

NAS AGANA BASE REUSE MASTER PLAN

DECEMBER 22, 1995

NAS Agana Base Reuse Master Plan

December 22, 1995



UFISINAN I MAGA'LAHI
TERITORION GUAM

DEC 26 1995

The Honorable Joshua Gotbaum
Assistant Secretary of Defense for Economic Security
3300 Defense Pentagon
Washington, D.C. 20301-3300

Dear Mr. Secretary,

I am pleased to transmit the Naval Air Station Agana Base Reuse Master Plan and Homeless Assistance Application for your review and approval. As you will note in these documents, the long range plan for the reuse of NAS calls for redevelopment of the base for economic development, airport operations, transportation and recreational land uses.

The Komitea Para Tiyan, the committee I appointed to develop the NAS reuse plan for the Government of Guam, as the DoD recognized Local Redevelopment Authority, has worked many hours in the preparation of this plan. The reuse plan focuses its major attention to the redevelopment of NAS for the long term improvement and growth of Guam's economy by emphasizing the growth and expansion of the Guam International Airport, effective systems of highways and major thoroughfares to alleviate major traffic congestion problems in central Guam and the development of industrial and business parks with emphasis on airport related enterprises. The Komitea has insured that the Guam Airport Authority has sufficient property for development of an adequate revenue base to protect its long term viability and stability, as well as, to improve its aircraft handling capabilities in cadence with advancing technologies.

I hope that you can concur with our approach given the uniqueness of our circumstances and those of the base we plan to reuse. Upon your concurrence with this plan, public benefit transfers for parcels to be developed as community parks and recreational facilities and property to be developed as major highways and arteries to alleviate the traffic congestion in central Guam will be prepared and transmitted accordingly. The Guam Airport Authority has already been informed to begin applying for public benefit transfers, under FAA sponsorship, for all parcels designated within GAA boundaries.

Should you have any questions, please contact Mr. Joaquin Perez, Chief of Staff for the Lieutenant Governor of Guam, whom I have designated as Guam's point of contact for this matter and who has been coordinating the activities of the Komitea Para Tiyan. Mr. Perez can be reached by phone at (671) 475-9209, by facsimile at (671) 477-6425 or by mail at Post Office Box 2950, Agana, Guam 96910.

Thank you for your consideration.

Sincerely,



CARL T.C. GUTIERREZ

cc: The Honorable Robert Underwood
Guam's Delegate to Congress
Rear Admiral David Brewer, III
Commander, Naval Forces Marianas



CARL T.C. GUTIERREZ
GOVERNOR OF GUAM

DEC 26 1995

Mr. Perry Vietti
Division of Community Viability, Room 7220
Department of Housing and Urban Development
451 7Th Street, SW
Washington, D. C. 20410

Dear Mr. Vietti:

I am pleased to transmit the Naval Air Station Agana Base Reuse Master Plan and Homeless Assistance Application for your review and approval. As you will note in these documents, the long range plan for the reuse of NAS calls for redevelopment of the base for economic development, airport operations, transportation and recreation land uses. In the long term, as the Guam International Airport expands, housing will not be compatible with airport operations. However, numerous housing units are being excessed by the military under BRACC 95 which may be more suitable for homeless purposes. Therefore, the Local Redevelopment Authority (the Government of Guam) has developed an interim approach to addressing homeless needs. This approach involves the allocation of 50 units of housing (25 duplexes) to accommodate homeless assistance needs to be placed under the administrative jurisdiction of the Guam Housing and Urban Renewal Authority. These units will be used for homeless purposes until such time as the Navy develops its disposal plan for NAS or a homeless assistance application is submitted for the BRACC 1995 closures, whichever comes first.

This interim approach has been accepted by homeless providers on Guam. In fact, the language contained in the master plan was developed by the homeless provider representative on the Komitea Para Tiyan, the NAS reuse planning committee I established to develop the enclosed plan. Additionally, homeless providers expressed complete support for this

proposal in the public hearing that was held on the homeless assistance application.

As you may know, I submitted a grant application under the HUD Community Planning Assistance program to conduct an island-wide assessment of Guam's continuum of care system. The results of this assessment would have been used for both BRACC '93 and '95 closures and realignments. Although my staff has been informed that grant has received the verbal approval of HUD officials, circumstances within HUD relating to current staffing constraints have delayed the grant award. As a result, we have been unable to begin a more thorough assessment of Guam's continuum of care system in time for submission of the NAS Base Reuse Master Plan. As soon as the HUD grant funds are awarded, the Government of Guam will carry out the assessment and utilize the data in the development of reuse plan for the bases closed and realigned by both BRACC '93 and '95 decisions. In this way, a long term solution to the needs of Guam's homeless population can be identified and implemented.

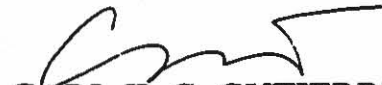
Finally, a total of seventeen requests for homeless assistance were received during the screening process. While the enclosed homeless assistance application identifies and provides copies of all seventeen requests, you should note that we have not assessed these requests from the standpoint of eligibility, feasibility, resources available for implementation or other HUD criteria because we are not currently in a position to assess homeless needs without the completed assessment of Guam's continuum of care system. We expect that GHURA in collaboration with the homeless providers will conduct a preliminary assessment of these requests as they develop the process for allocating units at Naval Air Station to satisfy homeless needs.

I hope that you can concur with our approach, given the uniqueness of our circumstances and those of the base we plan to reuse. Should you have any questions, please contact Mr. Joaquin Perez, Chief of Staff for the Lieutenant Governor of Guam, whom I have designated as Guam's point of contact for this matter and who has been coordinating activities with Mr.

Leland Bettis, Mr. Mike Duenas and Mr. Mike Cruz. Mr. Perez can be reached by phone at (671) 475-9209, by facsimile at (671) 477-6425, or by mail at Post Office Box 2950, Agana, Guam 96910.

Thank you for your consideration.

Sincerely,



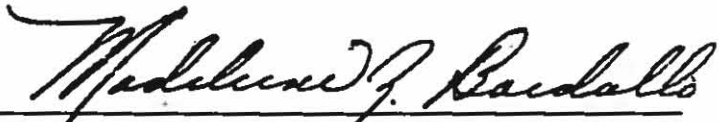
CARL T. C. GUTIERREZ

Enclosures

cc: The Honorable Robert Underwood
Guam's Delegate to Congress
Rear Admiral David Brewer, III
Commander, Naval Forces Marianas
Ms. Patty Nicholas
Director, HUD Office of Community Planning
and Development, Honolulu, Hawaii

NASAGANA
BASE REUSE MASTER PLAN

Prepared by
The Komitea Para Tiyan
December 22, 1995


Lt. Governor Madeleine Z. Bordallo, Chairperson

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14
15
16
17
18
19
20
21
22
23
24
25
26
27

TABLE OF CONTENTS

Chapter I.

Page

Introduction	9
The Base Reuse Process	10
Purpose of This Plan	11
Study Documentation	12
Public Input and Plan Approval Process	13
Mandated Reviews	14

Chapter II

Regional Background and Rationale	16
Tiyan	17
Existing Land Uses	18
The Territorial Planning Council and I Tanota Land Use Plan	19
Regional Circulation	20
Economy/Employment	23
The Effects of Base Closure	23

Chapter III

Base Reuse Considerations: Community Concerns	25
Airport Considerations	26
Locational Impacts	27
Existing Base Conditions	28
Building Conditions	28
Equipment Conditions	30
Existing Infrastructure Conditions	30
Existing Potable Water Systems	30

1	Existing Wastewater Collection and	
2	Sewage Disposal	31
3	Existing Storm Drain Systems	31
4	Geology	32
5	Flooding and Drain Hazards	32
6	Environmental Contamination	32
7	Historical and Archeological Resources	33
8	Chapter IV	
9	Concepts and Alternatives: Community Needs,	
10	Requests and Proposals	34
11	Airport	35
12	Job Creation	35
13	Economic Development	36
14	Governmental Offices	37
15	Recreational Facilities	37
16	Social and Cultural	38
17	Land Use Opportunities	39
18	Air Industry	39
19	Business	40
20	Education	41
21	Civic Center	41
22	Housing	42
23	Heritage	42
24	Market Demand Analysis	42
25	Market Opportunities	44
26	Land Values	44
27	Tourism	44
28	Trade Mart	44

1	Hotel	47
2	Office/Business Park	47
3	Package Express	57
4	Industry-Warehouse and Distribution	58
5	Retail	59
6	Service-Financial Services, Banking and	
7	Insurance	49
8	Maintenance	50
9	Target Industries	50
10	Development Incentives	52
11	Alternative Plans	53
12	Education/Heritage	53
13	Business/Industry	54
14	Housing/Community	55
15	Evaluation of Alternatives	56
16	Chapter V	
17	The Base Reuse Plan Overview	57
18	The Guam International Airport	58
19	Forecasts of Aviation Demand/Passenger Forecasts	58
20	Cargo and Mail	62
21	Air Carrier Operations	62
22	General Aviation	60
23	Airport Land Use Plan	60
24	Runways and Taxiways	61
25	Passenger Terminal	61
26	Cargo Center	61
27	Aircraft Maintenance Center	62
28	Aircraft Maintenance Support Industries	62

1	Airport Maintenance	63
2	Flight Kitchens	63
3	Fuel Farm	63
4	Air Traffic Control Tower	63
5	Federal Aviation Administration Offices	64
6	National Weather Service	64
7	General Aviation and Fixed Base Operations	64
8	Flight School	65
9	Airframe and Powerplant School	65
10	Package Express/Cargo Hub	66
11	Aircraft Rescue and Fire Fighting	67
12	Revenue Producing Properties	67
13	Reuse of Enlisted Family Housing	67
14	Use of Environmental Cleanup Area	68
15	Airport Auto and Vehicle Circulation and Access	69
16	Economic Development Areas	69
17	Public Uses	70
18	Reuse of Playing Fields	70
19	Reuse of Swimming Pool at BOQ	71
20	Parks	72
21	Regional Recreation Park	72
22	Laderan Tiyan Memorial Park	72
23	Transportation Improvements	73
24	Laderan Tiyan Parkway	74
25	Adelup-Dededo Connector	75
26	Camp Watkins Road/Canada Toto Road Connector	76
27	Cabras Parkway (Mariner Drive Parkway)	77
28	Access to Airport	78

1	Access to Proposed Development	
2	Route 10 Extension	79
3	Route 8 and Route 16	79
4	Collector Street Framework	80
5	Other Utilities and Infrastructure	80
6	Water	80
7	Sanitary Sewer	81
8	Storm Drainage	81
9	Telephone	82
10	Power	83
11	Secondary Improvements on	
12	Project by Project Basis	83
13	Chapter VI	
14	Implementation:	
15	Base Realignment and Closure Process	84
16	Statutory Update	84
17	Designation of LRA	84
18	DoD/Federal Agency Screening	85
19	McKinney Act Screening	85
20	Other Base Property Transfers	87
21	Public Benefit Transfers	88
22	Economic Development Requests	89
23	Rural Exemption	90
24	Negotiated and/or Public Sales	90
25	Capital Improvement Program Costs	90
26	Regional Infrastructure	92
27	Airfield Upgrading	92
28	Aviation Industries/Infrastructure	92

