2. WITHIN AIRPORT PROPERTY ALL ROADS AND TRAILS SHALL BE CLOSED / RELOCATED UNLESS OTHERWISE NOTED ON SHEET 3.
3. NO THRESHOLD SITING SURFACE PENETRATIONS (AC 150/5300-13, APPENDIX 2 PARAGRAPH 5 A, B, C, D, AND E.)
4. TERPS PARAGRAPH 251, 20:1 APPROACH SURFACE CLEAR.

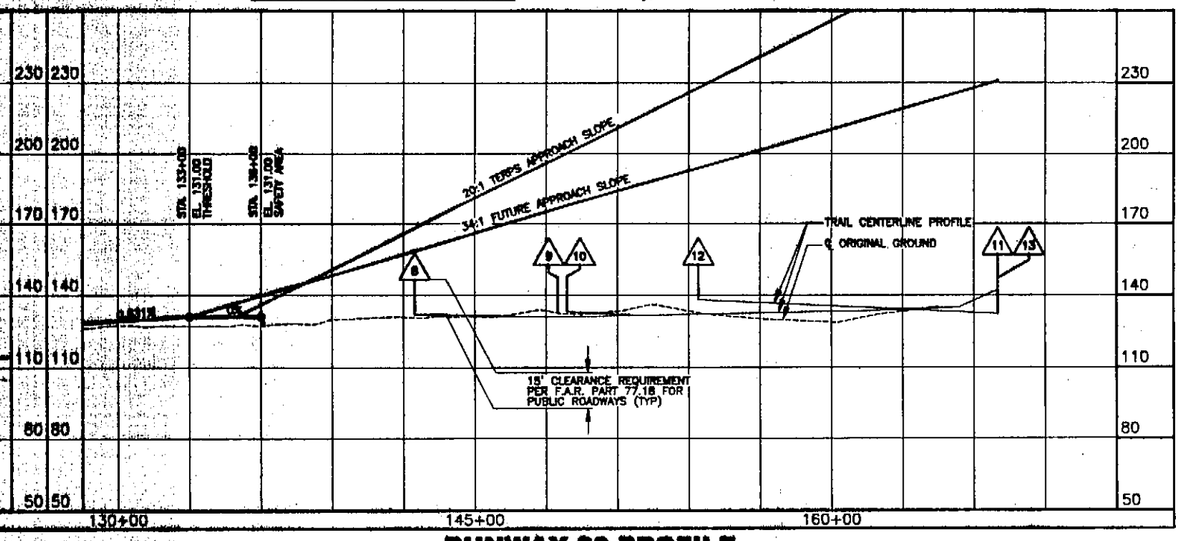
RUNWAY 02 PLAN



RUNWAY 20 PLAN



RUNWAY 02 PROFILE



RUNWAY 20 PROFILE

FILE: C5400LpF02008: Sheet 4
DATE: 06/10/2004 9:54am 1=1 03

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By: [signature] DATE: 6/18/04
FAA, AIRPORTS DIVISION
ALASKAN REGION, AAL-601
F.A.A. AIRSPACE REVIEW NUMBER: 03AAL-173NRA

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] DONALD W. BAXTER, P.E. — PROJECT MANAGER

DATE MAY 2004
DESIGN KR/KK
DRAWN RJP/GDS
CHECKED RLC

EKWOK AIRPORT

AIRPORT LAYOUT PLAN
RUNWAY 02/20 INNER APPROACH SURFACE
PLAN AND PROFILE

SHEET 4 OF 8

PROPOSED AND FUTURE TAXIWAY DATA

DESCRIPTION	T/W 'A'	T/W 'B'
AIRPORT DESIGN GROUP	III	III
STATUS	PROPOSED	FUTURE
TAXIWAY WIDTH	50'	50'
TAXIWAY SAFETY AREA WIDTH	118'	118'
TAXIWAY OBJECT FREE AREA WIDTH	186'	186'

NOTE: WITHIN AIRPORT PROPERTY ALL ROADS AND TRAILS SHALL BE CLOSED / RELOCATED UNLESS OTHERWISE NOTED.

