

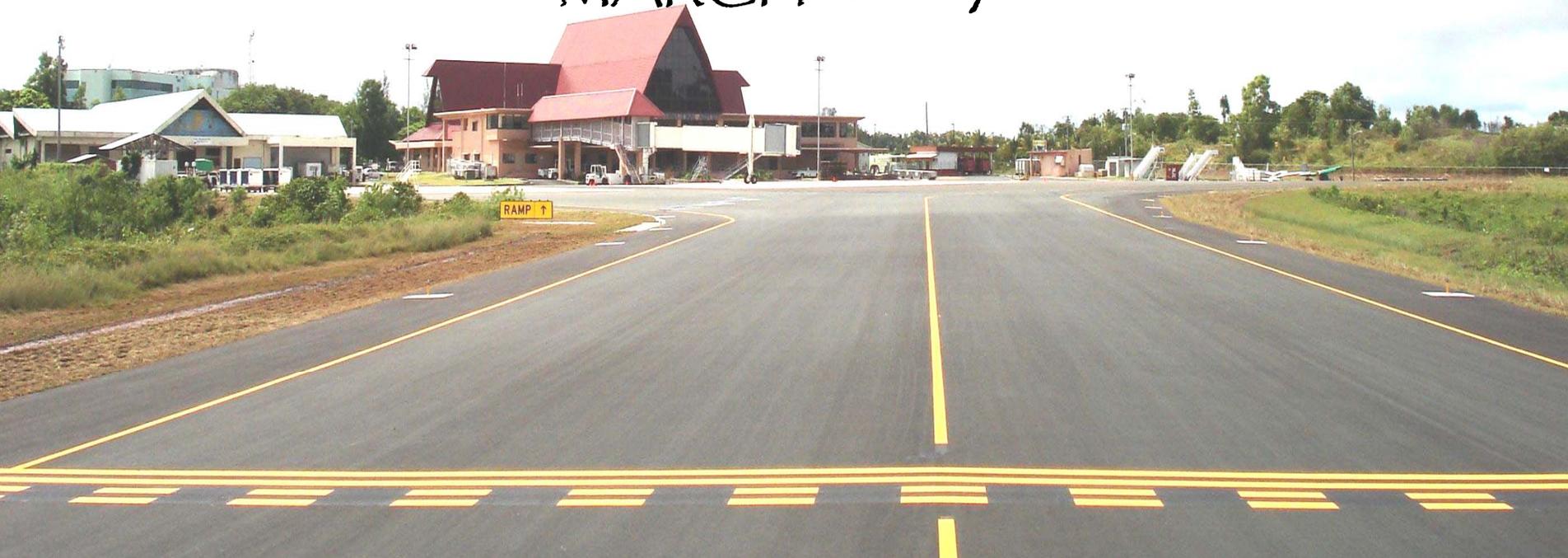


# *Republic of Palau*



Ministry of Commerce and Trade  
Palau International Airport

PACIFIC AVIATION DIRECTORS' WORKSHOP  
MARCH 2007



# AIRPORT CAPITAL IMPROVEMENT PROGRAM

- Phase I – Runway Repair – “Fog Seal”
- Phase II – Runway Repair – Repaving
- Aircraft Rescue and Fire Fighting (ARFF) Facility
- ARFF Vehicles
- Apron Utilization Plan and New Loading Bridges
- Airport Master Plan
- Perimeter Security Fence

MAY 28 2006



**Administered by: Capital Improvement Program (CIP)  
Government of Palau  
Ministry of Resources & Development**

**Client: Palau International Airport  
Airport manager, Mr. Charles Obichang  
Ministry of Commerce & Trade**

**Funding Agency: U.S. Federal Aviation Administration**

**Starting Funds: \$15 Million Loan from ICBC Bank,  
Taiwan, Republic of China. (U.S. FAA  
will reimburse up to \$26 Million.**

# Phase I - Runway Repair



✈️ “Fog-Seal” sprayed on runway and taxiway to control FOD from deteriorating Porous Friction Overlay, as well as painting – with reflective glass beads, of all FAA required lines on runway, taxiway and parking apron.

✈️ Design Contract Amount: US\$58,000.00  
(designer: Leo A. Daly, Honolulu, Hawaii)

✈️ Construction Contract Amount: US\$480,00.00  
(contractor: Belau Hawaiian Rock Products)



 Construction Period: October 2005 (all work 100% complete within that period)







# PHASE II - RUNWAY REPAVING

## SCOPE OF WORK:



 Milling off of 2” of existing surface on runway (1” of porous overlay) and repaving with new 4” to 5” asphalt



 Grooving of runway surface for friction during heavy rains

 Repaving of taxiway and parking apron

 Expanded Turn-around area at east end



 Paving of 13ft. Shoulders on runway – area of runway lighting. (Expanded to 25ft.)