1	Developments	93
2	Community	93
3	Community Infrastructure	93
4	Commercial and Industrial Developments	94
5	Revenue Considerations	94
6	Job Generation	95

7

8 APPENDICES

9	Homeless Assistance Application
10	KPT Meeting Minutes
11	Public Law 20-147 Territorial Planning Council
12	Public Law 12-226 Chamorro Land Trust Commission
13	Public Law 23-23 Land Repatriation Commission Act
14	Public Law 23-28 Amendments to P.L. 12-226
15	Public Law 23-39 Repeals Land for Landless Acts
16	

1 LIST OF FIGURES AND TABLES

2	Table 1:	Land Areas
3	Figure 1:	Existing Land Use Map
4	Figure 2:	Existing Zoning Map
5	Figure 3:	Proposed I Tano'-Ta Land Use Map
6	Table 2:	Civilian Employment in Guam
7	Table 3:	Labor Statistics
8	Figure 4:	Existing NAS Agaña
9	Figure 5:	Existing Roads
10	Figure 6:	Existing Waterlines
11	Figure 7:	Existing Sanitary Sewer
12	Figure 8:	Existing Storm Drainage
13	Figure 9:	Existing Electrical
14	Figure 10:	Existing Telecommunication
15	Table 4:	Potential Hazardous Waste Sites
16	Figure 11:	Map Showing Environmental "Hot Spots"
17	Figure 12:	Land Use Opportunity: Air Industry
18	Figure 13:	Land Use Opportunity: Business
19	Figure 14:	Land Use Opportunity: Education
20	Figure 15:	Land Use Opportunity: Civil Center
21	Figure 16:	Land Use Opportunity: Housing
22	Figure 17:	Land Use Opportunity: Heritage
23	Table 5:	Population and Gross Domestic Product of Selected
24		Pacific Rim Countries
25	Table 6:	Land Values: Appraised Value of Real Estate
26	Table 7:	Tourism: Visitors to Guam
27	Table 8:	Visitors: January through July (1983 - 1994)

1	Table 9:	Visitor Arrivals by Country
2	Table 10:	Japanese Travel to Guam
3	Table 11:	Korean Travel to Guam
4	Table 12:	Taiwanese Travel to Guam
5	Table 13:	Hotel Room Inventory, Occupancy and Taxes
6	Table 14:	Selected Fastest Growing Companies in Asia-Pacific
7		Region Greater than \$20 Million
8	Table 15:	Selected Fastest Growing Companies in Asia Pacific
9		Region Greater than \$10 Million
10	Figure 18:	Alternative Plan: Education/Heritage
11	Figure 19:	Alternative Plan: Business and Industry
12	Figure 20:	Alternative Plan: Housing and Community
13	Table 16:	Evaluation Matrix
14	Figure 21:	Land Use Master Plan
15	Figure 22:	Economic Development Zones
16	Figure 23:	Proposed Road Improvements
17	Figure 24:	Proposed Water System
18	Figure 25:	Proposed Sanitary Sewer System
19	Figure 27:	Proposed Telephone System
20	Figure 28:	Proposed Electrical System
21	Table 17:	Summary of Costs: Regional Infrastructure
22	Table 18:	Summary of Costs: Airport Development
23	Table 19:	Summary of Costs: Community Infrastructure
24	Table 20:	Summary of Costs: Community Development
25	Table 21:	Revenue Generation: Community Uses
26	Table 22:	Revenue Generation: Airport
27		
28		

1

2 **Introduction**

3 For many years, the Government of Guam (GovGuam) has been
4 petitioning the U.S. Navy to return Naval Air Station Agaña (NAS Agaña) to
5 GovGuam ownership for its use mainly as a civilian international airport. Since
6 the 1960's, when air travel became the preferred mode of transportation to and
7 from Guam, civilian air traffic moved through NAS Agaña. With the advent of
8 the jumbo jet and the initiation of Guam as a desired tourist destination, it became
9 apparent that permitting civilian air traffic through NAS would not be acceptable
10 to either the Navy, the civilian government or the commercial airlines. With the
11 bulk of visitor traffic coming from foreign countries such as Japan, Korea,
12 Taiwan , the Philippines and other foreign destinations, it was obvious that an
13 alternative to using the NAS base proper had to be found.

14 In 1974, the Guam Airport Authority was created with the mandate to plan
15 and develop a civilian international air terminal which would be adequate to
16 service the needs of the island over the long term. The first step in this process
17 was the development of a joint use agreement with Naval Air Station which
18 would permit the joint use of NAS facilities and air traffic control. To assist the
19 Authority in accomplishing its goals, the Navy granted a permit to GAA for the
20 development of a new terminal on vacant land on the northeastern side of the
21 runways. The terminal built in the mid 70's became inadequate very quickly.
22 With funds raised through a bond issue guaranteed by Duty Free Shoppers, the
23 GIAT built a new terminal which opened in the early 80s. The economic boom
24 of the late 80s and early 90s with its concurrent increase in hotel rooms, tourist
25 facilities and visitor arrivals rendered this terminal inadequate. With an even
26 larger bond issue, the GAA began a massive expansion program which will triple
27 the size of the existing terminal and which is scheduled for completion in 1998.

1 The 1993 Base Realignment and Closure Commission ordered the
2 *realignment* of NAS Agaña. The official closure of the Base occurred on
3 March 31, 1995 when the Naval Air Station flag was lowered for the last time at
4 the Base's quarterdeck. This makes the closure of NAS Agaña the fastest base
5 closure undertaken in recent history. Likewise, and with the same spirit,
6 GovGuam has exerted itself in efforts to effectuate the fastest re-utilization of the
7 vacated facilities. The purpose of this Base Reuse Master Plan for NAS Agaña is
8 to prescribe how the land and facilities of the Base are to be used, after
9 completion of required environmental remediation efforts and conveyance of title
10 to GovGuam, to meet projected needs to the year 2015, while providing a degree
11 of flexibility to meet possible needs beyond that time.

12

13 **The Base Reuse Process**

14 The Base Realignment and Closure ("BRAC") Act, as amended, defines the
15 process by which the Base will be closed and transferred. This process is on-
16 going and will not be completed until all lands and facilities have been certified to
17 be environmentally available for transfer.

18 A number of screening processes are required for determining the
19 disposition of lands and facilities, some of which are under way and some of
20 which are completed but for which decisions have not been issued. The requisite
21 Federal screening process has been completed, but the disposition of requests
22 received is still being studied.

23 Requests from local agencies have been received for both interim leases
24 and ultimate disposition. Requests for meeting the needs of providers of
25 homeless services will be based upon the Base Closure Community
26 Redevelopment and Homeless Assistance Act of 1994 and its companion
27 regulations. The Department of Housing and Urban Development has approved a
28 grant for \$123,000 to conduct an islandwide study on homeless needs and what is

1 presently available. The study is being conducted on an islandwide basis with the
2 intent that the results will also be applicable for the submission of the reuse plans
3 for BRAC 95.

4 The draft reuse plan was developed by the consulting firm of JFP
5 International with substantial revisions made by the Komitea Para Tiyan (KPT),
6 Government of Guam's reuse planning committee, to include community input
7 (through the screening of notice of interest and public hearings conducted in
8 contiguous villages) received during the KPT approval process. The KPT is
9 solely responsible for the proposals contained in this plan.

11 **Purpose of this Plan**

12 The BRAC rules require the preparation of a redevelopment plan by the
13 local community affected by base closure. This document constitutes the
14 redevelopment plan for all of NAS Agaña. Another document, entitled the Guam
15 International Airport Master Plan, to be submitted by the Guam Airport
16 Authority in conjunction with its Public Benefit Transfer application under
17 sponsorship of the Federal Aviation Agency, identifies aviation needs and the
18 airfield facilities required to accommodate these needs.

19 These documents are intended to serve as guides for Navy and Department
20 of Defense decisions for land transfers pursuant to the Final Base Closure Rules
21 issued in July 1995.

23 **Study Documentation**

24 During the course of preparing this plan, six draft working documents
25 were prepared:

- 26 1. "Inventory" Draft Working Paper, submitted in August 1994;
- 27 2. "Facilities Analyses and Evaluations" draft drawings, submitted in
28 September 1994;

- 1 3. "Market Demand Study" draft report submitted in October 1994;
- 2 4. "Alternative Land Uses and Facilities Programs submitted in
- 3 November 1994;
- 4 5. "Alternative Base Reuse Plans and Evaluations" submitted in
- 5 December 1994; and
- 6 6. "Base Reuse Master Plan" Draft submitted in January 1995;

7

8 These Draft Working Papers and documents were reviewed by the Komitea

9 Para Tiyan, the Guam Airport Authority and other agencies and their comments

10 are addressed as appropriate in this Master Plan. Monthly staff and community

11 meetings were held as part of the planning process by which this Base Reuse

12 Master Plan has been created. Numerous other coordination meetings with

13 agency, Navy and other staff and personnel were held as needed. The working

14 documents, drawings and slides used in presentations to describe alternatives and

15 design proposals are part of the record on file at the Guam Airport Authority

16 offices. The Airport Master Plan is part of this Master Plan and is produced as a

17 separate document. As part of the process of creating the Airport Master Plan,

18 nine additional Draft Working Papers and documents were produced:

- 19 1. "Inventory " Draft Working Paper submitted in August 1994;
- 20 2. "Aviation Demand Forecasts" Draft Working Paper submitted in
- 21 September 1994;
- 22 3, "Facilities Requirements" Draft Working Paper submitted in
- 23 October 1994;
- 24 4. "Demand/Capacity" Draft Working Paper submitted in November
- 25 1994;
- 26 5. "Airport Land Use Plans" Draft Working Paper submitted in
- 27 November 1994;

1 6. "Airport Terminals, Support Structures and Infrastructure" Draft
2 Concepts and Sketches submitted in November 1994;

3 7. "Aviation Noise Element" Draft Working Paper submitted in
4 December 1994;

5 8. "Pacific Basin Regional Aeronautical Activities" Draft Feasibility
6 Studies submitted in December 1994; and

7 9. "Development Schedules and Cost Estimates" Draft submitted in
8 January 1995.

9
10 Preparation of the Guam International Airport Master Plan followed the
11 same course of public and agency reviews outlined above and their comments are
12 included in the Guam International Airport Master Plan Report. An Airport
13 Layout Plan, Terminal Master Plan and Airport Control Surfaces Plan are part of
14 the Guam International Airport Master Plan and are produced under separate
15 cover.

16 17 **Public Input and Plan Approval Process**

18 In addition to the input from the Komitea Para Tiyan (KPT), various
19 meetings and public hearings were held. These include:

- 20 1. A public scoping meeting in August 1994;
- 21 2. Meetings at the Guam Legislature in August 1994;
- 22 3. Three public hearings on plan alternatives in November 1994;
- 23 4. Three public hearings on the draft plan in April 1995.
- 24 5. A meeting, on December 14, 1995 with the Homeless Consortium to
25 review the Homeless Assistance Application.
- 26 6. A public hearing on the Homeless Assistance Application on
27 December 19, 1995.