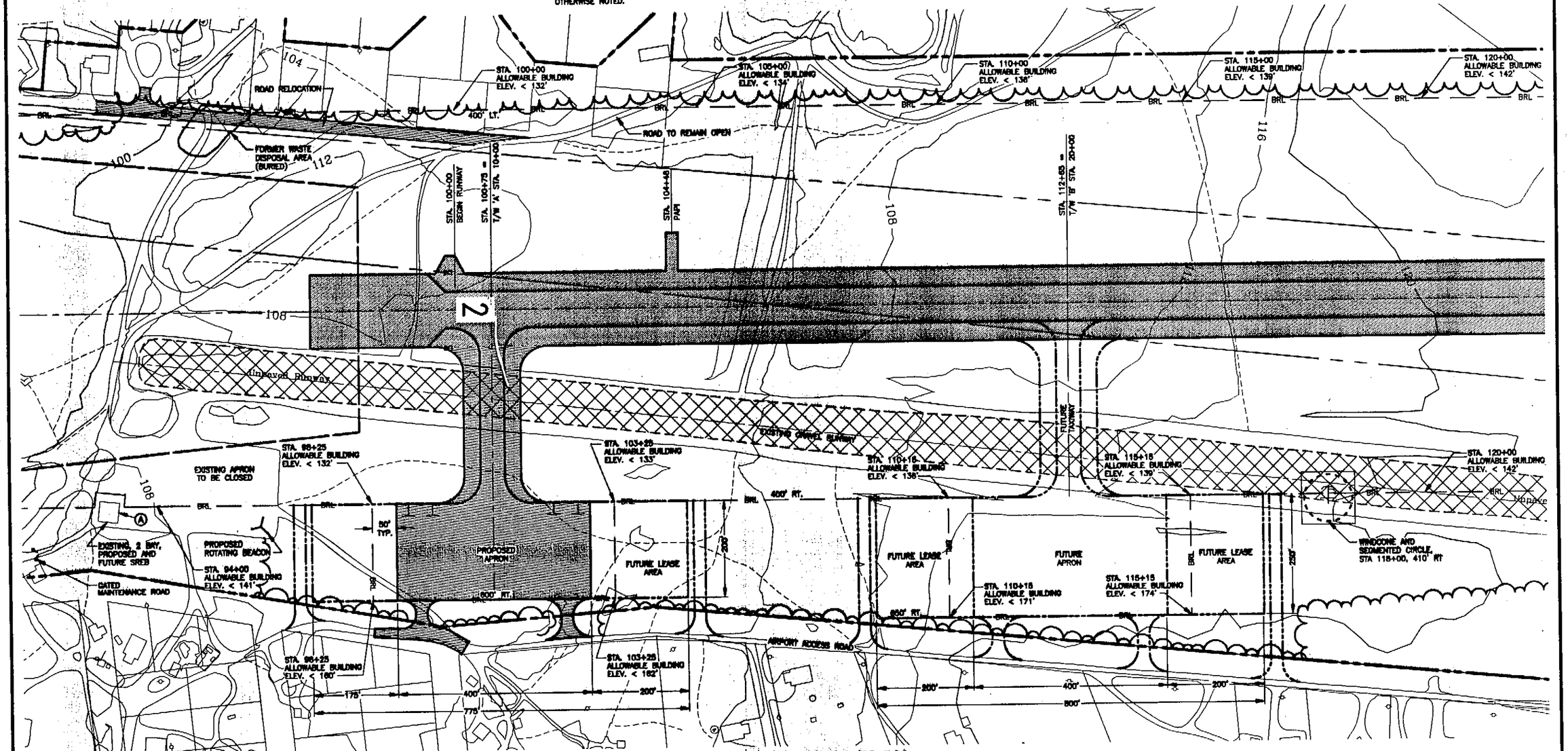
BUILDING DATA TABLE

STRUCTURE ID NUMBER	DESCRIPTION	TOP ELEVATION	PENETRATION (YES/NO)	DISPOSITION
A	EXISTING SREB	132'	NO	TO REMAIN
B	AWOS *	156'	NO	FUTURE

* SEE SHEET 3.

GRAPHIC SCALE
(IN FEET)
100 0 50 100 200 300
1" = 100'

MAG DEC = 17°27'E MAR 2003



TERMINAL AREA PLAN

FILE: C$500LpF02009: Sheet 5
DATE: 06/10/2004 9:55am 1=1 GS

AIRPORT LAYOUT PLAN CONDITIONAL APPROVAL SUBJECT TO ALP APPROVAL LETTER DATED 6/18/04
By: [signature] DATE: 6/18/04
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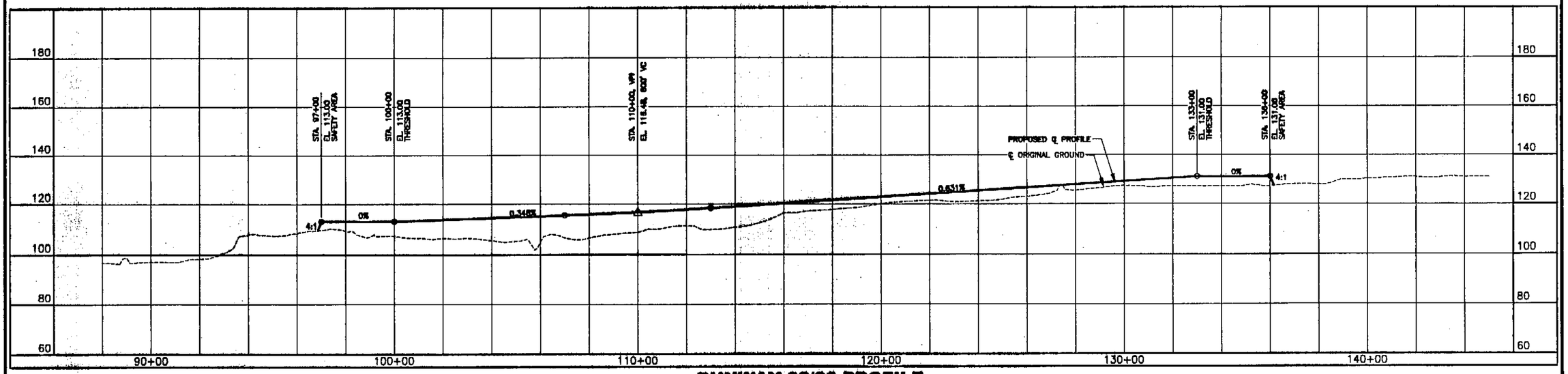
BY	DATE	REVISIONS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION
APPROVED: [signature] STEPHEN M. RYAN, P.E. DESIGN SECTION CHIEF
APPROVED: [signature] DONALD W. BAXTER, P.E. PROJECT MANAGER

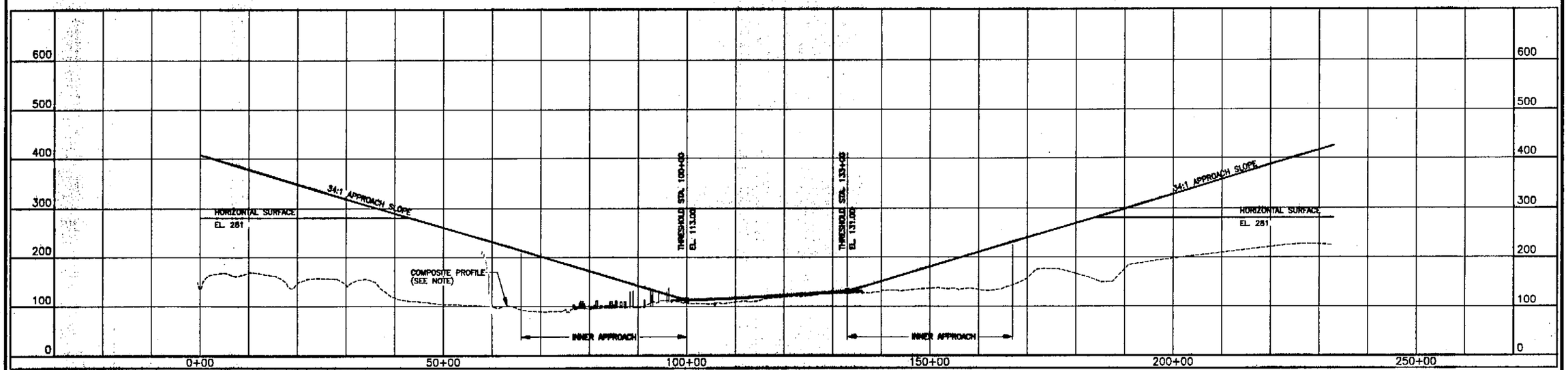
DATE MAY 2004
DESIGN KR/KK
DRAWN RJP/GDS
CHECKED RLC