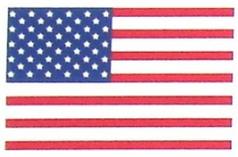
# PHASE II - RUNWAY REPAVING



## SCOPE OF WORK: (Continue)

-  New runway lighting system (including taxiway)
-  Expansion of two existing pcc hardstands on apron.
-  Construction of two additional hardstands on apron. (one is RON hardstand)
-  Modifications to vehicle parking lot for inclusion of tour busses, additional car spaces, and a revised exit

22 10:25AM



# **PALAU INTERNATIONAL AIRPORT RUNWAY RESURFACING PROJECT PHASE II (RUNWAY OVERLAY)**



**FUNDED BY A GRANT FROM THE  
UNITED STATES FEDERAL AVIATION ADMINISTRATION (FAA)  
TO THEIR FRIENDS IN THE  
REPUBLIC OF PALAU**

**Contract Amount: \$12,996,000.00  
Architect/Engineer: Leo A. Daly (Hawaii)  
Contractor: Nishimatsu-Nippon Road Joint Venture**

**Administered by: Ministry of Resources and Development Design Engineering Office/CIP**



✈ Milling off of 2" of existing surface on runway (1" of porous overlay) and repaving with new 4" to 5" asphalt.





# New Lightings











**Tour Busses  
New Parking Area**

**Hard-Stand  
Expansions**

**Additional Car  
Parking Spaces**

**Overnight  
Hard-Stand  
(RON)**

**New  
parking lot  
area exit**

**New Additional  
Hard-Stands**



Apron additions (before  
and after photos)



New

Old (Removed)







RAMP





9

A



Then



Now  
(2007)



# Airport Rescue and Firefighting Facility (ARFF)

- Construction Contract Estimate: **\$2-\$2.5 Million**

-  Dec. 2005 – Project Advertised for Bidding

-  31 January 2006- Bid Opening

-  Actual Award (May 2006): \$2.4 Million



-  Notice to Proceed (NTP): August 2006

-  Estimated Completion Date: May 2007

-  Revised Completion Date: September 2007

- **Dec.2003- A/E Selection along with selection for Runway Repaving Project.**
- **Jan. 2004- Contract negotiated.**
- **May 2004- Contract executed with Leo A. Daly as part of Runway Repaving Contract. Original scope anticipate ARFF of roughly \$300,000.00 construction cost.**
- **Mid 2004-FAA informed Palau that funding for ARFF in the amount of \$2.5 million for design and construction would be available, a significant increase.**
- **Late 2004- Revised Leo A. Daly's design contract to bring design to around \$500,000.00 including bidding assistance and CM services in Palau**

# **Scope of Work: Construction of ARFF facility to house the following:**

- ❖ Dorm rooms for six firefighters**
- ❖ Conference room**
- ❖ Kitchen**
- ❖ Dining room**
- ❖ Shower rooms (male/female)**
- ❖ Locker rooms**
- ❖ Exercise - workout room**
- ❖ Generator**
- ❖ Water/Fire Suppressant filling station**
- ❖ Parking Lot**



# **Scope of Work: (continue)**

## **Construction of ARFF facility to house the following:**

**❖ Driveway to Runway**

**❖ 2<sup>nd</sup> Floor Observation Sta.  
(also to house SAWRS)**

**❖ 2-ea. 1,500 gal. ARFF Vehicles**

**❖ 1-ea. Rapid Response Vehicle**

**\*three (3) bays on North side of Palau Airport  
Runway, approximately mid-field**



# ***Aircraft Rescue and Fire Fighting Vehicles***



**Two (2) each 1,500-gallon emergency fire trucks**



**One (1) each Rapid Response Vehicle**

**Grant Amount: US\$1,850,000.**

**Bidding for vehicles being carried out on a Micronesia-wide basis, as directed by the U.S. FAA, by the Commonwealth of the Northern Marianas (CNMI) – Saipan’s Commonwealth Port Authority (CPA)**

**Approximately 12 of the 1500-gallon ARFF vehicles to be procured for the Micronesian region, two will be delivered to Palau. Two ARFF 1,500-gallon vehicles anticipated cost: US\$750,000 each. Rapid Response Vehicle cost: US\$350,000. Anticipated delivery date: late calendar year 2007**