1 Copies of comments received and summaries of the final public hearings
2 are included in the appendix.

3 4 **Mandated Reviews**

5 Pursuant to Public Law 20-147, establishing the Territorial Planning
6 Council (TPC) and mandating a Guam Master Plan, it was initially thought that
7 the TPC would have to conduct a review and act on the Plan. Thereafter, the
8 plan would be submitted for the approval of the Governor of Guam and the
9 Twenty-Third Guam Legislature, after which the Plan would be transmitted to
10 the U.S. Department of Housing and Urban Development and the Department of
11 the Navy. Thereafter, properties on the base will be transferred by the Navy as
12 provided for in the approved plan upon completion by the Navy of an
13 environmental impact statement, a finding of suitability to transfer, a record of
14 decision, completion of environmental cleanup and approval of individual
15 applications for property transfer for those properties to be used for public
16 benefit transfer and economic development conveyance purposes.

17 On a request from the TPC, the Komitea Para Tiyan requested a legal
18 opinion from the Attorney General of Guam on the question of whether the NAS
19 Reuse Plan would require adoption by the Territorial Planning Council and the
20 Guam Legislature prior to submission. The Attorney General of Guam noted
21 that because the TPC was created to develop a Comprehensive Master Plan for
22 Guam and one of the expressed purposes of said Master Plan was to serve as a
23 guide by which all subsequent plans were to be developed and approved, the fact
24 that the TPC had not yet developed or approved a Comprehensive Master Plan,
25 or a mandated component land use plan, submission of the NAS Reuse Plan for
26 TPC review would be premature and, at the moment, not necessary. More
27 importantly, the Attorney General notes that because there are deadlines to be
28 met with the NAS Base Reuse Plan submission, it would be unreasonable and

1 counterproductive to require that the Plan must be submitted to the TPC. The
2 Attorney General held that the same parameters and guidelines apply relative to
3 submission of the Plan to the Guam Legislature.

4

1 **CHAPTER II**

3 **Regional Background and Rationale for the Master Plan**

4 Guam's place in 4000 years of Chamorro civilization in the Mariana
5 Islands has been of primary importance throughout history. Two characteristics,
6 which in recent history have secured Guam's regional primacy, are its strategic
7 geographic location in the western Pacific, and the lush tropical environment
8 which has inspired such descriptions as "tropical Pacific paradise."

9 Guam's relative isolation from European culture came to an abrupt end in
10 the sixteenth century with its discovery by Ferdinand Magellan in 1521. Forty-
11 four years later, Guam was officially claimed for the Spanish crown, and four
12 hundred years of European settlement and colonization ensued. The Spanish
13 regime grew in strength and importance as trading routes were established across
14 the Pacific. The Philippines were administered from Acapulco, and Guam was a
15 key staging point in the much traveled routes from Mexico.

16 In 1898 the United States usurped the colonial rule of Spain on Guam, the
17 largest and most strategic island in the Marianas. The island's strategic
18 geographic location was subsequently responsible for increasing interdependence
19 with Southeast Asia, and today, Guam's economy is closely tied to the economies
20 of its Asian neighbors in the western Pacific.

21 Guam's social and physical infrastructure has evolved significantly since
22 the island's discovery. The pre-contact Chamorro population, estimated to be
23 around 75,000 was scattered around the island in 180 villages, the larger
24 generally located along the coast. With the advent of Spanish colonial rule and its
25 attendant Roman Catholic social structure, the island's population was organized
26 and consolidated into a more easily controlled pattern of villages, each with a
27 church at its geographic center and as a focal point of village life.

Tiyan

Prior to its development as an airfield, the Tiyan area, a high plateau perched above the palisades overlooking Tumon Bay to the west, was characterized by little more than a loose collection of plots and homesteads, bounded by Mt. Tuyan (now Barrigada Heights) to the northeast, and the districts of Barrigada and Toto to the south. Most of the agricultural plots in the Tiyan area were developed as copra plantations during the period between the two world wars. While the strategic advantages of the Tiyan area were recognized by the U.S. military as early as 1929, an airfield was not constructed until after the Japanese invasion in 1941. In response to an American aerial attack on the Japanese airfield on Orote Peninsula in 1944, the Imperial authorities conscripted Chamorros sixteen years and older and set them to work on the Tiyan airfield. They worked without pay, were poorly nourished, and suffered terrible abuse at the hands of the occupying forces.

On the 21st of July, 1944, American Marines landed on Guam's beaches in a bloody battle to liberate the island from the Japanese Imperial Army. In the second week of battle, following initial strong resistance, the Marines advanced northward from Agaña towards Barrigada through the jungle, capturing the Tiyan airfield against only token resistance.

Barrigada village soon fell, and by August 3rd the liberating forces stood on Mount Barrigada, watching the first American aircraft, sixteen P-47's and three B-25's of the Seventh Air Force arrive from Saipan. NAS Agaña/Brewer Field was immediately expanded by the Marines following the recapture of Guam. Within months over half a million soldiers arrived on Guam to stage an invasion of Japan.

The airfield was developed with extensive improvements to the runways, ramps, hangars and maintenance facilities, as well as, barracks and support

1 facilities to accommodate the proposed bombing operation of targets in the
2 Japanese homeland. By early 1945, four other large air bases and eight airstrips
3 were in operation at Orote, Finegayan (Harmon Field), Machanao-Finaguayoc
4 (Northwest Field) and Upi (North Field, now Andersen Air Force Base). The
5 only airfields operational on Guam today are Andersen Air Force Base and NAS
6 Agaña, a joint military/civilian use facility.

7 With the BRACC '93 decision to realign NAS Agaña and transfer its
8 squadrons to Andersen Air Force Base, the last operational squadrons at NAS
9 Agaña, which were Helicopter Combat Support Squadron Five (HC-5), Fleet Air
10 Reconnaissance Squadron One (VQ-1), and Fleet Air Reconnaissance Squadron
11 Five (VQ-5), left prior to March 31, 1995.

12

13 **Existing Land Use**

14 The current state of development around the perimeter of NAS Agaña and
15 its environs is evident in the description of current land uses shown in Figure 1:
16 "Existing Land Use Map". The Base is surrounded by lower density land uses,
17 primarily agriculture and single family detached housing to the east and west, off
18 the ends of the runways. Low density development is also evident to the south,
19 although there are signs of significant commercial encroachment into sensitive
20 areas to the southwest near the aircraft clear zones which, if allowed to continue
21 unchecked may lead to compatibility conflicts in the near future.

22 The Harmon industrial area and the commercial and tourist zones along
23 Route 1 are to the north of the Base. Further north are the resort hotels
24 bordering Tumon Bay along San Vitores Road. The rapid and extensive
25 development of the latter areas could be attributed to the presence and direct
26 adjacency of the airport, an increasingly important engine of growth over the last
27 several decades.

1 Current zoning designations are shown in the Existing Zoning Map, Figure
2 2. This zoning document appears to reinforce existing land use patterns, and
3 while large areas are retained for agricultural zones, particularly off the
4 departure end of runways 6L/R, potential for some future conflict exists where
5 residential zoning occurs in noisy areas.

6

7 **The Territorial Planning Council and the I Tanota Land Use Plan**

8 In 1990 the Twentieth Guam Legislature passed a law (P.L. 20-147)
9 mandating the development of a comprehensive development plan to provide long
10 range guidance for the physical, economic and social development of the
11 Territory. As envisioned by its authors, the development plan, when adopted by
12 the Territorial Planning Council and the Guam Legislature and enacted by the
13 Governor of Guam, would eventually serve as a yardstick and parameters by
14 which subsequent land use and development plans would be measured and
15 approved. One element of the comprehensive development plan is the proposed I
16 Tanota Land Use Plan which, when adopted, will become the new zoning code
17 for Guam. I Tanota, as currently configured, proscribes development
18 opportunities in the form of "Density Districts" and "Performance Standards".

19 An analysis of the proposed I Tano'-Ta Land Use Map in Figure 3 shows
20 what appears to be a lack of recognition of airport activity. The absence or
21 oversight can be attributed to the hesitancy and lack of authority on the part of
22 the local government to "zone" or specify land use zoning standards for military
23 installations. This lack of recognition of airport activity is reflected in the
24 increase in allowable densities of residential development, particularly in areas
25 affected by noise off the ends of the runways. This would likely, in time, lead to
26 compatibility conflicts and possibly even safety concerns. These considerations
27 will be addressed in a forthcoming revision of the Performance Standards, which

1 will recognize the "Airport Zone" as an overlay subject to different development
2 criteria in order to ensure safety and noise compatibility.

4 **Regional Circulation**

5 Currently, the Naval Air Station is a fenced military base north of the
6 Village of Barrigada. The base and the village are further separated by Route 8
7 and Route 16, both busy five lane highways. With the closure of the base, there
8 is an opportunity for growth of Barrigada toward the north and connection to
9 new development on the former base.

10 The scattered distribution of pre-contact Chamorro villages around the
11 island was responsible for a loose arrangement of paths which conformed
12 primarily to topographic features for ease of passage. These paths were adjusted
13 and developed further into a system of tracks and bull cart trails as European
14 colonization consolidated settlements and established trade routes within the
15 island. With the primacy of Agaña as the island's economic and political center,
16 tracks and roads tended to form a radial pattern emanating from the capital and
17 following the beaches, lowlands and valleys northwards through Tiyan towards
18 Barrigada and Dededo.

19 The presence of the bluff, which parallels the coast from Agaña all the way
20 north to Dededo exacerbated this radial pattern of roads by presenting
21 engineering difficulties in the development of lateral roads across the cliff line.
22 The radial pattern of roads, established in the pre-industrial era, has serious
23 shortcomings in the age of automobiles.

24 The lack of through routes and preponderance of "T" intersections in the
25 congested center of the island has diminished the smooth flow of traffic and
26 restricted direct access between key urban nodes. While the network of local
27 streets is extensive, primary road routes lack the redundancy necessary to ensure
28 alternate circulation routes when key roads and intersections are congested at

1 peak traffic hours or as a result of traffic accidents. Typically, these alternate
2 routes would parallel the primary roads, in both north-south, as well as, east-west
3 directions.

4 This condition is particularly acute around NAS Agaña, whose ownership
5 by the Navy presented an impediment to the development of parallel, as well as,
6 lateral routes, which could provide traffic alternatives to Marine Drive and
7 Routes 8 and 16, alleviating frequent congestion in Agaña and Tamuning.

8 The 2010 Highway Master Plan was prepared for the Department of Public
9 Works as a guide for road development and improvements in anticipation of
10 continued rapid growth of the island's stock of motor vehicles, which is growing
11 at twice the rate of population. This plan was examined with respect to the
12 opportunities that will arise with the release of NAS Agaña. While the 2010 Plan
13 proposes to upgrade the existing highway network, primarily by widening
14 intersections and roads, opportunities for optimizing use of NAS Agaña land for
15 the establishment and reinforcement of an island wide network of roads and
16 highways have only recently been recognized.

17 The closure of the base provides many reuse and infill opportunities for
18 development in the strategic central portion of Guam. Where once there was a
19 bottleneck, there could be additional through connections and integration to the
20 island urban form.