EKWOK AIRPORT
AIRPORT LAYOUT PLAN
TERMINAL AREA PLAN

SHEET 5 OF 8



RUNWAY 02/20 PROFILE



NOTE: THE COMPOSITE PROFILE ALONG THE EXTENDED RUNWAY CENTERLINE REPRESENTS THE HIGHEST TERRAIN ACROSS THE WIDTH AND ALONG THE LENGTH OF THE APPROACH SURFACE.

RUNWAY 02/20 APPROACH PROFILE

FILE: C:\MOCL\FT2020\ Sheet 6
DATE: 06/10/2004 8:50am 1=1 03

AIRPORT LAYOUT PLAN CONDITIONAL APPROVAL
SUBJECT TO ALP APPROVAL LETTER DATED 6/18/04
BY: [signature] DATE: 6/18/04
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ALASKAN REGION, AAL-601

F.A.A. AIRSPACE REVIEW NUMBER: 03AAL-173NRA

BY	DATE	REVISIONS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

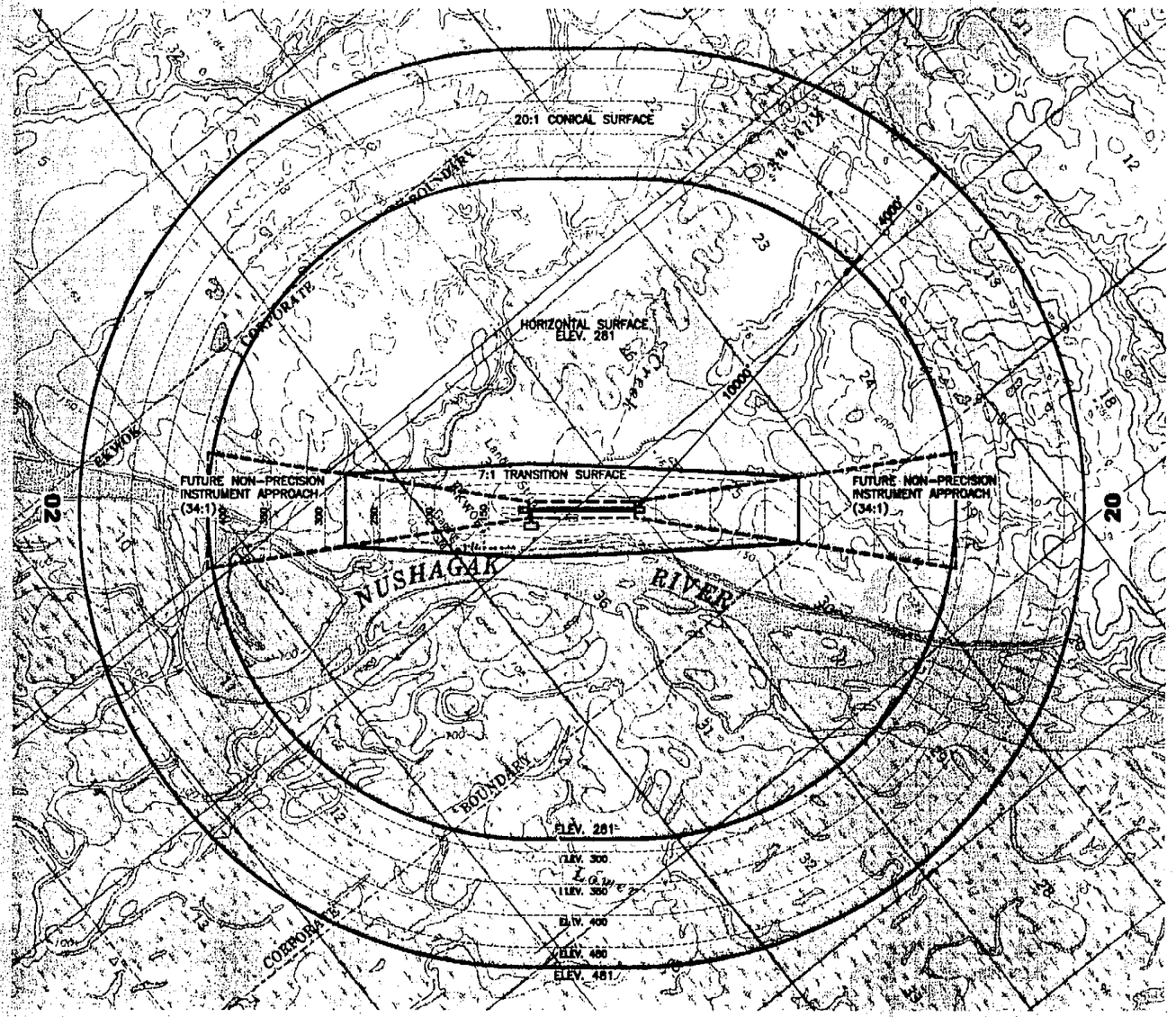
APPROVED: [signature] DESIGN SECTION CHIEF
APPROVED: [signature] PROJECT MANAGER

DATE MAY 2004
DESIGN KR, KK
DRAWN RP
CHECKED RLC

EKWOK AIRPORT

AIRPORT LAYOUT PLAN
RUNWAY 02/20
APPROACH PROFILES

SHEET 6 OF 8



NOTE: USGS QUAD MAP AND FIELD OBSERVATIONS USED FOR AIRSPACE DRAWINGS.