Airport  
Rescue and Firefighting  
Facility (ARFF) site



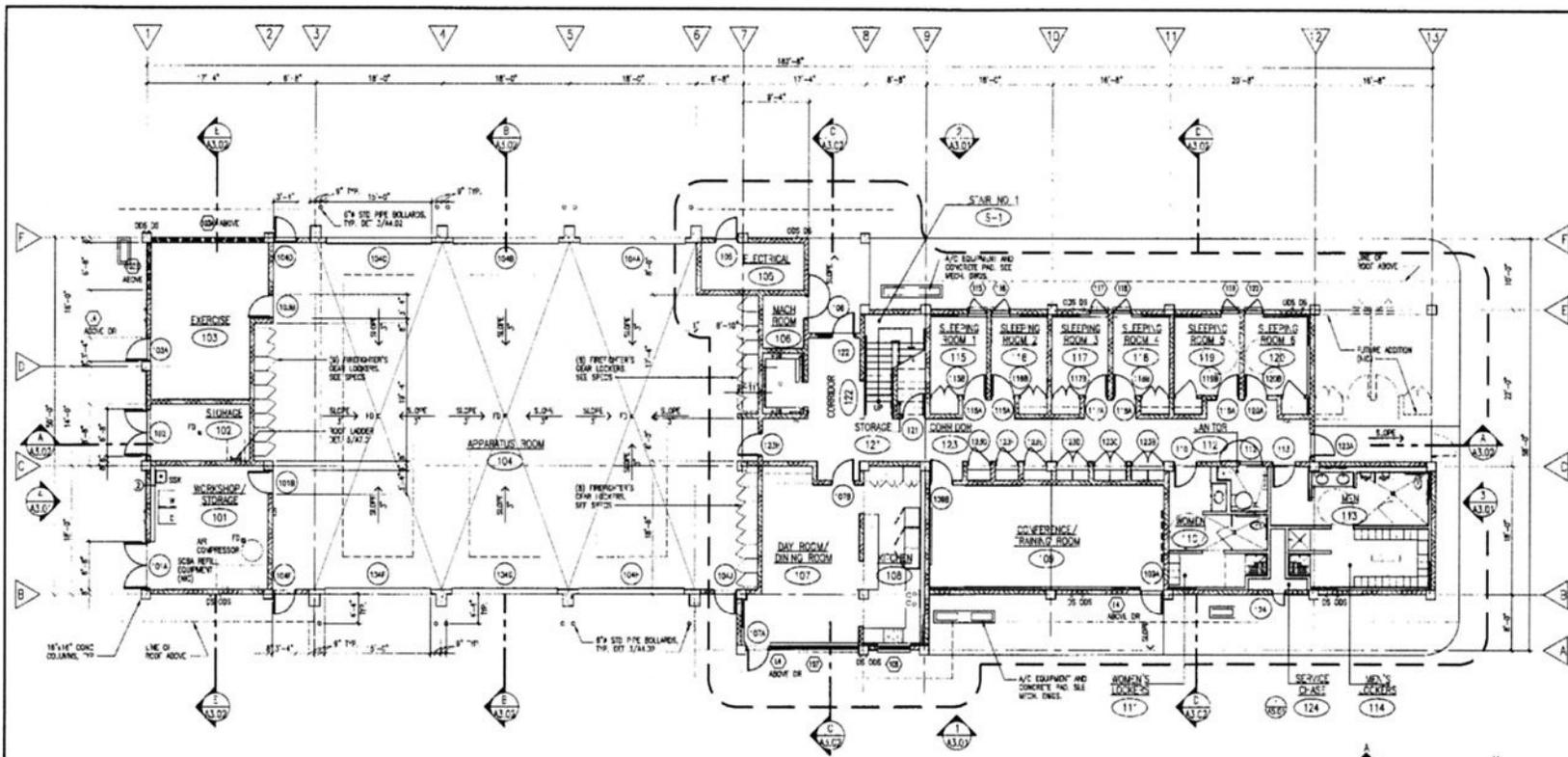


REPUBLIC OF PALAU  
 CIVIL ENGINEERING DIVISION  
 CAPITAL IMPROVEMENT PROGRAM

PALAU INTERNATIONAL  
 AIRPORT  
 AIRCRAFT RESCUE &  
 FIREFIGHTING STATION

LEO A DAILY  
 PLANNING ARCHITECTURE  
 ENGINEERING INTERIORS

127 Capital Boulevard, Suite 1201  
 Honolulu, Hawaii 96814 USA  
 Tel 808-521-0089 Fax 808-521-0719



FIRST FLOOR PLAN  
 SCALE: 1/8" = 1'-0"