21 The 2010 Highway Master Plan proposes new roads in the NAS area.
22 Further connections and minor revisions to the Master Plan can improve island
23 traffic flow even more. The 2010 Highway Plan conceptualizes a linked existing
24 highway system in the north-south direction with regularly spaced cross-island
25 connectors. The objective is to alleviate traffic jams at the many "T"
26 intersections by adding 4 way intersections and redundancy in the island highway
27 network giving people more movement choices.

1 As the NAS Agaña becomes available for civilian development, potential
2 strategic road improvements become obvious. The deficiency of north-south
3 connector roads, between Tumon and Barrigada can be alleviated with new links
4 across the cliff line. These links are possible with conventional engineering
5 solutions involving some grading along the bluffs, and by restoring preexisting
6 rights of way.

7 Longitudinal roads, running east-west across the top of the bluff and across
8 the southern portion of the base in line with Mariner Avenue could also facilitate
9 circulation between Dededo and Agaña, reducing the loads on already congested
10 Routes 1, 8 and 16. Adding these proposed roads into the current network will
11 give immediate benefits to the local circulation system.

12 By making relatively minor adjustments to the 2010 Highway Master Plan,
13 the incorporation of the proposed roads can lead to significant improvements to
14 the island's network of roads and highways without major economic or
15 environmental impact.

16

17 **Economy/Employment**

18 The distribution of civilian employment in the Territory, listed by industry
19 and based on payrolls, is set forth in Table 2. Excluded from the civilian
20 employment estimates is a large number of self-employed individuals, proprietors
21 and unpaid family workers. Because of the structure of the Territory's economy
22 and cultural considerations, this group represents an unusually large percentage
23 of the working population.

24 The civilian employment base in the Territory during the period March
25 1990 through March 1994 increased at an average compound annual growth rate
26 of 5.6 percent. In 1991, the civilian employment base increased by 12 percent
27 from 1990. A similar annual increase of 10 percent was experienced in 1992.
28 Civilian employment suffered a 9 percent decrease in 1993 from 1992 and a 4

1 percent decrease for the first three months of 1994, compared with a similar
2 period in 1993 primarily due to a sluggish economy affected by several factors,
3 including Typhoon Omar and the downturn in the tourism industry during 1993
4 (See Tables 2 and 3).

5 Of the approximately 7,490 civilians employed on Guam by the Federal
6 government in March 1994, approximately 60 percent were employed by the
7 Department of Defense and approximately 40 percent by other Federal
8 departments. Efforts have been made to develop the local labor force through
9 implementation of the Navy's apprenticeship program at the Navy Public Works
10 Center and the Ship Repair Facility. The Guam Community College and the
11 University of Guam have been active in training persons in other vocations and
12 professions as well.

13

14 **Effects of Base Closure**

15 Originally, the Navy announced that two of the three major active military
16 units that compose the bulk of the organizational structure at NAS would be
17 temporarily relocated to the U.S. mainland with the third unit relocated to
18 Andersen Air Force Base situated at the northern tip of the island. This decision
19 has now been revised to permanently relocate these units off-island.

20 The number of military personnel affected includes approximately 1,430
21 enlisted personnel, and 185 officers. Base closure will also result in reduction in
22 civilian employment at the Base. The combined military and civilian payroll
23 figures for NAS Agaña are approximately \$67 million, compared to a combined
24 Navy and civilian payroll of approximately \$358 million for all military
25 operations on Guam. Contractual expenditures for NAS Agaña are
26 approximately \$1.2 million with annual territorial taxes of \$7.7 million. Total
27 Navy contracts on Guam are approximately \$30 million and territorial tax
28 receipts are about \$45 million.

1 The existing consumer-oriented facilities at NAS, including a bowling
2 alley, a movie theater, a gallery, an automotive service facility, an exchange
3 store, three service clubs, a credit union, a mini-mart and a cafeteria have a
4 combined annual gross sales of \$2.2 million.

5

1 **CHAPTER III**

3 **Base Reuse Consideration: Community Concerns**

4 NAS Agaña has been an important feature in the life of Guam since its
5 inception. It carries deep emotional, historical and functional implications for
6 almost all citizens of Guam. Memories of past conditions and events are strong
7 and not easily forgotten nor forgiven. Strong efforts continue to be made to
8 redress wrongs and address current problems. Notwithstanding notification by
9 Department of the Navy officials that the BRAC process does not provide avenues
10 for the resolution of Guam's original landowner issues, there are those who look
11 to decisions to be taken regarding NAS Agaña to solve these problems and
12 resolve long standing issues.

13 When the Imperial Japanese Army decided, belatedly in 1943, that it should
14 fortify Guam, a hasty effort was begun to build the airfield at Tiyan which later
15 became NAS Agaña. Labor was conscripted from the local population, especially
16 in Tiyan, and citizens were forced to destroy their copra farms and homes to
17 carve out an airstrip and airplane parking aprons on the Tiyan plateau.

18 No compensation was offered to the landowners, and perhaps none was
19 ever contemplated. After the liberation of Guam in 1944, U.S. Navy Seabees
20 greatly expanded the airport, adding a second runway, expanding the airplane
21 parking areas, installing thousands of troops in large areas of barracks, plus
22 adding storage and other facilities needed for the coming invasion of Japan itself.

23 Again, in the rush of war and the hectic pace of post war recovery and
24 rehabilitation, no offer of compensation was made. Subsequently, two hearings
25 and adjudicated settlements have been made to the owners of the original
26 properties at NAS Agaña. Many feel that these settlements are inadequate, and
27 continue to seek a redress of historic injustices either through direct return of
28 lands to original owners and their heirs or by allowing them to benefit directly

1 from base reuse. *It should be noted that the Government of Guam presentation*
2 *justifying the closure of NAS Agaña rested heavily on the redress of perceived*
3 *injustices resulting from methods used to condemn the property by the occupying*
4 *Japanese forces and eventually, the liberating American troops.*

6 **Airport Considerations**

7 NAS Agaña provides Guam's only functional link by air to the outside
8 world. Not only is Guam dependent on NAS Agaña facilities for travel of its
9 citizens and visitors, it is central to Guam's economic cornerstone, the tourist
10 industry. In December 1994 the 1,000,000th tourist stepped off a flight from
11 Japan. The 1,000,000th visitor to Guam for 1995 arrived at the Guam
12 International Air Terminal in September indicating that that threshold could be
13 exceeded at a pace of +25% in this calendar year.

14 In announcing *Vision 2001*, a strategic plan to revitalize and expand
15 Guam's economy and economic base, Governor Carl Gutierrez called attention to
16 public-private sector goals of 2,000,000 tourists by the year 2001. Visitor
17 industry officials point to a need for an additional 5600 hotel rooms or the
18 equivalent of 16 additional hotels of the size predominant on the island. In
19 addressing this objective, tourist industry, airline and airport officials point to the
20 need to expand airport operations and facilities to permit the handling of more
21 air traffic, provide for expanded aircraft servicing capabilities and to provide for
22 the more efficient handling of passengers and baggage through the arrivals and
23 departure terminals. These needs were considered by the Komitea and were
24 central in the Komitea's decision on the final boundaries for the airport.

25 Because of distances from primary sources, many foodstuffs and fresh
26 produce, such as flowers, fresh vegetables and fresh fish and shrimp, electronics
27 and other high value products are moved almost exclusively by air. With the
28 planned and projected rapid development of Guam's visitor industry, additional

1 capacity and capabilities will be needed to handle even greater quantities of these
2 imports. Gaining control of NAS Agaña as a completely civilian airport is one of
3 the highest priorities of GovGuam. For the first time, there will be the ability to
4 attract aviation industry activities that have bypassed Guam for lack of space and
5 facilities.

6 7 **Locational Impacts**

8 Together with the Naval Computer and Telecommunications Area Master
9 Station Barrigada (NCTAMS Barrigada) which is located adjacent to NAS Agaña
10 and extends nearly to the eastern shore of the island, NAS Agaña has caused
11 traffic flows and land uses to be displaced from where they would more logically
12 and functionally be placed. Many citizens and businesses are looking forward to
13 the opportunities to "short cut" through the base in place of the long drive around
14 now required. Since the March 31st standdown of NAS, political figures have
15 requested the unrestricted opening of Central Avenue as a means to alleviate
16 traffic congestion on Route 16 due to on going expansion construction on that
17 heavily travelled highway. The denials of these requests have been based on the
18 inadequacy of the internal road systems of NAS for the anticipated intensity of
19 traffic should Central Avenue be opened as an alternate to Route 16 and/or
20 Marine Drive.

21 The central location of the airport passenger terminal at the top of Tiyan
22 Bluff is probably an important factor in the location of Guam's tourist industry
23 on Tumon Bay. It is also a strong reason why many businesses chose to locate on
24 Marine Drive (Route 1) at the base of the bluff. The close linkage of the airport
25 to the Marine Drive business center and to the Tumon Bay tourist industry
26 amplifies and magnifies the importance of a plan for the most effective reuse of
27 NAS Agaña.

28

1 **Existing Base Conditions**

2 The approximately 1800 acres occupied by NAS Agaña on top of the Tiyan
3 bluff in central Guam are relatively flat and clear of forest. The largest part of
4 the base, occupied by the runways and aprons of the airport, has been extensively
5 graded and is now essentially flat, with a very slight slope downward toward the
6 southwest (Figure 4).

8 **Building Conditions**

9 Most of the buildings on NAS Agaña are second generation, having been
10 constructed in the 1950's when the original airbase was largely reconstructed.
11 Hundreds of Quonset huts which had occupied the top of the bluff since the end of
12 the war were removed in favor of the family housing now located there. Airfield
13 operations which had largely been conducted along the north side of the airfield
14 in front of this Quonset hut community were relocated to the south side of the
15 airport into new hangars located on new aprons.

16 A new community was begun on the south side of the airfield among what
17 had been taxiways and aircraft parking areas. Under construction toward the end
18 of the 1950's, these were never completed. The south side retains its spread-out
19 partially finished look, with old road patterns and a few remaining buildings
20 from the 1940's still visible.

21 All buildings on the Base have been carefully maintained by the Navy.
22 Because the buildings are almost all of concrete construction, reuse will not
23 require extensive reconstruction to meet fire and/or durability requirements.
24 Some non-concrete buildings, such as the newer large metal warehouse (Building
25 17-3120) are provided with sprinklers and fire-rated walls and openings. Because
26 of the relatively recent reconstruction of the base and its utilities, these meet most
27 of today's contemporary code requirements for their existing uses.

1 A preliminary survey of all buildings has been completed by the Navy.
2 This survey indicates that numerous buildings contain friable and non-friable
3 asbestos, radon, lead-based paint and other environmental hazards. Federal law
4 requires that these conditions be cleaned up at the level required by the reuse
5 activity. These conditions will have to be addressed on a building-by-building
6 basis when the Navy completes its detailed survey. Preliminary indications are
7 that these problems will not prohibit reuse of the buildings, but that time delays
8 and increased costs may be encountered at the time of reconstruction for new
9 uses. The Determination of Surplus for NAS Agaña indicated that 57,852 square
10 feet of operations and administrative space in four buildings, 3,737 square feet of
11 storage space in five buildings and 16,085,152 square feet of aircraft maintenance
12 hangars and shops, various types of housing accommodations and other facilities
13 in 666 buildings were surplus and being made available. In addition, aircraft
14 runways, taxiways and parking aprons, fuel tanks and pipelines, recreational
15 facilities and supporting road and utility systems, on a total land area of 1739
16 acres of land owned in fee simple and 204 acres of land for which easements had
17 been secured were also surplus and available for reuse.