GRAPHIC SCALE
(IN FEET)

2000 0 1000 2000 4000 6000

1" = 2000'

MAG DEC = 17°27'E MAR 2003

OBSTRUCTION DATA TABLE

OBSTRUCTION ID NUMBER	DESCRIPTION	PENETRATION DISTANCE (FT)	DISPOSITION
NONE	NONE	NONE	NONE

STRUCTURES AND TOPOGRAPHIC DATA TABLE

OBSTRUCTION ID NUMBER	DESCRIPTION	TOP ELEVATION OF OBJECT	PENETRATION DISTANCE (FT)	DISPOSITION	REMARKS
1	PUBLIC ROAD CENTERLINE	98'	NONE	TO REMAIN	
2	PUBLIC ROAD CENTERLINE	99'	NONE	TO REMAIN	
3	PUBLIC ROAD CENTERLINE	101'	NONE	TO REMAIN	
4	TRAIL CENTERLINE	81'	NONE	TO REMAIN	
5	TRAIL CENTERLINE	95'	NONE	TO REMAIN	
6	TRAIL CENTERLINE	87'	NONE	TO REMAIN	
C	STRUCTURE	110'	NONE	TO REMAIN	
D	STRUCTURE	110'	NONE	TO REMAIN	
E	STRUCTURE	119'	NONE	TO REMAIN	
F	STRUCTURE	112'	NONE	TO REMAIN	
G	STRUCTURE	110'	NONE	TO REMAIN	
H	STRUCTURE	101'	NONE	TO REMAIN	
J	STRUCTURE	102'	NONE	TO REMAIN	
K	STRUCTURE	112'	NONE	TO REMAIN	
L	STRUCTURE	100'	NONE	TO REMAIN	
M	STRUCTURE	111'	NONE	TO REMAIN	
N	STRUCTURE	104'	NONE	TO REMAIN	
P	POWER POLE	30'	NONE	TO REMAIN	
R	POWER POLE	32'	NONE	TO REMAIN	
S	POWER POLE	32'	NONE	TO REMAIN	
T	POWER POLE	37'	NONE	TO REMAIN	
V	STRUCTURE	125'	NONE	TO REMAIN	
W	WIND CONE	145'	NONE	PROPOSED & FUTURE	
X	AIRPORT BEACON	135'	NONE	PROPOSED & FUTURE	
7	TRAIL CENTERLINE	91'	NONE	TO REMAIN	
8	TRAIL CENTERLINE	132'	NONE	TO REMAIN	
9	TRAIL CENTERLINE	131'	NONE	TO REMAIN	
10	TRAIL CENTERLINE	33'	NONE	TO REMAIN	
11	TRAIL CENTERLINE	143'	NONE	TO REMAIN	
12	TRAIL CENTERLINE	136'	NONE	TO REMAIN	
13	TRAIL CENTERLINE	132'	NONE	TO REMAIN	

RUNWAY 02 THRESHOLD ELEVATION (STA. 100+00) = 113.00

RUNWAY 20 THRESHOLD ELEVATION (STA. 133+00) = 131.00

FILE: CS700LpFD2009: Sheet 7
DATE: 06/10/2004 9:59am 1=1 OS

AIRPORT LAYOUT PLAN CONDITIONAL APPROVAL SUBJECT TO ALP APPROVAL LETTER DATED 4/18/04
By: [signature] DATE: 6/18/04
FAA, AIRPORTS DIVISION
ALASKAN REGION, AAL-601
F.A.A. AIRSPACE REVIEW NUMBER: 03AAL-173NRA

BY	DATE	REVISIONS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION
APPROVED: [signature] STEPHEN E. [illegible], P.E. DESIGN SECTION CHIEF
APPROVED: [signature] DONALD W. BAXTER, P.E. PROJECT MANAGER

DATE MAY 2004
DESIGN KR, KK
DRAWN RP
CHECKED RLC

EKWOK AIRPORT IMPROVEMENTS

AIRPORT LAYOUT PLAN

F.A.R. PART 77 SURFACES

SHEET 7 OF 8

A. Purpose

This Narrative Report is included with the Airport Layout Plan (ALP) for Ekwok, Alaska. This project is being designed in English units, and all airport features are in accordance with FAA AC 150/5300-13, Change 7. The rationale for improvements to Ekwok Airport is outlined in this report.

B. Introduction

Located in the Bristol Bay region, Ekwok lies on the west bank of the Nushagak River, about 43 miles northeast of Dillingham, 8 miles southwest of New Stuyahok, and approximately 285 miles southwest of Anchorage. It is reportedly the oldest continually occupied Yup'ik Eskimo community on the river. Ekwok was incorporated as a Second Class City in 1974.

The community practices a subsistence lifestyle. Fishing is augmented by hunting and gathering. The Ekwok Lodge, owned by the village corporation, supplements the economy. Other cash economy is through government-provided services.

According to the 2000 U.S. Census, the population of Ekwok is 130; over 90% of the residents are Alaska Natives, primarily Yup'ik. Data from the Alaska Department of Labor and the Alaska Department of Community and Economic Development indicate that Ekwok's population has increased over the last 12 years, with high fluctuations in 1990, 1993, and 1994. A linear regression analysis of the historical population data indicates an average annual growth rate of 2.27% with a projected population of 203 in 2021.

C. Airport Usage and Forecasts

Air transportation is Ekwok's primary means of obtaining passenger service, food, supplies, and medicines. River travel occurs along the Nushagak River by barge and skiff during the ice-free months and by snowmachine during the winter. However, the river is often impassable, especially during spring break-up and fall freeze-up. No roads connect Ekwok to other communities. However, an ATV and Snow machine trail connects Ekwok to New Stuyahok.

The Alaska Aviation System Plan and the Southwest Alaska Transportation Plan classify Ekwok Airport as a Community Airport. The majority of passengers, air freight, and all mail, travel to Ekwok through the regional hub at Dillingham.

Passenger enplanements (the total number of people departing an airport by plane) reported to the U.S. Department of Transportation from 1993-2001 have fluctuated from year to year, ranging from a low of 313 in 1996 to a high of 1081 in 2000. Linear regression analysis of the reported enplanements yields a forecast of 1,111 enplanements in 2021 (see Table 1 below).