SEE SHEET A07 FOR DIMENSION PLAN



ROOM FINISH SCHEDULE

ROOM NO.	ROOM NAME	FLOOR	BASE	WALL A	WALL B	WALL C	WALL D	CEILING	REMARKS	ROOM NO.	ROOM NAME	FLOOR	BASE	WALL A	WALL B	WALL C	WALL D	CEILING	REMARKS				
101	STORAGE	00C	CONC	PT-2	CMU	PT-2	CMU	PT-2		115	SLEEPING ROOM 1	VCT-1	WB-1	GR3	PT-2	CMU	PT-2	CMU/FORM	PT-1	CONC	PT-2	8'-0"	
102	STORAGE	00C	CONC	PT-2	CMU	PT-2	CMU	PT-2		116	SLEEPING ROOM 2	VCT-1	WB-1	GR3	PT-2	CMU	PT-2	CMU/FORM	PT-1	CONC	PT-2	8'-0"	
103	EXERCISE	00-1	WB-1	CONC	PT-1	CMU	PT-1	CONC		117	SLEEPING ROOM 3	VCT-1	WB-1	GR3	PT-2	CMU	PT-2	CMU/FORM	PT-1	CONC	PT-2	8'-0"	
104	APPARATUS ROOM	00C	CONC	CMU/FORM	PT-2	CMU	PT-2	CMU/FORM		118	SLEEPING ROOM 4	VCT-1	WB-1	GR3	PT-2	CMU	PT-2	CMU/FORM	PT-1	CONC	PT-2	8'-0"	
105	APPARATUS ROOM	00C	CONC	PT-2	CMU	PT-2	CMU	PT-2		119	SLEEPING ROOM 5	VCT-1	WB-1	GR3	PT-2	CMU	PT-2	CMU/FORM	PT-1	CONC	PT-2	8'-0"	
106	KITCHEN	00C	CONC	PT-2	CMU	PT-2	CMU	PT-2		120	SLEEPING ROOM 6	VCT-1	WB-1	GR3	PT-2	CMU	PT-2	CMU/FORM	PT-1	CONC	PT-2	8'-0"	
107	DAY ROOM/RUN ROOM	VCT-1	WB-1	CONC	PT-2	CMU	PT-2	CONC		21	STORAGE	CONC	CONC	PT-2	CMU	PT-2	CMU	PT-1	CONC	PT-2	CONC	PT-2	8'-0"
108	KITCHEN	VCT-1	WB-1	CONC	PT-2	CMU	PT-2	CONC		22	CONDOOR	VCT-1	WB-1	CONC	PT-2	CMU	PT-2	CONC	PT-1	CONC	PT-2	8'-0"	
109	CONFERENCE/TRAINING ROOM	VCT-1	WB-1	CONC	PT-2	CMU	PT-2	CONC		23	CONDOOR	VCT-1	WB-1	CONC	PT-2	CMU	PT-2	CONC	PT-1	CONC	PT-2	8'-0"	
110	WOMEN'S LOCKERS	C-1	CI-2	CONC	PT-2	CMU	PT-2	CONC		24	SERVICE C USE	CONC	CONC	PT-2	CMU	PT-2	CONC	PT-1	CONC	PT-2	CONC	PT-2	8'-0"
111	WOMEN'S LOCKERS	C-1	CI-2	CONC	PT-2	CMU	PT-2	CONC		5-1	STAIR NO 1	WB-2	WB-1	CONC	PT-2	GR3	PT-2	CONC	PT-2	CONC	PT-2	8'-0"	
112	JANITOR	C-1	CI-2	CONC	PT-2	CMU	PT-2	CONC		6-1	ELEVATOR NO 1	VCT-1	CONC	PT-2	CONC	PT-2	CONC	PT-1	CONC	PT-2	CONC	PT-2	8'-0"
113	KEY	C-1	CI-2	CONC	PT-2	CMU	PT-2	CONC															
114	KEYS LOCKERS	C-1	CI-2	CONC	PT-2	CMU	PT-2	CONC															

NO.	DESCRIPTION	DATE
1	PREPARED BY: GTC	
2	DESIGNED BY: JRC	
3	CONC'D BY: GTC, TEAM	
4	SCALE: AS NOTED	



THIS PLAN HAS BEEN PREPARED BY ME OR UNDER MY SUPERVISION AND I AM A REGISTERED PROFESSIONAL ARCHITECT IN THE STATE OF PALAU.

Guy T. Kappa  
 ARCHITECT

PROJECT NO: 04-160

DATE: 30 NOVEMBER 2005

SHEET DESCRIBED: FIRST FLOOR PLAN, ROOM FINISH SCHEDULE

A101

15 OF 75  
 SHEET OF 144

FINAL SUBMITTAL



REPUBLIC OF PALAU  
 ENGINEERING OFFICE  
 CAPITAL IMPROVEMENT PROGRAM

PALAU INTERNATIONAL AIRPORT  
 AIRCRAFT RESCUE &  
 FIREFIGHTING STATION

LEO A DALY

REGISTERED ARCHITECTURE  
 ENGINEERING INTERIORS

107 English Harbour, Suite 120  
 Honolulu, Hawaii 96813 USA  
 Tel 808-521-0889 Fax 808-521-0297

KEY PLAN

REV. NO. DESCRIPTION DATE  
 REVISION BY: GTC  
 DRAWN BY: JRC  
 CHECKED BY: GTC, BOM  
 SCALE: AS NOTED



THIS DRAWING HAS BEEN REVIEWED BY ME OR UNDER MY SUPERVISION AND QUALITY CONTROL OF THIS PROJECT AND I AM AWARE OF THE ACCURACY OF THE INFORMATION HEREON.