18

19 **Equipment Conditions**

20 Most of the heavy equipment on the Base was removed by the Navy to
21 other locations. Equipment in good condition that has been specially constructed
22 to be used in certain buildings, such as heavy cranes and winches that are built
23 into high tracked locations in hangars for example, have been left in place. On-
24 going inspections and discussions have been held regarding most of the equipment
25 with the result that much equipment will remain in place in various locations.
26 Some fire fighting equipment for the airfield will remain for use by the new
27 civilian airport fire fighting unit. Obsolete and worn equipment is being
28 removed by the Navy. Much personal property (movable furniture and

1 equipment as defined by the Navy) is no longer of use to the Navy and is being
2 left on the base. Extensive lists of these items have been given to the Komitea
3 Para Tiyan. This property consists of office equipment, furniture and many
4 miscellaneous items. Until reuse, the personal property is being stored in
5 designated locations on the base.

6

7 **Existing Infrastructure Conditions**

8 Based on site investigations and a review of the available documents, the
9 existing infrastructure generally appears to be in good condition for the present
10 use of the area. Existing roadways with asphaltic concrete pavement (varying
11 from 20 to 28 feet wide) can adequately support light-duty traffic currently
12 generated within the base. Some paved road shoulders show signs of
13 deterioration and indicate need for maintenance. The existing road system is
14 shown in Figure 5.

15

16 **Potable Water System Condition**

17 The general condition of the potable water system is good. The existing
18 potable water system is shown in Figure 6. The existing water system, which
19 draws its water supply from Fena Reservoir through a 16-inch waterline along
20 Route 8 and Route 16, is capable of meeting the entire base peak domestic
21 demand. Fire and emergency water demands are supplied by the 3 million gallon
22 Barrigada Reservoir on the same water network but located off-base in Radio
23 Barrigada. In addition, there is an onsite water well that pumps approximately
24 150-200 gpm into the system. Studies regarding the quality of this well water
25 are ongoing.

26

27

28

1 **Wastewater Collection and Disposal System**

2 The condition of the existing wastewater collection and disposal system is
3 generally good. Existing wastewater generated from NAS Agaña is routed via
4 8", 10" and 12" sewer lines to an 18" line along Route 8 which then conveys
5 flows to the Agaña Wastewater Treatment Plant. The effluent from the plant is
6 disposed through an ocean outfall into the Philippine Sea. The existing
7 wastewater system is shown in Figure 7.

8

9 **Storm Drain Systems**

10 The base is served by several separate storm drainage systems. A portion
11 of the runoff from the northern section of the base is collected by a network of
12 catch basins and routed through 48" diameter lines to an existing concrete channel
13 that discharges into the Harmon Sink located off-base. Use of this sink is based
14 on land easements held by the Navy. The remaining storm runoff is routed to
15 percolation basins located along Route 10A. Runoff generated by the southern
16 section of the base is routed to the existing localized percolation fields some of
17 which contain injection wells designed to facilitate the percolation in the area. A
18 small portion of the runoff is routed to the existing abandoned sanitary landfill.
19 The existing storm drainage system is shown in Figure 8.

20 Existing electrical (Figure 9) and telecommunication (Figure 10) demands
21 are being supplied by a network of underground and overhead lines. These
22 systems appear to be in a good working condition.

23

24 **ENVIRONMENTAL CONDITIONS**

25 **Geology**

26 Guam is composed of two distinct geomorphic provinces, a northern
27 limestone plateau and a southern hilly-volcanic terrain. These provinces are
28 separated by a steep fault, which tracks northwest from Pago Point to Adelup.

1 Upper Tertiary and Quaternary marine limestone is exposed at the surface over
2 most of the northern half of Guam. These rocks overlie Tertiary volcanic and
3 volcanoclastic rocks, which are exposed throughout the southern half of the
4 island.

5 Most of the NAS site is underlain by Quaternary Mariana Limestone.
6 Mariana Limestone overlies Upper Tertiary Barrigada Limestone, which is
7 exposed in two small areas of the NAS site. A northeast-trending normal fault,
8 located northwest of NAS, parallels the northern boundary. The southeast side
9 (NAS side) of this fault has moved up relative to the down-dropped northwest
10 side.

11

12 **Flooding and Drainage Hazards**

13 NAS Agaña receives an average of 80 to 90 inches of rainfall per year.
14 However, due to the high permeability of the underlying limestone and the depth
15 of the water table, there are no perennial streams in the NAS area. Intermittent
16 drainage at NAS is collected in a system of storm drains and unlined drainage
17 ditches, and is percolated into the ground in a series of dry wells and the 23-acre
18 Harmon sink. Storm water from the northern half of the base is discharged either
19 to Harmon Sink or through an outfall pipe to Agaña Bay. Soil disturbance,
20 construction, and added pavement increase storm water runoff and flooding
21 hazards. GEPA now requires all runoff to be ponded and/or percolated on-site.

22

23 **Environmental Contamination**

24 Potential areas and sources of hazardous contamination on NAS Agaña
25 include: above and underground storage tanks; fuel pipe-lines; storage areas for
26 paints, solvents, and petroleum products; asbestos in buildings; lead and lead-base
27 paint; and radon in buildings. Twenty-three potential hazardous waste sites were

1 listed in the Base Realignment and Closure (BRAC) Cleanup Plan (Table 4 and
2 Figure 11).

3 Radon gas, lead-based paint, and asbestos studies were conducted at various
4 facilities on NAS Agaña, excluding family housing and community/personnel
5 support areas. Radon gas was detected in 24 of 64 facilities tested. Ten facilities
6 had radon concentrations above the GEPA recommended action level of 4.0
7 pCi/L. Seventeen sites were found to contain friable asbestos, and 52 sites
8 containing non-friable asbestos were identified. Lead-based paint was found in
9 147 of the 159 sites sampled. The high percentage of buildings found to contain
10 asbestos and radon, and the general high-risk of radon gas exposure in northern
11 Guam, indicate the need to investigate and if necessary remediate all contaminated
12 structures on NAS Agaña.

14 **Historical and Archeological Resources**

15 Brewer Field, a former coral bed airfield, is not eligible for nomination to
16 the National Register due to severe alteration of the site. Fourteen other sites,
17 which were constructed on NAS Agaña prior to 1954, were considered to be
18 possible historical resources. However, only 3 of the 14 sites are potentially
19 eligible for National Register status: Building 12-65 and two abandoned aircraft,
20 which are located near the fire fighting training pit. Four of the sites no longer
21 exist and the other seven are not eligible for National Register status, being of
22 minor significance or having undergone severe alterations. Building 12-65 is
23 one of the earliest permanent structures on the installation and could be eligible
24 for National Register status.

25 A cultural resources survey of NAS Agaña was performed in August 1993.
26 No prehistoric Chamorro Period or Spanish Period archaeological sites were
27 found (Ogden, 1994a). The Guam Historic Preservation Plan contains no sites
28 on NAS Agaña (DPR, 1976).

1 CHAPTER IV

2 CONCEPTS AND ALTERNATIVES

3 Community Needs, Requests and Proposals

4 Since 1898, the economic well-being of Guam has been highly dependent
5 on decisions made in Washington, D.C., especially regarding military activities.
6 Up until the 1980s, military land use and employment has dominated the economy
7 of Guam. Recently, the first major break from this pattern occurred with the
8 growth of the resort and tourist trade. This trade was able to use non-military
9 lands and skills, except for the use of the airport.
10

11 Closure of NAS Agaña can become another important step along the way
12 toward Guam's growth and economic diversity. NAS Agaña constitutes over one
13 percent of the land area of Guam, located in both the geographic and economic
14 centroid of the island. This large area represents an opportunity rarely presented
15 to a community to redirect its future.

16 There are many community and business needs that the land and facilities
17 on NAS Agaña can address. In some cases, facilities can be reused with almost no
18 modification. In other cases, the facilities may provide an excellent "starter" or
19 "incubator" type of facility for initial use, with future expanded use either
20 accommodated through remodeling or by moving later to another site. Many of
21 the political, social and business leaders of Guam have recognized these
22 opportunities and have made requests for use of facilities.

23 One of the purposes of this Reuse Master Plan is to allow the allocation of
24 these facilities to provide optimum benefit to the community. This section of the
25 report discusses the needs, requests and proposals that have been made apparent
26 to the Komitea Para Tiyan during the planning process, and reviews a number of
27 alternatives that were analyzed to enable community review of possibilities and
28 constraints leading to a consensus view of the plan.

1

2 **Airport**

3 The closing of NAS Agaña is the culmination of a long-held desire on
4 Guam to be able to control the civilian airport and thus, the economic destiny of
5 the island. Full control will free the Guam Airport Authority to attract aviation
6 uses that could not be accommodated on military land and which in some cases
7 have already by-passed Guam for other locations. Provision of these facilities is
8 a critical component in a potential synergistic upward spiral of better airline
9 service leading to expanded tourist and business trade, in turn leading to:

- 10 • expanded economic potential;
- 11 • increased revenues; and
- 12 • improvements in the quality of life.

13 Acquisition of military assets used at the Guam International Airport and
14 sufficient land to support long range development of the airport and aviation
15 industry is an agreed upon primary community goal.

16 At the request of the GAA, after considering testimony received at three
17 village public hearings and after weighing alternatives and considering ways by
18 which resolution of original landowner issues can be achieved, the Komitea voted
19 to grant additional land areas, specifically, a large portion of the enlisted men's
20 housing area, five of the Bachelor Enlisted Quarters and acreage abutting the
21 southwestern portions of the airport operations area to accommodate the GAA
22 Master Plan.

23

24 **Job Creation**

25 The loss of jobs at NAS Agaña, both military and civilian, is an economic
26 loss to Guam not just because of the numbers and the multiplier effects of these
27 jobs, but also because these jobs include many that require a high level of skills
28 and that represent an industry not present in the civilian sector on Guam.

1 Creation of new high paying jobs that require high levels of technical skill will
2 contribute to goals of economic diversity and self-sufficiency.

4 **Economic Development**

5 Guam's immediate and obvious future lies in tourism. This industry
6 requires land and facilities and a trained work force to supply the high level of
7 service and management that will be required as the world market for these
8 activities becomes increasingly competitive. The danger in being a "one
9 industry" economy has been apparent in Guam in the last few years as the tourist
10 industry experienced a significant drop in activity.

11 The Governor's planning initiative, consolidated as *Vision 2001*, is a
12 conscious and concerted collaborative effort between the private and public
13 sectors to develop economic strategy for the revitalization of the existing
14 economy, to provide for the expansion of the tourist industry, and to develop the
15 necessary spectrum of infrastructure for the establishment of new ventures which
16 will expand the economic base of the island. Consideration of the span of
17 installation closures, as a result of BRACC 93 and 95, are an integral part of the
18 *Vision 2001* planning initiative and strategy.