TABLE 1: ENPLANEMENT DATA

YEAR	ENPLANEMENTS
1993	744
1994	568
1995	639
1996	313
1997	412
1998	637
1999	973
2000	1081
2001	403
2006*	817
2011*	915
2021*	1111

* Forecasted.

The Southwest Alaska Transportation Plan forecasts enplanements for southwestern communities based on a general equation that considers enplanements as a function of income, population, and jobs per population. This equation yields a high 2020 forecast of 869 enplanements, which is lower than the linear regression forecast. However, the two forecasts are close enough to indicate that the types of aircraft serving this area will likely remain consistent.

The operations (takeoff or landing of an aircraft) are much greater than the reported enplanements. Operations include mail planes with no passengers, general aviation flights, and flights with unreported passengers. The FAA Master Record (dated August 8, 2002) lists 1,500 air taxi operations and 700 general aviation itinerant operations for a total of 2,200 operations, but surveys of air carriers indicated over 5,700 operations for 2001. Based on these two estimates and the projected population annual growth rate of 2.27%, the annual operations at Ekwok could range from 3,500 to 9,000 by 2021. The facility requirements for Ekwok will remain the same for annual operations anywhere in this range.

D. Design Rationale

1. Design Aircraft & Airport Reference Code (ARC)

In terms of runway width dimension, the Cessna 208 Caravan (ARC A-II) is the most demanding aircraft that frequently uses Ekwok Airport. Pilot questionnaires indicated over 500 annual operations with the Caravan. However, the Piper Navajo (ARC B-I), which has a more demanding runway length requirement, is also used frequently. The Navajo is a twin-engine aircraft, allowing for NPI capabilities during inclement weather. For these reasons, both the Cessna Caravan and the Piper Navajo were selected as the design aircraft, and the B-II design category was chosen to meet the needs of these aircraft.

No major change is anticipated in the fleet mix at Ekwok. The B-II design category is projected to meet 98% of the future aircraft operations at Ekwok Airport. The remaining operations are cargo aircraft of a more demanding category, (DC-3 and Caribou, Design Group III). Because of the limited number of operations and since the particular cargo aircraft types used at Ekwok can land on narrower and shorter runways than runways designed to meet their general categories, the airport is designed to the standards of B-II aircraft.

2. Wind Coverage

Wind data was collected at Ekwok from May 2002 to May 2003. The data indicates the winds are predominantly from the north and from the east. With an allowable crosswind component of 15 mph (13 knots) for ARC B-II the coverage exceeds FAA requirements of 95 percent. Wind coverage for the proposed and existing alignments are summarized in Table 2.

TABLE 2: WIND COVERAGE

ALIGNMENT	TRUE NORTH AZIMUTH	12 MPH (10.5 KNOTS)	15 MPH (13 KNOTS)
PROPOSED	38 DEGREES	94.13%	96.93%
EXISTING	45 DEGREES	94.06%	96.86%

3. Runway

Existing and proposed airport design dimensions are shown in Table 3.

TABLE 3: EXISTING CONDITIONS COMPARED TO FACILITY REQUIREMENTS

FEATURE	EXISTING CONDITION	FACILITY REQUIREMENT
RUNWAY LENGTH	2,720'	3,300' (MINIMUM)
RUNWAY WIDTH	75'	75'
RUNWAY SAFETY AREA WIDTH	120'	150'
TAXIWAY WIDTH	40'	50'
TAXIWAY SAFETY AREA WIDTH	80'	118'
APRON & AVIATION SUPPORT AREA	200' X 300'	200' X 400'
AIRCRAFT PARKING AREA SEPARATION FROM RUNWAY CENTERLINE	140'	400'
RUNWAY EDGE MARKINGS OR LIGHTING	DETERIORATED REFLECTORS	MEDIUM INTENSITY RUNWAY LIGHTING (MIRL)

4. Taxiway(s)

The proposed taxiway connects the runway and apron. When the future apron is constructed, an additional taxiway will be needed.

5. Apron

The apron will be relocated with 400' separation distance from the runway to provide clearance between parked aircraft and the FAR Part 77 transitional surface. Lease lot development is planned for the property adjacent to the apron. Future expansion of an additional apron and lease lot development is planned for the area northeast of the proposed apron.

6. Surface Transportation

Access to the apron and lease lots will come off 5th Street. Driveways will be constructed within the right of way to the apron and lease lots. Trails located inside the airport property will be closed. A segment of the road to the existing landfill will be relocated to the dedicated road easement. There are presently two access roads to the landfill, one crossing the existing RPZ on the south end of the runway, another crossing the existing RPZ on the north end of the runway. The north access road will be closed with the proposed airport project. The City is planning to relocate the landfill. Depending on the location of the new landfill, a future access road may be constructed across the proposed RPZ on the north end of the runway. In the interim, most residents will be well served with the road on the south end.

7. Unusual Design Features

The taxiway and taxiway safety area widths have been sized to Design Group III standards to provide additional snow storage area and allow for occasional use by larger aircraft.

E. Non-Standard Conditions

The existing landfill is 1400' from the proposed runway, inside the 5,000 foot minimum radius recommended by the FAA. However, the City is seeking grant funds to relocate the landfill. USDA determined that wildlife hazards at Ekwok are limited. To further reduce the chance for conflicts, USDA recommended landfill management practices. ADOT&PF is working closely with the City in seeking funding and interim measures to reduce its attractiveness to wildlife. These measures include:

- Burning all animal carcasses and food waste frequently; cover or bury daily when burning is not possible.
- Installing a perimeter fence around the landfill to keep out scavenging mammals.
- Installing a wire grid or netting above the perimeter fence to keep birds out.

ADOT&PF has urged the Village Council to contact USDA directly to discuss specific details required to implement these measures. See the Environmental Assessment (EA) for additional details.

F. Staged Development

Development of the Ekwok Airport will occur in two stages. The development phases are summarized below. The ultimate facility is as shown on the ALP drawings (1 through 7 of 8.)

Phase I, Near Term Development (0-5 years):
The near-term development will bring the airport up to the B-II design standards. This development is shown on the ALP as proposed features. The proposed Ekwok Airport improvements are planned for a single stage of construction due to the high cost of mobilization of construction equipment and personnel.