*Leoy T. Koyama*  
 Architect

A.P. NO. J-70-0001-03

CONTRACT NO. 04-163

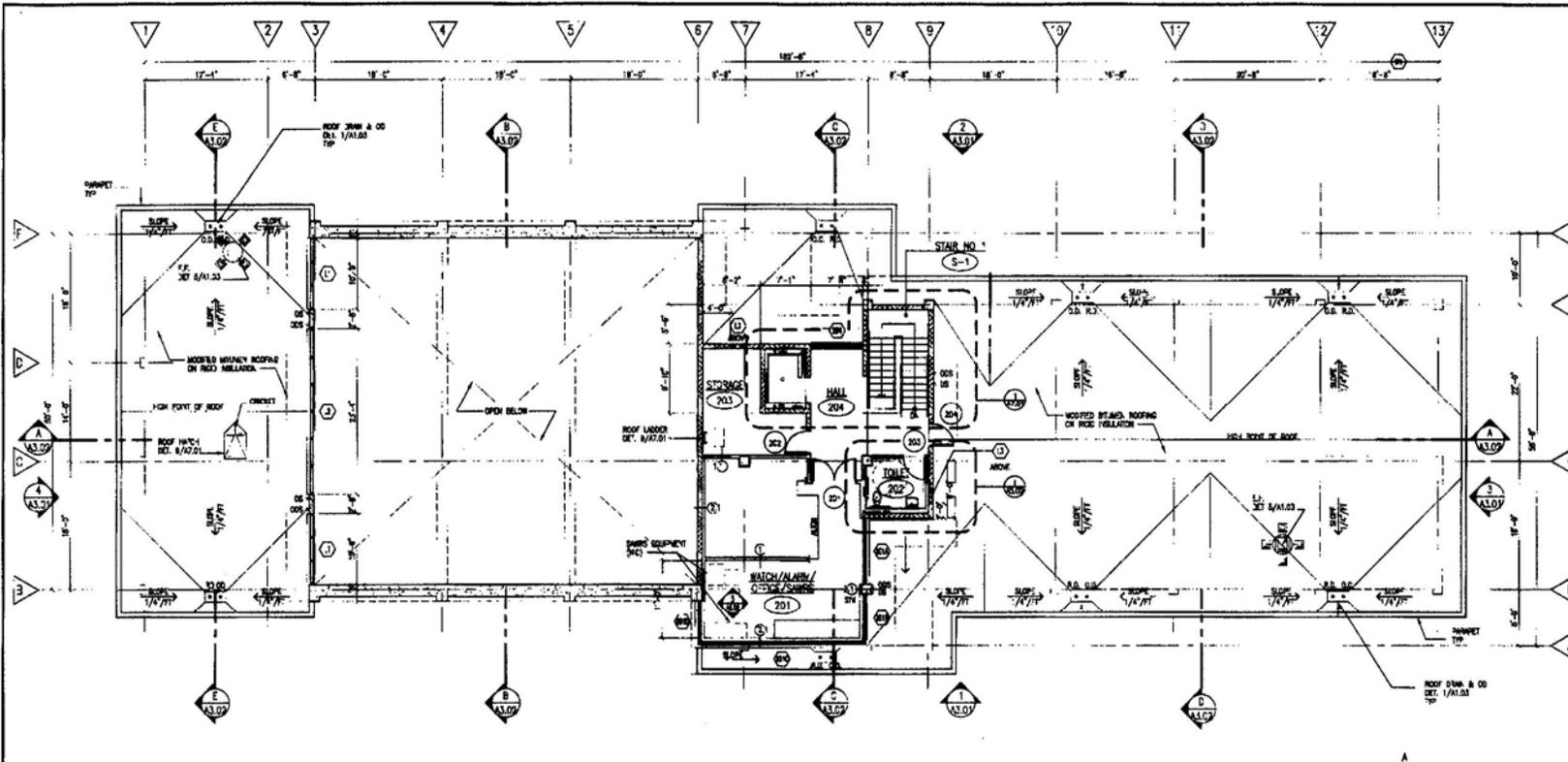
DATE: 30 NOVEMBER 2005

SHEET 3 OF 3 TOTAL  
 SECOND FLOOR PLAN, ROOM FINISH SCHEDULE,  
 COLOR MATERIAL SCHEDULE

A102

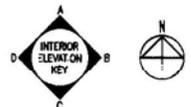
16 OF 75 SHEETS

FINAL SUBMITTAL



SECOND FLOOR PLAN  
 SCALE: 1/8" = 1'-0"

NOTE: SEE SHEET A101 & A102 FOR DIMENSIONED PLANS



COLOR AND MATERIAL SCHEDULE

MARK	MATERIAL	DESCRIPTION	MARK	MATERIAL	DESCRIPTION
AC-1	ADDITIONAL TILE CEILING	ANVORON, 18" X 36" W/4", FINE RESINUR FIBER JET-N	PL-1	PLASTIC LAMINATE	FORMICA, HONEY MAPLE/WHIRL-5, SLUFF & VERTICAL GR. WORK
AC-2	ADDITIONAL TILE GIRD	ANVORON, PRESSURE & 1/2" X 4" EXPOSED TILE SPECIAL WHITE	PL-2	PLASTIC LAMINATE	SEWALL, THERMO-TEK SHALE SPADE WITH PIZARD & CONOVER TOP
CP-1	MODULAR CARPET	CONTOURABLE CARPET, PROFORM LOC MODULAR TUL/252415	PF-1	PHENOLIC PANEL	PHENOLIC PANEL, 1/2" THICK, 48" X 48" W/4" JOINT, ROOF, W/STAIN, SHIELD, 90% FORMED FIBER
CT-1	CORIANC TILE	QUILISA, 6" X 6" W/4" JOINT, ROOF, W/STAIN, SHIELD, 90% FORMED FIBER	PF-2	PHENOLIC PANEL	PHENOLIC PANEL, 1/2" THICK, 48" X 48" W/4" JOINT, ROOF, W/STAIN, SHIELD, 90% FORMED FIBER
CT-2	CORIANC TILE CORE BASE	SANTA PA COLLECTION, 60% WOOD FINISH, 3/4" X 1/4" STRAIGHT TOP	RF-1	RUBBER FLOORING	TRINITY COMMERCIAL, DAMASCUS COI COLLECTION/NETSPORT 1-4000 18" X 18"
CT-3	CORIANC WIL TILE	SANTA PA, GOLD RAIN/CALIFORNIA SHED ENGL. GRADED, 1/4" X 1/4" W/4" JOINT	RF-2	RUBBER SHEET	JOHNMOVIC, 4" X 6" X 1/8", ANVORON OR CLAY
SW-1	SHOED TILE GROUP	CUSTOM BLAZING PRODUCTS, 143 LBFT SHOED, 1/2" CROWN ADJUSTABLE	SR-1	RUBBER STAR TREAD	JOHNMOVIC, 24" X 24" X 1/8", ANVORON OR CLAY
			SR-2	LAMBER STAR TREAD	JOHNMOVIC, 24" X 24" X 1/8", ANVORON OR CLAY, 4' LENGTH
PT-1	PAINT	PITTSBURGH PAINTS, MENDURY TAMP 440-3, SATIN	SC-1	SOLID SURFACE	CORIAN BY DUPONT, COKE (CL 3/4" X 1/4" JOINT)
PT-2	PAINT	PITTSBURGH PAINTS, ALMOND BRIT 7 318-3, SATIN	SC-2	SOLID SURFACE	CORIAN BY DUPONT, ANVORON (CL 3/4" X 1/4" JOINT)
PT-3	PAINT	PITTSBURGH PAINTS, ACCORDANCE 216-1, SATIN			
PT-4	PAINT	PITTSBURGH PAINTS, SILVER ROSE 61-4, SEMI-GLOSS			
PT-5	PAINT	PITTSBURGH PAINTS, CLEAR SHIP 1 318-6, SEMI-GLOSS			
PT-6	PAINT	PITTSBURGH PAINTS, CINDER 877 317-6, LOW-LUSTER			
PT-7	PAINT	PITTSBURGH PAINTS, SMOKE CIDER 329-2, LOW-LUSTER			