19 New possibilities such as:

- 20 • banking and office administrative services;
- 21 • import and export activities via air and surface transportation;
- 22 • aviation-related services;
- 23 • telecommunications and information services; and
- 24 • other economic markets

25 growing with the Pacific Rim expansion offer Guam a chance to diversify its
26 economic base. More diverse opportunities will allow more of Guam's citizens to
27 consider remaining or returning rather than perceiving that better opportunities
28 lie elsewhere.

1

2 **Governmental Offices**

3 Governmental offices on Guam are scattered in many locations around the
4 island. Most of these offices are leased, often at rates higher than prevailing
5 market values. Many of the facilities are no longer appropriate for their present
6 use, such uses having expanded or changed beyond the capability of the current
7 location and facilities to accommodate them.

8 Because of the widely dispersed locations of offices, it is often difficult for
9 persons needing services to access them. Likewise because related or
10 interdependent services are situated in many locations distant to each other, the
11 efficiency of these services and their employees are adversely affected. This has
12 created a visible morale problem among employees and public criticism of
13 inefficiencies which are beyond the control of employees in these government
14 services.

15 Many buildings on NAS Agaña are attractive to governmental departments
16 in the near term. The close proximity of these facilities to each other make them
17 even more attractive to government departments who have had to operate and
18 maintain inefficient and costly split operations because of a lack of adequate space
19 in a single location. Requests for offices, maintenance facilities, storage areas and
20 special use facilities have been received.

21

22 **Recreational Facilities**

23 There is an island-wide shortage of adequate recreational facilities open to
24 the public. As noted previously, both high land prices and budgetary constraints
25 are causative in restraining the development of recreational facilities which are
26 adequate for the needs of Guam's growing population and the increasing
27 popularity of team sports. Few locations are available for spectator events and

1 competitions and the civilian community has had to depend largely on the
2 military installations for venues for various sporting events.

3 The availability of adequate sports facilities has become an important
4 consideration in community planning. In addition, this has become more
5 important with the growing popularity of invitational regional games. Guam host
6 the 1999 South Pacific Games, a regional Olympic style sporting event which
7 enjoys a participant level exceeding 3000 athletes and even more spectators.

8 Existing facilities of high quality at NAS Agaña and the possibility of land
9 for expanding the facilities have attracted attention of both the government and
10 sports organizations. Providing for increased recreational facilities is seen as
11 important for improving the quality of life, for expanding economic
12 opportunities and as a basis for establishing, cultivating and strengthening
13 regional ties and cooperative efforts.

15 **Social and Cultural**

16 For a number of years, there has been an expressed desire to have on
17 Guam a Performing Arts Center. The theater on the Base has, on occasion, been
18 used for concert symphonies and other performances. It has been noted that this
19 building could serve to start along that road, even though the building is small
20 and not well equipped for this role. Under the interim use of the Guam
21 Department of Education, the NAS theater is now being utilized for the staging of
22 student theatrical productions and for graduation ceremonies for those schools
23 without adequate facilities to host such activities.

24 Provision of services and/or homes for homeless persons and families is a
25 high priority in the base closure process. Agencies and nonprofit organizations
26 providing homeless services in Guam, have requested facilities on the Base for
27 provision of these services. Use of existing houses and/or dormitories for
28 housing or offices has been requested. Numerous volunteer agencies exist on

1 Guam providing a wide range of social services. These agencies typically operate
2 on very low budgets.

3 It is generally agreed that the services they provide are very valuable to the
4 community. It has been suggested that perhaps facilities on the Base could be
5 made available to these agencies at no or very low cost. Facilities needed would
6 be mostly very modest for offices and storage. Requests that have been received
7 for numerous facilities at the time of this writing are shown on the map shown in
8 Figure 1. The colors on the map indicate that many of the facilities have been
9 requested by more than one group or agency. The resolution of the needs
10 identified in these requests will be made by the Komitea in conjunction with the
11 requirements of the federal mandates of the base closure process.

12 13 **LAND USE OPPORTUNITIES**

14 The driving concept of the Master Plan will be determined by the overall
15 "theme" adopted for reuse of the base. This "theme" can be "industrial center",
16 "resort", "new town" or "government center" to cite a few examples. The
17 discussion below and the following illustrations examine some potential themes
18 that would respond to expressed goals and the constraints of the Base.

19 20 **Air Industry**

21 A principal focus or theme for reuse of NAS Agaña will be as an air
22 industry center as shown in Figure 12. This is predicated on on going efforts, as
23 one of the strategic plans of *Vision 2001*, as well as, previous initiatives, to
24 build Guam into a major air hub serving as the gateway from the west coast of
25 the United States to the emerging and fast growing markets of the Pacific Rim.
26 As the western most U.S. soil, Guam offers the political, economic and social
27 stability associated with the applicability of U.S. Constitution and federal laws. If
28 successfully marketed, the following opportunities are available:

- 1 • expanded air carrier service with Guam international Airport becoming a
- 2 hub between long distance U.S. flights and shorter flights to Southeast Asia and
- 3 island destinations;
- 4 • expanded air cargo service providing the same hub connections;
- 5 • large aircraft maintenance center including airframe, powerplant
- 6 replacement, avionics replacement and interior reconstruction;
- 7 • air package express hub similar to the Federal Express operation in
- 8 Memphis, Tennessee in which overnight guaranteed service could be provided to
- 9 all Pacific Rim countries;
- 10 • air industries industrial park providing manufacturing, refurbishment and
- 11 just-in-time inventories of aircraft parts and supplies and aviation engineering,
- 12 business and maintenance services.

13 This theme would maximize job generation and provide a second economic
14 focus for Guam. This plan alternative would require a very aggressive marketing
15 effort and probably some forms of initial subsidies and/or tax relief to become
16 reality.

17

18 **Business**

19 Vision 2001 also contains plans for building Guam into an International
20 Business Center for the Pacific Rim and islands as shown in Figure 13. The idea
21 would be to maximize Guam's special advantage of being a U.S. Gateway with
22 easy access to focus international business dealings, financing, import-export and
23 trade through Guam. The airport area would become the center with direct
24 service to international flights. Research and development and education in
25 business and science would be important components of this theme.

26

27

28

1 **Education**

2 In response to public sentiments and testimony at three public hearings in
3 Barrigada, MongMong-Toto-Maite and Tamuning, all contiguous to NAS Agaña,
4 the Komitea Para Tiyan deleted preliminary plans for the establishment of a high
5 school in returned base facilities. Testimony at these public hearings supported
6 the use of base facilities to support the development of the airport noting that the
7 establishment of a high school in close proximity to an airport may not be a
8 conducive learning environment.

9 However, because of the existence of aircraft maintenance facilities, such as
10 hangars, and barracks which could provide dormitory housing for students, the
11 establishment of an airframe and powerplant school will be pursued. Because
12 Guam is U.S. soil and FAA regulations dictate that FAA certified aircraft
13 maintenance schools, capable and authorized to issue FAA certifications to its
14 students, be situated on U.S. soil, an airframe and powerplant school will
15 undoubtedly attract students from countries bordering on the Pacific Rim. such a
16 facility would attract students from Guam and other areas of the Pacific. An
17 aircraft maintenance school would also provide an opportunity to federal
18 employees displaced because of base closure, in particular workers skilled and
19 with talent in mechanical trades, to retrain and redirect those skills and talents.
20 Officials of airlines serving Guam have indicated that they would be prepared and
21 anxious to recruit aircraft maintenance personnel trained at such school when
22 available.

23

24 **Civic Center**

25 Locating all or a large part of the Guam governmental agencies and offices
26 on the Base could provide an economic and efficient context for improving
27 governmental operations as shown in Figure 15. Perhaps the Base could be
28 thought of as a New Capital City for Guam. It is centrally located, adjacent to

1 the major port of entry (the airport), and could accommodate expansion. Agaña
2 will not easily be able to return to its status as a working capital city because of
3 the land ownership problems there.

4 5 **Housing**

6 Despite the fact that there exists a large demand for housing on island,
7 because of the public testimony received at the public hearings in Barrigada,
8 MongMong-Toto-Maite, the Komitea voted to delete all plans contained in the
9 preliminary drafts for the establishment of housing tracts on tiyan.

10

11 **Heritage**

12 A possible plan to focus on island culture and the history and background
13 of this site in Tiyan was developed as a possible way to address, in some small
14 part, the question of cultural change represented by the Base and its history
15 (Figure 17). In recognition of this, a plan was developed that focuses on elements
16 of Guam's heritage, that offers opportunities to develop traditional crafts and
17 lifestyles in ways relevant to the present.

18

19 **MARKET DEMAND ANALYSIS**

20 The Market Demand Working Paper explores pertinent socio-economic
21 factors which describe the current and future population characteristics of the
22 residents on Guam. It analyzes business activity information to understand the
23 nature of the Territory's existing economic base. Tourism is discussed in detail
24 given its historic, strategic and continuing importance as a principal contributor
25 of direct and indirect economic support to many of the industries on Guam.
26 Land use and development is also described. Key regional economic indicators
27 for the Pacific Rim are also presented. A range of data sources were used to
28 prepare the analysis contained in the Working Paper. Interviews were conducted

1 with individuals and organizations knowledgeable about demographics, overall
2 economic activity, land use and real estate development. Published information
3 was obtained and analyzed, including reports and documents produced by
4 numerous agencies of the Government of Guam (Department of Commerce,
5 Guam Economic Development Authority, Department of Labor, Department of
6 Public Works, Department of Revenue and Taxation, the Guam Visitors Bureau
7 and the Bureau of Planning), other existing studies, articles, periodicals and
8 similar sources.

9 The Market Demand Working Paper provides a full discussion of the
10 following key findings:

11 • Socio-Economic Data: The resident population is expected to
12 experience continued, albeit modest, growth into the forecast period. Key issues
13 include broadening of the economic base which is heavily influenced by
14 employment in the services industry, principally tourism, and public sector
15 employment. Tight local labor markets keep wage levels high, a hindrance to
16 certain industrial and manufacturing processes.

17 • Tourism: Key visitor markets and trends are presented and
18 analyzed. Visitor arrivals from Japan continue to lead all other foreign markets.
19 Arrivals have rebounded after declines in the previous year. Through its
20 significant contributions of visitor spending and capital investment by foreign
21 corporations, tourism will remain a principal underpinning of the Guam
22 economy.

23 • Land: The principal land uses of hotel, residential, commercial and
24 services, industrial and manufacturing and tourist-oriented are discussed and
25 analyzed relative to development potentials. Land values are high and pose a
26 constraint to further development.

27 • Pacific Rim Economic Activity and Potentials: Guam is strategically
28 positioned to significantly expand its trading activity in the Pacific Rim, thereby

diversifying its local economic base. Data is presented in Table 5 for selected economies in the Pacific Rim.

MARKET OPPORTUNITIES

Each of the alternative plan themes described above is dependent on the reality of the marketplace for its implementation. The following section provides a look at market opportunities that were considered in evaluating the alternative themes. It also builds on the information contained in the Market Demand Working Paper and describes opportunities for land development at the NAS property.