Phase II, Long Term Development (6-20 years):
The long-term development is shown on the ALP as future features. These include resurfacing air operational surfaces, and expanding the apron and lease lots as needed, and fencing the airport property (excluding roads and trails indicated to remain open on this ALP.)

G. Property Status

The State of Alaska owns approximately 77 acres of the airport property, with avigation and drainage easements on another 2.5 acres. To construct the new airport, ADOT&PF will need to acquire another 77 acres from 10 adjacent properties. These properties include lands owned by the City of Ekwok and Ekwok Natives, Ltd.; part of a 17(b) trail easement; and a portion of Native Allotment USS 7458. The process to acquire the Native allotment land is long and could be difficult since the land has passed to multiple heirs, so an easement or an FAA waiver may be sought instead.

H. Community Involvement

The residents of Ekwok have been involved in the planning process through three project newsletters, pilot and user questionnaires, and two public meetings held in Ekwok. Documentation of these public involvement activities is included in the project files and is presented in the Environmental Assessment (EA) prepared for proposed improvements. The community supports moving the airport and the proposed development plan. Letters and comments from residents and local government officials are on file in the DOT&PF, Central Region offices.

AIRPORT LAYOUT PLAN CONDITIONAL APPROVAL
SUBJECT TO ALP APPROVAL LETTER DATED 6/16/04
By: [signature] DATE: 6/16/04
FAA, AIRPORTS DIVISION
ALASKAN REGION, AAL-600

F.A.A. AIRSPACE REVIEW NUMBER: 03AAL-173NRA

FILE: C\$00L\pFU200\$ Narrative
DATE: 06/10/2004 1=1 98

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] DONALD W. BAXTER, P.E. — PROJECT MANAGER

DATE MAY 2004
DESIGN KR, KK
DRAWN RP
CHECKED RLC

EKWOK AIRPORT IMPROVEMENTS

AIRPORT LAYOUT PLAN

NARRATIVE REPORT

PROPERTY STATUS

PARCEL NO.	INTEREST TO BE ACQUIRED	GRANTOR	GRANTEE	LARGER PARCEL AREA	NET TAKE	REMAIN	RECORDED DOCUMENT NO.	ACQUIRED UNDER AIP NO.
1	FEE/SURFACE	EKWOK NATIVES LIMITED	STATE OF ALASKA, DOT	70,406 S.F.	15,748 S.F.	54,658 S.F.	TBA	
	FEE/SUBSURFACE	BRISTOL BAY NATIVE ASSOC.	STATE OF ALASKA, DOT					
E-2A	A & H EASEMENT	CITY OF EKWOK	STATE OF ALASKA, DOT	173,805 S.F.	173,805 S.F.	0 S.F.	TBA	
E-2B	A & H EASEMENT	EKWOK NATIVES LIMITED	STATE OF ALASKA, DOT	11,290 S.F.	11,290 S.F.	0 S.F.	TBA	
E-3	A & H EASEMENT	BRISTOL BAY HOUSING AUTHORITY	STATE OF ALASKA, DOT	14,932 S.F.	14,932 S.F.	0 S.F.	TBA	
E-4	A & H EASEMENT	BRISTOL BAY HOUSING AUTHORITY	STATE OF ALASKA, DOT	20,484 S.F.	20,484 S.F.	0 S.F.	TBA	
5	FEE/SURFACE	CITY OF EKWOK	STATE OF ALASKA, DOT	12,197 S.F.	12,197 S.F.	0 S.F.	TBA	
6	FEE/SURFACE	CITY OF EKWOK	STATE OF ALASKA, DOT	12,604 S.F.	12,604 S.F.	0 S.F.	TBA	
7	FEE/SURFACE	CITY OF EKWOK	STATE OF ALASKA, DOT	19,203 S.F.	19,203 S.F.	0 S.F.	TBA	
8	FEE/SURFACE	CITY OF EKWOK	STATE OF ALASKA, DOT	6,089 S.F.	6,089 S.F.	0 S.F.	TBA	
9	FEE/SURFACE	JULIA BRANDON	STATE OF ALASKA, DOT	13,999 S.F.	13,999 S.F.	0 S.F.	TBA	
10	FEE/SURFACE	NICK NICOLI	STATE OF ALASKA, DOT	19,221 S.F.	19,221 S.F.	0 S.F.	TBA	
11	FEE/SURFACE	CITY OF EKWOK	STATE OF ALASKA, DOT	8,307 S.F.	8,307 S.F.	0 S.F.	TBA	
E-12	A & H EASEMENT	EKWOK NATIVES LIMITED	STATE OF ALASKA, DOT	17,695 S.F.	17,695 S.F.	0 S.F.	TBA	

BLM REGULATION MONUMENT
PRIMARY CENTERLINE MONUMENT
SECONDARY CENTERLINE MONUMENT
PRIMARY MONUMENT
SECONDARY MONUMENT
UTILITY POLE
BLOCK NUMBER
XX XX XX — MEASURED DATA
XX XX XX (c) — CALCULATED DATA
(XX XX XX) (U.S.S.) — RECORD, U.S. SURVEY
(XX XX XX) (P1) — RECORD, PLAT 89-3 NAKELUTIN SUBDIVISION
(XX XX XX) (P2) — RECORD, PLAT 89-7, ANCSA 14(c) SURVEY

100 0 100 200 400 600 800
SCALE 1"=200'