ROOM FINISH SCHEDULE

ROOM NO.	FLOOR	DATE	WALL A	WALL B	WALL C	WALL D	CEILING	REMARKS
201	201-1	02-1	CSB	CSB	CSB	CSB	AC-1	
202	202-1	02-1	CSB	CSB	CSB	CSB	AC-2	
203	203-1	02-1	CSB	CSB	CSB	CSB	AC-2	
204	204-1	02-1	CSB	CSB	CSB	CSB	AC-2	





# **AIRPORT MASTER PLAN**

**\*\*\*\*\*ON-HOLD\*\*\*\*\***

**FUNDING AMOUNT: US\$350,000**

**Anticipated Project Start Date: early to mid calendar year 2006, to be completed within 6-8 months**

# **Apron Utilization Plan and New Loading Bridges**

**Work to include design modification configuring of aircraft parking apron as well as installation of two additional loading bridges/jet ways, which will then allow the Airport Terminal Building to increase from present one aircraft gate to three gates.**

**Design Contract: US\$570,000**

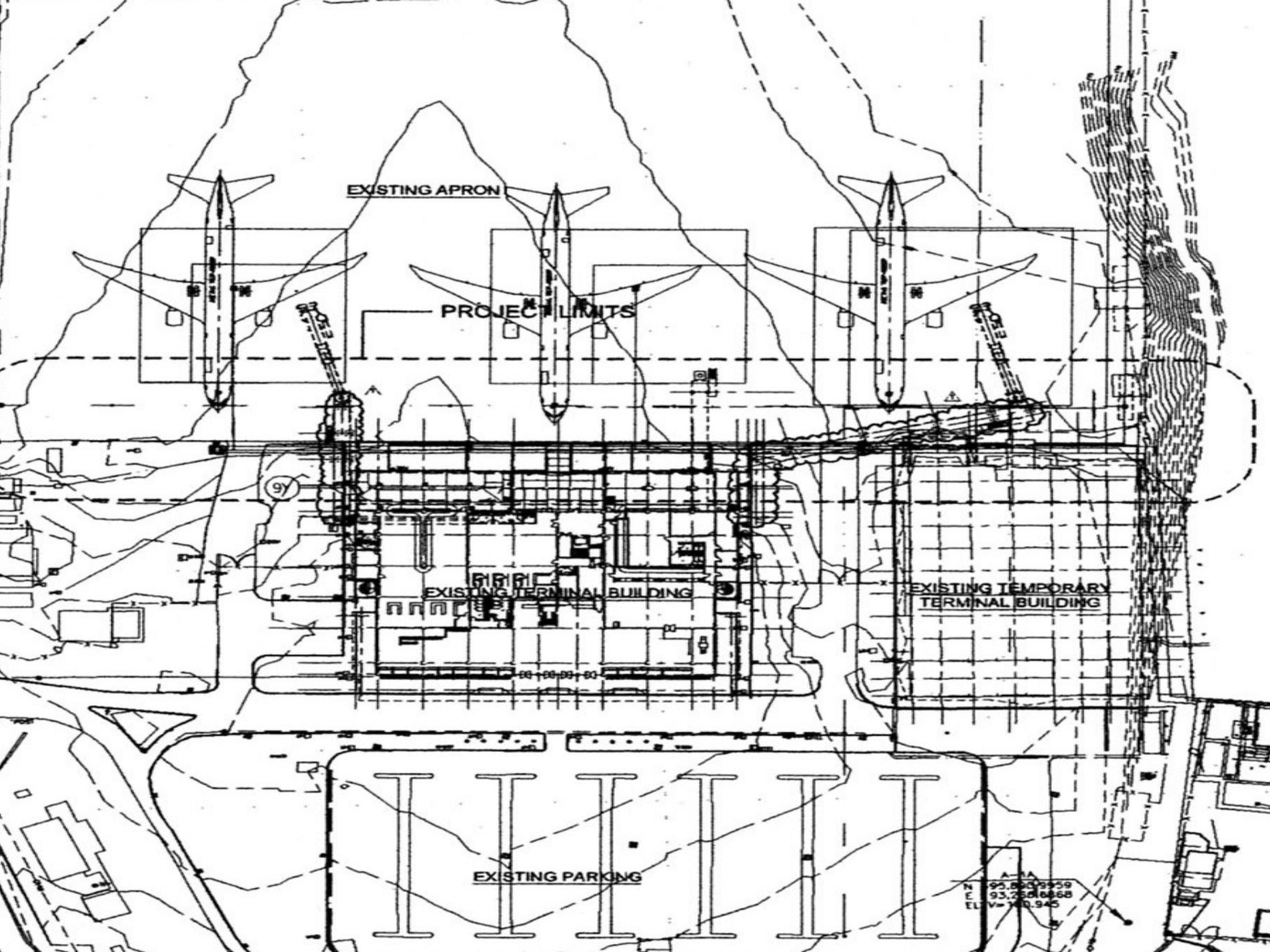
**(designer: Leo A. Daly, Honolulu, Hawaii)**