Land Values

The value of land on Guam has been impacted by two major factors: availability and tourism. While there does not appear to be any current official indication of land value, the Tumon area, the center of Guam's tourism industry, has the highest land values, followed by Tamuning and Agaña. The Department of Revenue and Taxation, which tracks assessed and appraised values of land and buildings, published data through 1988. As shown in Table 6, the total appraisal value of real estate (land and buildings) in 1988 was reported at approximately \$3.2 billion. This represented an increase of nearly 12 percent per year between 1984 and 1988.

Tourism

Tourism accounts for a significant share of the Guam economy. As set forth in Table 7, the number of visitors to Guam increased from 351,087 in 1983 to 784,018 in 1994, representing an annual average compound growth rate of approximately 8.4 percent. From 1986 to 1990, the number of annual visitors to Guam increased at an average annual compound growth rate of approximately

1 17.7 percent, reflecting the rapid increase in the total number of Japanese
2 overseas travelers.

3 The 5.6 percent decrease in the number of visitors to Guam in 1991 is
4 directly attributable to decreased traffic in February and March 1991 during the
5 Persian Gulf conflict. For the other 10 months of 1991, the number of visitors
6 to Guam increased slightly when compared to the corresponding 10 months of
7 1990. Following the Persian Gulf conflict in early 1991, visitor arrivals and
8 airline passenger traffic in Guam recovered more rapidly than international
9 passenger traffic worldwide. For 1992, the number of visitors to Guam increased
10 18.9 percent, compared with 1991. While part of this large percentage increase
11 is attributable to the comparison of visitor levels in February and March 1992,
12 with abnormally low visitor levels in March and February 1991 during the
13 Persian Gulf conflict, there have also been significant increases in the number of
14 visitors to Guam in each of the other months of 1992 (through August) compared
15 with 1991.

16 The impact of Typhoon Omar reduced the number of visitors in 1992.
17 Nevertheless, the total number of visitors in 1992 compared with 1990 showed an
18 overall increase of 12.4 percent. In 1993, the number of visitors to the Territory
19 declined by 10.6 percent from the previous year. This decline can be attributed
20 chiefly to the natural disasters that severely impacted Guam (Typhoon Omar in
21 August 1992 and the 8.1 magnitude earthquake of August 8, 1993), together with
22 the Japanese recession, and a change in the Japanese tax law that increases the
23 incentives for companies to subsidize employees' trips to destinations more distant
24 than Guam. Visitor arrivals have rebounded to record levels in the first half of
25 1994. As set forth in Table 8, through July 1994, the number of visitors to the
26 Territory totaled 624,000, an increase of 27.2 percent as compared to the same
27 seven month period in 1993 (Table 8).

1 From 1990 to 1993, Guam's tourism industry demonstrated a degree of
2 resiliency in spite of adverse natural and economic occurrences (see Tables 9
3 through 12). Guam needs to maintain and enhance its capture of tourism
4 from Japan, South Korea, Taiwan and the other major markets. The Guam
5 Visitors Bureau continues to be active in pursuing this objective through
6 aggressive marketing and promotional efforts. Aside from the direct expenditures
7 by visitors in the local economy, tourism imparts other benefits by familiarizing
8 the residents of other countries with Guam. As foreign visitors increase their
9 awareness of the strategic position and advances of conducting business with the
10 United States (through Guam), non-tourism investment should increase. Given
11 the modest population base, small manufacturing sector and associated export
12 activity, Guam needs to look beyond its shores for new opportunities.

13 The development of the aquaculture industry is an excellent example of
14 identifying a marketable product for export. Targeting other viable
15 opportunities requires extensive market research and feasibility testing. Such
16 detailed analysis is beyond the present scope. It is possible, however, to identify
17 major and significant economic trends in the Micronesia and Pacific Rim regions
18 which provide opportunities for further assessment.

19

20 **Trade Mart**

21 This use is envisioned to serve as a showcase for Pacific Rim trade shows
22 and convention activity. According to a recent article in the Pacific Business
23 News (July 11, 1994), the Asian convention market is growing at four times the
24 rate of the United States market. Hawaii is building a new convention center
25 which will be an international facility designed to capture the Asian meeting
26 market. There is competition from Japan, and a new convention center in
27 Taiwan, as well as first-class facilities in Malaysia, Singapore and Hong Kong.
28 While Guam is perhaps better located than Hawaii to capture group business from

1 Pacific Rim cities, a trade mart is highly speculative, and requires targeted
2 market research. Pending completion of such studies, this use should be
3 considered as an alternative land use in an office/business park area.-
4

5 **Hotel**

6 The NAS Valuation Study identified potential demand for an approximately
7 200-room hotel at the airport. Such a facility, oriented to the transient business
8 market, appears a logical use especially in proximity to an office/business park.
9 Assuming implementation of the other industrial and commercial uses for the
10 NAS property, a business hotel is worthy of additional consideration (see Table
11 13).
12

13 **Office/Business Park**

14 An office/business park could be located on NAS property, initially
15 resulting from the reuse of selected military housing by governmental agencies.
16 Reuse of the existing military housing as GovGuam office space will help to
17 establish this area as an office node. According to the Bureau of Planning,
18 GovGuam spends approximately \$6 million annually on office leases throughout
19 the island. Government agencies with ten or fewer employees could serve as a
20 target list for marketing the space. Capturing a portion of this GovGuam
21 demand minimizes the risks associated with speculative office development and
22 would help to establish an office/business park.
23

24 **Package Express**

25 According to numerous experts in the field, air express in the Pacific
26 Rim/Asia markets is in a high growth phase that is typical of industries in their
27 early development. With such an outlook, it would be appropriate to conclude
28 that this is a long-term potential which would be proper to consider.

Industry: Warehouse and Distribution

There is very limited light-industrial activity or space on Guam. Most industrial space is warehousing. Demand is expected to remain strong in the airport vicinity and adjacent to the Port, given the need to import much of what is purchased and consumed on Guam. A typical 6,000 square foot Butler-type warehouse in the Harmon Industrial Park area can be constructed today for approximately \$53 per square foot. This includes hard and soft costs and site development. It is estimated that there is between 150,000 to 200,000 square feet of vacant industrial space on the Island. This represents a 20 percent vacancy rate. Apart from the Harmon area immediately west of the airport, the other industrial areas with M-1 zoning are in Tamuning (behind Denny's, along Pickanail Road) and in Harmon behind Computerland. There exists an abundance of zoned industrial land in these areas. The GAA achieved limited success in developing an airport industrial park however, only one building stands today. The land prices being requested at that time were cited as a chief reason for the lack of demand. The Port of Guam users have an immediate need for between 100,000 to 150,000 square feet of industrial space.

Residential demand for housing will be driven by natural growth in the resident population and pent-up demand to reduce overcrowding conditions. According to local brokers, average rental rates in the NAS vicinity for a 3-bedroom unit are between \$1,200 and \$1,500 per month and \$800 to \$1,200 for a 2-bedroom unit. Sales prices are currently averaging \$190,000 for a typical 3-bedroom, 2 bath home in the NAS vicinity. Multi-family development (R-2) was recommended by the I Tanota Land Use Plan for the Route 8 area, given the predominance of this product type today and the area's excellent access and infrastructure. A 3-bedroom, 2-bath unit (average of 1,200 square feet) would sell for between \$160,000 and \$170,000 in this area; a 2-bedroom unit (average

1 of 800 to 850 square feet of living area) would sell for between \$130,000 and
2 \$150,000.

4 **Retail**

5 The demand for retail facilities at the NAS property will be incremental in
6 nature, driven to a large degree by new development and employment in close
7 proximity to the site. Additionally, support for new retail development may
8 result from residents in existing nearby neighborhoods which may be induced to
9 shift retail purchases to new, more centrally-located facilities. Rents are \$18 to
10 \$25 per square foot (full service, except for electricity). Retail conditions are
11 quite strong on Guam. Occupancy rates are 90 percent. Major retail facilities
12 like the Micronesian Mall, Agaña Shopping Center and Gibson's, comprising
13 approximately 500,000 to 600,000 square feet of retail space, are full.

15 **Service- Financial Services, Banking and Insurance**

16 Under existing tax laws, Guam's financial system has the potential to handle
17 increases in off-shore banking business and to develop captive insurance and
18 mutual fund operations, with little additional investment cost. These activities
19 may not create a large number of new direct jobs, but will help to diversify the
20 island's economic base and strengthen its position as the financial center of
21 Micronesia. A major component of Vision 2001 is the development of Guam into
22 a financial service and banking center in the Pacific.

23 As a territory of the United States where U.S. Constitution guarantees
24 apply, Guam enjoys a claim to the political/government stability which is of
25 primary concern to financial institutions which thrive on long term agreements
26 and business arrangements and relationships. Likewise, because Guam is serviced
27 by three major U.S. flag air carriers (Continental Micronesia, Northwest Airlines

1 and United Airlines), the transportation links stability demanded by air carriers is
2 more assured on Guam than any other island in the Pacific.

4 **Maintenance**

5 The reuse of certain existing facilities at the NAS for the servicing and
6 maintenance of commercial aircraft, such as Continental Micronesia, and other
7 carriers in the Pacific Rim, holds some promise. Interest has been expressed in
8 the various hangars and other repair facilities located on the southside and
9 adjacent to the runway.

10 The availability of skilled workers at competitive wage costs is critical to
11 such ventures. The development of training programs through the Guam
12 Chamber of Commerce and other local institutions may assist these efforts. The
13 interest shown in two hangars, classroom space and barracks space for dormitory
14 by an airframe and powerplant school will make retraining and redirection of the
15 skills already possessed by federal employees displaced by the SRF and FISC
16 closure much easier. Ostensibly the availability of these skilled workers will be a
17 positive consideration in plans by Continental Micronesia to build Guam into a
18 hub and major repair station.

20 **Target Industries**

21 To meet the region's strong growth, companies in a range of industries
22 have experienced success in marketing key goods and services. The rapid
23 development has created demand for increased infrastructure, particularly
24 electric power and telephones. Increased consumer wealth has increased demand
25 for many household products, like televisions and VCRs. Asian nations are
26 moving away from being a source of cheap labor and low-cost assembly work
27 and increasingly becoming centers of high technology and engineering expertise,
28 in part because of a new class of professionals educated abroad. This is

1 particularly true in countries like Singapore, Malaysia and Thailand. Assembly
2 will be subcontracted to lower-cost centers e.g., Vietnam, India, Pakistan, China,
3 Cambodia, etc.

4 The previously cited SPC/ESCAP study highlighted numerous factors
5 which argue well for increased economic opportunities for Guam. Among these
6 are the following:

7 • Rising per capita incomes in this region present a range of market
8 opportunities for well targeted, cost competitive goods and services;

9 • Economic growth in Asia is producing large numbers of wealthy
10 entrepreneurs who may be willing to look at targeted investments in more remote
11 and less-populated areas like Guam;

12 • Efforts are continuing to expand regional and global trade
13 throughout this region, including the GATT, ASEAN and APEC trading pacts;

14 • Pacific Rim entrepreneurs have fully embraced the rapid
15 developments in information technology and communications. Guam is well
16 positioned to accommodate the real-time needs of these entrepreneurs with its
17 excellent telecommunications links to the United States and beyond.