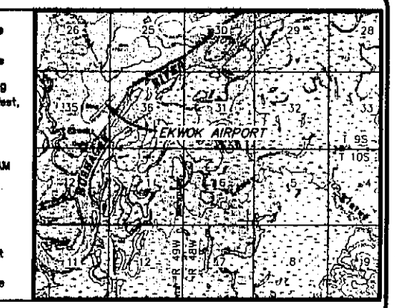
VICINITY MAP

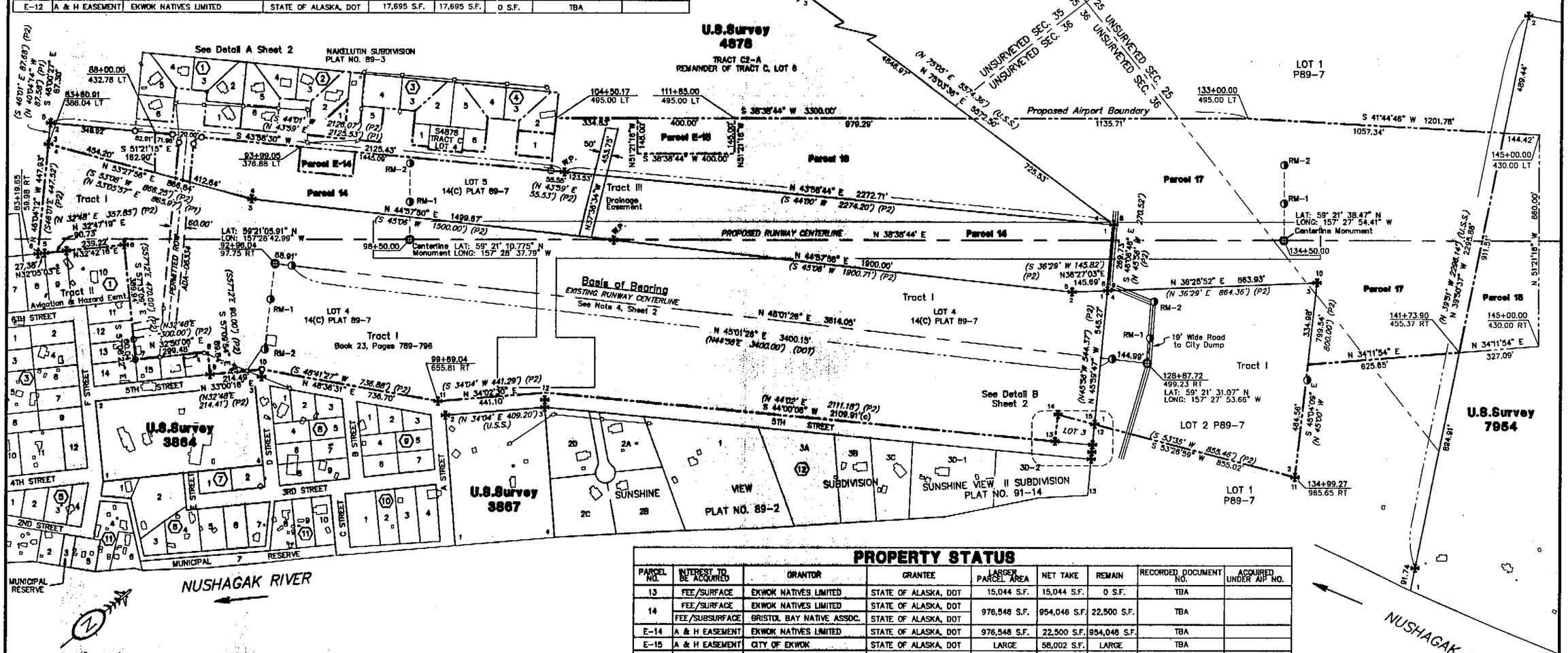
Unsurveyed Sections 25, 35 and 36, in Surveyed Township 9 South, Range 49 West, Seward Meridian

U.S.G.S. DILLINGHAM (B-4), ALASKA

Bristol Bay Recording District

SCALE 1"=1 Mile





PROPERTY STATUS

PARCEL NO.	INTEREST TO BE ACQUIRED	GRANTOR	GRANTEE	LARGER PARCEL AREA	NET TAKE	REMAIN	RECORDED DOCUMENT NO.	ACQUIRED UNDER AIP NO.
13	FEE/SURFACE	EKWOK NATIVES LIMITED	STATE OF ALASKA, DOT	15,044 S.F.	15,044 S.F.	0 S.F.	TBA	
14	FEE/SURFACE	EKWOK NATIVES LIMITED	STATE OF ALASKA, DOT	976,546 S.F.	954,046 S.F.	22,500 S.F.	TBA	
	FEE/SUBSURFACE	BRISTOL BAY NATIVE ASSOC.	STATE OF ALASKA, DOT					
E-14	A & H EASEMENT	EKWOK NATIVES LIMITED	STATE OF ALASKA, DOT	976,546 S.F.	22,500 S.F.	954,046 S.F.	TBA	
E-15	A & H EASEMENT	CITY OF EKWOK	STATE OF ALASKA, DOT	LARGE	56,002 S.F.	LARGE	TBA	
16	FEE	CITY OF EKWOK	STATE OF ALASKA, DOT	LARGE	561,660 S.F.	LARGE	TBA	
17	FEE/SURFACE	EKWOK NATIVES LIMITED	STATE OF ALASKA, DOT	LARGE	30.7610 AC.	LARGE	TBA	
	FEE/SUBSURFACE	BRISTOL BAY NATIVE ASSOC.	STATE OF ALASKA, DOT				TBA	
18	FEE/SURFACE	ORPHA HURLEY, HEIRS	STATE OF ALASKA, DOT	158.63 AC±	205,338 S.F.	153.92 AC.±	TBA	

THIS PLAN SUPERCEDES EKWOK AIRPORT PROPERTY PLAN DATED 9-5-78

FILE: Y:\CP\2002\08-169\B003\dwg\
DATE: 10-22-03

AIRPORT LAYOUT PLAN CONDITIONAL APPROVAL
SUBJECT TO ALP APPROVAL LETTER DATED _____

By: _____ DATE: _____
FAA, AIRPORTS DIVISION
ALASKAN REGION, AAL-600

F.A.A. AIRSPACE REVIEW NUMBER: 03AAL-173-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: DON BAXTER, P.E. — PROJECT MANAGER