**Grant Amount: US\$1,500,000**

**Under Bidding**

**Original Opening Date: February 28, 2007**

**Revised Opening Date: April 11, 2007**



EXISTING APRON

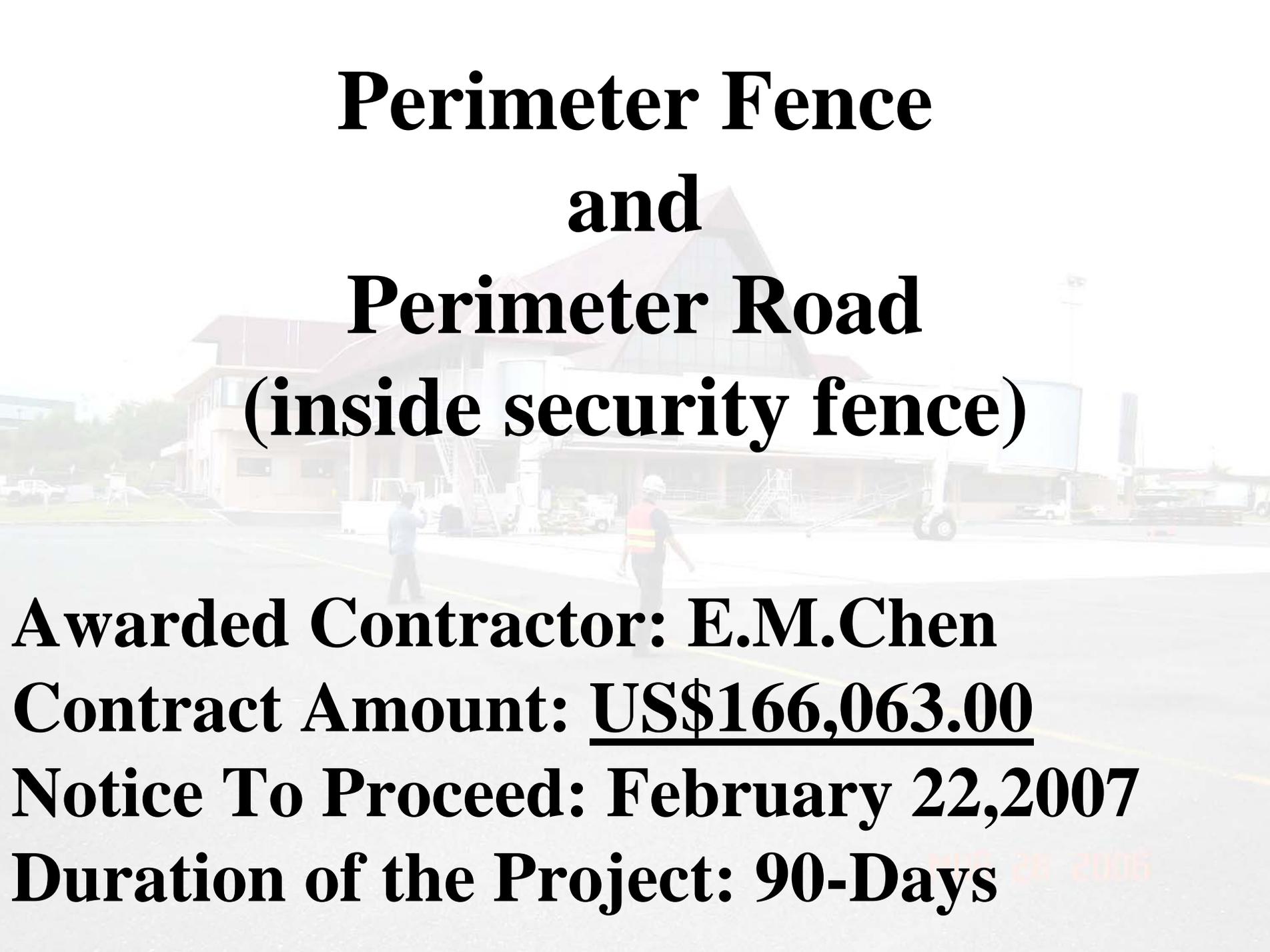
PROJECT LIMITS

EXISTING TERMINAL BUILDING

EXISTING TEMPORARY  
TERMINAL BUILDING

EXISTING PARKING

N 95.8509959  
E 93.2506868  
ELV = 100.945



**Perimeter Fence  
and  
Perimeter Road  
(inside security fence)**

**Awarded Contractor: E.M.Chen**

**Contract Amount: US\$166,063.00**

**Notice To Proceed: February 22,2007**

**Duration of the Project: 90-Days**



# Palau International Airport

IMMIGRATION

IMMIGRATION