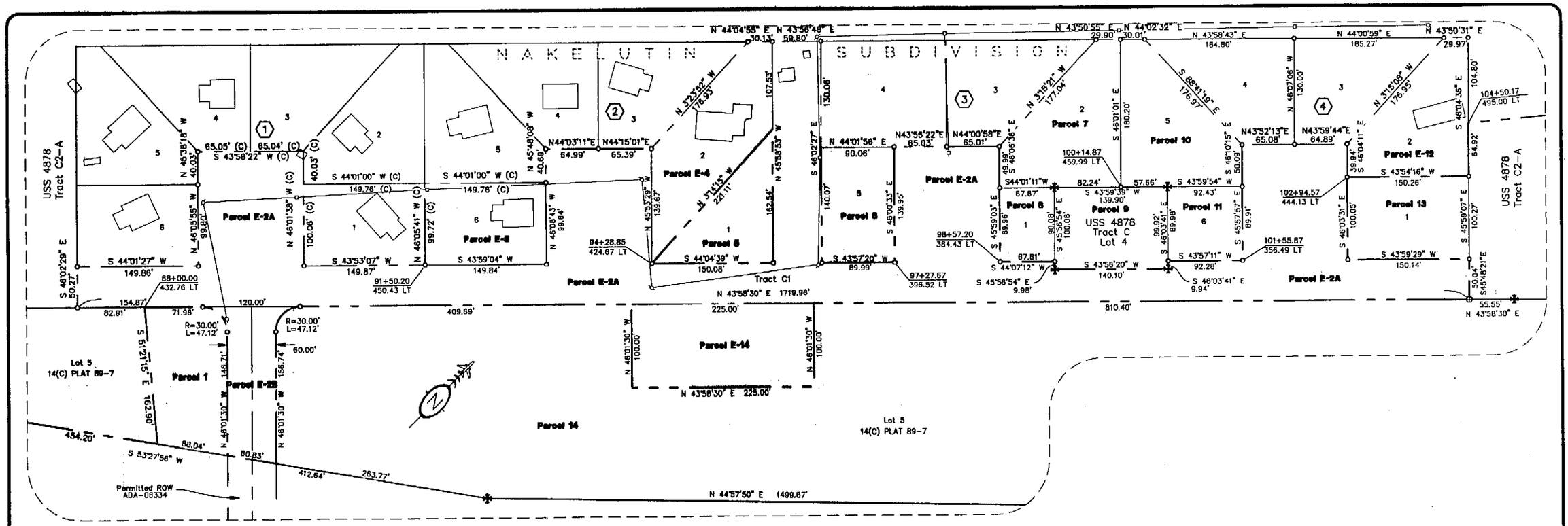
DATE 3-16-04
DESIGN _____
DRAWN _____
CHECKED DFP

EKWOK AIRPORT

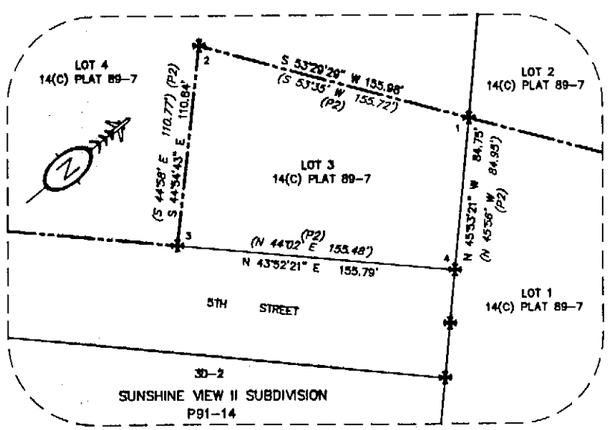
EXHIBIT A

AIRPORT PROPERTY PLAN

SHEET 1 OF 2



Detail B
Scale 1"=40'



Survey Notes

1. This field survey was conducted in April 2002, April 2003, and September 2003 by McClintock Land Associates, Inc. Monuments set in 2002 are shown as found hereon.
2. All positions were surveyed using Topcon/Javad GPS dual frequency receivers. All processed GPS data meets or exceeds loop closures of 1:10,000. Static GPS observations consisted of simultaneous collection of data at the point located, at a Static Base and at the RTK Base.
3. The bearings shown are local plane bearings as oriented to the Basis of Bearing, and distances shown are reduced to horizontal ground distances.
4. A rebar at original runway station 10+00 was found. In addition, a rebar with Alcap at original runway station 44+00 was found and was held for the Basis of Bearing and Stationing. Using these points for line and stationing, Points 1 & 2 were set beyond the runway embankment. These positions were monumented (See Note 5) and were used for the RTK Base and Static Base.
5. During the course of this survey Static GPS data was collected at Points 1 and 2. This data was processed using Geo-Genius 2000 software with data from the Kodiak and Kenai CORS recievers. Geodetic positions were obtained and converted to NAD83(CORS) Alaska State Plane Zone 6 coordinates.
6. The Basis of Bearing is the measured NAD83(CORS) Geodetic Forward Bearing of the centerline of the existing runway from Point 1, a 5/8" rebar with 2" Alcap at centerline station 9+30.95, toward Point 2, a 5/8" rebar with 2" Alcap at centerline station 45+45, which bears N 45°01'26" E, 3614.05 feet (local) from Point 1.
7. A Local grid coordinate system was established using the Basis of Bearing in note 5. A Northing of 50,000.00 and an Easting of 50,000.00 was assigned to Point 1. Point 2 then has a Northing of 52,554.48 and an Easting of 52,558.58.
8. To convert the local coordinates to NAD83(CORS) Alaska State Plane Zone 6 grid coordinates, expressed in U.S. Survey feet: rotate Counter-Clockwise 0°26'55" about Point 1, translate using +1,905,491.882 in Northing, and +1,687,874.384 in Easting, then scale from the point of origin using 0.999910777.
9. The Project Vertical Datum is a Local Orthometric Datum that approximates NAVD 88. These values are the result of processing static data from this project and the CORS stations at Kenai and Kodiak.
10. The Magnetic Declination of 17 1/4° E was computed at Point 1 using GeoMagix software based upon year 2000 magnetic model.
11. The Township was surveyed by the BLM in 1981. Section lines are protracted. U.S. Survey 4878 was surveyed by the BLM in 1970. U.S. Survey 7954 was surveyed by the BLM in 1989.

FILE: Y:\JOB\2002\02-160\EA003\dwg\
DATE: 10-22-03

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APPROVED: DON BAXTER, P.E. — PROJECT MANAGER

DATE _____
DESIGN _____
DRAWN _____
CHECKED _____

EKWOK AIRPORT

EXHIBIT A

AIRPORT PROPERTY PLAN

SHEET 2 OF 2