# SECURITY SCREENING

DFS  
DUTY FREE









*Potential New Project if  
AIP goes beyond 2007*

*Future Apron  
Expansion*



*Potential New Project if AIP  
goes beyond 2007*

*Peleliu  
Airport*

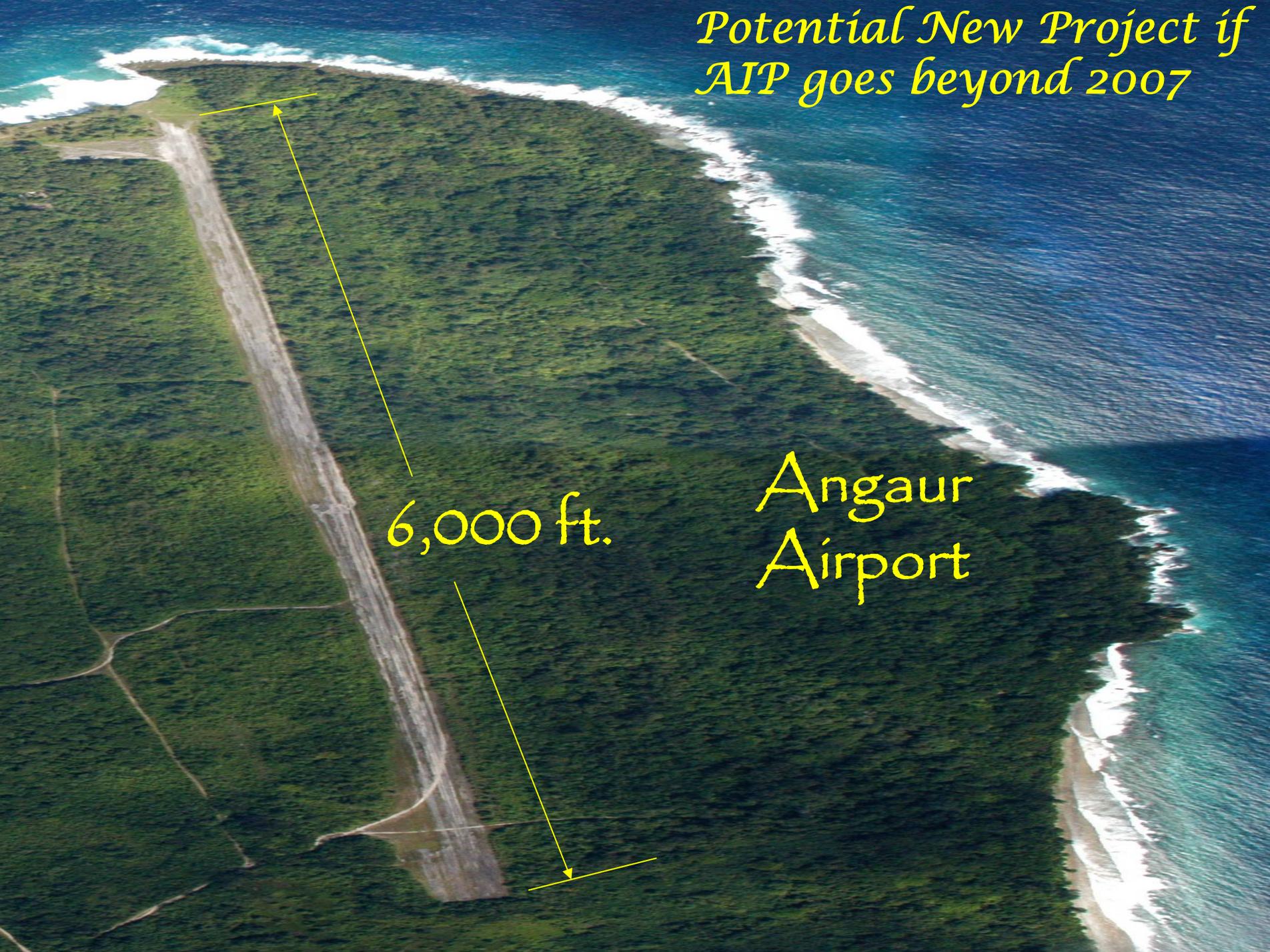
*6,000 ft.*



*Potential New Project if  
AIP goes beyond 2007*

6,000 ft.

Angaur  
Airport





Project Manager Brian Melairei

Field Engineer: Jack Ngirngesang

Construction Inspector: Aldrin Tellei

MAY 28 2006

# Capital Improvement Program

Ministry of Resources & Development

P.O. Box 100

Koror, Palau 96940

Tel: (680) 488-2410

Fax: (680) 488-3031

22 10:27AM

**THANK YOU VERY MUCH!**