18 • The United States market continues to be attractive to Asian
19 producers and Guam is the nearest U.S. territory. Guam may be seen as a way
20 to penetrate broader North American markets (including Canada and Mexico).
21 Additionally, it presents a physically-forward position for U.S. corporations to
22 support their Asian operations. Aside from the cultural, language and historical
23 differences among the countries in the Pacific Region, their economies are
24 distinctive. The dominant market in this region is China with a population of
25 approximately 1.2 billion, and current annual growth approaching 13 percent.
26 Incomes, as measured by per capita Gross Domestic Product (GDP) is estimated
27 at \$330. At the other end of the income range is Japan, with a population of 124
28 million, annual growth of approximately 2 percent and per capita GDP of nearly

1 \$24,000. In between, there are seven countries (Hong Kong, Singapore, Taiwan,
2 South Korea, Malaysia Thailand and Indonesia) which are expected to experience
3 annual growth in the range of 6 to 8 percent in 1994. The Philippines have the
4 region's lowest annual growth rates and per capita incomes. A recent analysis of
5 some of the major high-growth companies in the Pacific Rim was reviewed. To
6 be included in the survey, a company must have been publicly traded, had data
7 available for the past three consecutive years and had a positive income for each
8 of the years.

9 Table 14 presents a selected list of high-growth companies with 1993
10 revenues in excess of \$20 million. Table 15 presents a listing of companies with
11 1993 net income (profits) in excess of \$10 million. The companies listed have
12 experienced exceptional growth, and represent a wide range of industries:
13 publishing, electronics, property, tourism, chemical and textiles. The home
14 countries of these fast-growing companies include Australia, Hong Kong,
15 Thailand, Philippines, Malaysia and Singapore.

16 Most of these countries have economic linkages with Guam today which
17 can be exploited. As such, both the companies and their respective industries are
18 worthy of additional study and research.

19

20 **Development Incentives**

21 The General Headnote 3(A) program of the Tariff Schedules of the United
22 States (TSUS) allows duty-free entry into the U.S. Customs Territory for those
23 items manufactured and assembled in Guam under certain requirements that
24 enable Guam to be considered the "*country of origin*". Manufacturers may
25 import foreign raw materials or component parts, to which at least 30 percent
26 (and in some cases 50 percent), of the value of the finished product must be added
27 on Guam. These items must undergo a "*substantial transformation*" in
28 order to benefit from the duty-free provision of this program.

1 Another trade incentive program allows products manufactured on Guam
2 to be imported by participating nations at a reduced tariff rate. Guam is the
3 beneficiary of the following countries: Japan, Australia, and the European
4 Common Market. Guam provides incentives for the establishment of Foreign
5 Sales Corporations (FSC) through a Guam law known as the Export Incentive
6 Act. FSCs are foreign-incorporated subsidiaries of U.S. parent corporations
7 engaged in export transactions which qualify them for partial U.S. tax
8 exemptions, provided they maintain certain processes.

10 **ALTERNATIVE PLANS**

11 Based on community input from a series of public meetings, input from
12 members of the subcommittees of the Komitea Para Tiyan, and a better
13 understanding of market conditions, a new set of three alternative plans was
14 drawn. The intention of these plans was to explore the most desirable and feasible
15 ideas from the "theme" plans. Portions of the previous plans were combined to
16 reduce the alternatives to three and to examine the effects of combining land uses
17 to optimize more than one economic sector or community goal in each
18 alternative.

20 **Education/Heritage**

21 As indicated in its title, the Education/Heritage Alternative Plan (Figure
22 18) is created by combining the best features of the education and heritage
23 themes. These two ideas both focus on the island's people, culture and knowledge.
24 The idea of devoting most of the base to forests, copra plantations and museums
25 was not viewed as an economic use of the Base. However, the general idea of
26 promoting the past, the history of the site and preserving cultural knowledge was
27 supported.

1 After establishing the airport, devoting the entire remaining area of the
2 Base to educational use was not seen as desirable, but the idea of establishing a
3 high school generated favorable response from government officials concerned
4 about the ability of Guam to finance high school facilities to relieve overcrowded
5 conditions. Guam Community College prepared a proposal to create an airframe
6 and powerplant school to provide vocational training using a hands-on approach
7 at the airport.

8 The University of Guam has expressed interest in conducting research
9 regarding original Guam plant forms and environmental communities that have
10 been largely replaced by imported plants today. The limestone forest preserve
11 and copra plantation areas were noted as possible locations for the University to
12 pursue this work. Therefore, the educational and environmental features were
13 reduced and combined. The resultant plan contains a small town center, an
14 aviation industry area and housing for students, faculty and workers.

15

16 **Business/Industry**

17 Combining the Air Industry and Business theme resulted in an alternative
18 plan geared to the developing the maximum economic return for Guam as shown
19 in Figure 19. Job generation and revenues would be highest from this plan. The
20 entire south side of the airfield is designated in this plan as industrial land for
21 aviation industries, cargo warehouses, distribution and other uses. Perhaps
22 electronics parts assembly in a duty-free environment could be located here.

23 A large retail center, equivalent to the Micronesia Mall was incorporated
24 into this plan to test its market feasibility. This mall would be targeted toward
25 the resident population of the island and would depend upon its central island
26 location and improved road connections for its success.

27 Educational facilities tailored to providing high quality business and
28 industrial skills were incorporated as part of this plan. A small amount of

1 housing was included to absorb land that seemed beyond the absorption rates
2 foreseen in this scenario for the business and industrial uses.

4 **Housing/Community**

5 This alternative plan, as shown in Figure 20, is primarily based on the
6 housing theme with the addition of community facilities. It is conceived as an
7 extension northward of Barrigada, which is how the community probably would
8 have grown if the Base had not been there. To accomplish a close community
9 tie, traffic from Routes 8 and 16 are diverted onto a new parkway on the
10 alignment of Mariner Avenue. This reduction of traffic allows connection of
11 local streets northward across Route 8 to tie the community together. Route 10 is
12 shown extended northward following existing streets on the base to tie to the
13 relocated Routes 8 and 16. A new town center with retail shops and services for
14 the local community and surrounding area is placed at the intersection of Routes
15 8, 16 and 10. The convergence of traffic here will make this a natural location
16 for a new center. The clinic, bowling alley and chapel are included as features
17 of the new town center.

18 Housing shown includes single family homes on standard lots and
19 multifamily housing near the central area. This alternative includes an
20 exploration of the remodeling of the Bachelors' Enlisted Quarters as multifamily
21 housing. This could be either as condominium units (already designed by the
22 Navy but never remodeled as such) or as apartment units. In this alternative, to
23 maximize the possible provision of new housing, a high school is shown
24 occupying a portion of the playfield area. The classrooms would be new
25 buildings located along the northern part of the site in this alternative. The
26 advantage of this scheme is that the high school is compact, walking distances to
27 gym, theater and fields are short, and construction is limited to mostly the least
28 costly parts of the campus, the classrooms.

1 The major disadvantage is that the dining halls and kitchens are not
2 included from the barracks. In this alternative, the majority of the airport
3 facilities are shown located on the north side of the airfield, so a small industrial
4 area for the remaining aviation industries on the south allows large forested areas
5 to be included as research and/or park lands.

6 7 **EVALUATION OF ALTERNATIVES**

8 Evaluation of alternatives was conducted both analytically and through
9 opinions and reactions from the members of the Komitea Para Tiyan, their staffs
10 and other members of the public attending the public meetings at which the
11 alternatives were discussed. Criteria selected upon which to evaluate the
12 alternatives includes subjective and objective elements. The intention is to cover
13 the range of community goals from costs to aesthetics, immediate to long term,
14 and public to personal. Each criterion was assigned a rating number for each
15 alternative plan, with the most favorable receiving the highest rating as shown in
16 the Evaluation Matrix (Table 16).

17 More important criteria were given a double weight in the ratings. The
18 result of this evaluation is the preferred plan, which was reviewed and revised by
19 the KPT and the public. The final plan for submission to the Territorial Planning
20 Council, the Governor and the Legislature is presented in the next
21 chapter.

1 CHAPTER V

2

3 THE BASE REUSE MASTER PLAN OVERVIEW

4 The planned program of land uses and facilities envisioned for 2015 is
5 shown in Figure 21, "NAS Base Reuse Master Plan". The amount of
6 development described in this plan balances provision of community services and
7 expected market demand for development. This plan provides a broad outline
8 for evaluating development proposals and providing infrastructure and
9 community services over the next twenty years. The acreage for the areas shown
10 on Figure 21 are presented in the following table:

11	1.	Airport Operations Area	(59%)	1024 acres
12	2.	Economic Development Areas	(16%)	281 acres
13	3.	Airport related Development Areas	(20%)	340 acres
14	4.	Recreational Areas	(5%)	88 acres
15		Total	(%)	1,739 acres

16 (Note: the total acreage excludes the 88 acre Officers Housing Area but includes
17 the land area needed for roads and other utilities).

18 The plan provides a framework of streets and utilities, a coherent traffic
19 plan connecting this central location to the island, and a land use plan to guide
20 decisions. This framework provides the backbone upon which a flexible pattern
21 of improvements can take place in response to the market conditions and
22 requirements of Guam over the next twenty years. Land areas on the base are
23 divided into large developable tracts, well served by the planned roads and
24 utilities infrastructure. These land areas contain: facilities that will be put to
25 immediate reuse through a leasing program as soon as the Base is closed; facilities
26 that may be remodeled for use in the longer term after environmental cleanup

1 operations are completed; and undeveloped land areas that will be developed in
2 the future.

3 The Base Reuse Plan for NAS Agaña has three principal parts; the Guam
4 International Airport, economic development areas and public use areas. The
5 land use proposals are planned to be flexible and to respond to emerging
6 community and economic needs over the next twenty years.

7

8 **THE GUAM INTERNATIONAL AIRPORT**

9 Guam International Airport is the single most important element in the
10 economic well-being of Guam. It is the vital transportation link without which
11 Guam would be isolated from the world and without which the tourists who form
12 the basis of Guam's economy could not arrive. The airfield portion of the base
13 is proposed to be used by the Guam International Airport Authority for aviation,
14 revenue production and noise compatibility purposes consistent with Federal
15 Aviation Administration guidelines.

16 The plan recognizes that it is vitally important to include all those portions
17 of the base necessary to support the personal, business and tourist travel needs of
18 Guam, not for just the next twenty years, but well beyond into the future.
19 Specific uses for the airport area are also presented in the Guam International
20 Airport Master Plan. The fundamental approach of the Government of Guam is
21 to support tourism development. Tourism is the single largest industry in Guam,
22 and its future development will be important in achieving employment goals and
23 economic growth.

24

25 **Forecasts of Aviation Demand/Passenger Forecast**

26 The predicted increase in annual passenger enplanements to between 4.3
27 and 5.0 million for the year 2015, and provision for expected aviation-related
28 business growth will require expansion of the airport beyond current plans.

1 Recognizing this, the Komitea Para Tiyan agreed to establish the boundaries of
2 the airport to provide enough property to provide for the expansion of the
3 northside taxiway and airport related industries, such as cargo warehouses, on the
4 northside (where the enlisted men's housing area is presently located) and on the
5 southside (the area adjacent to the runway and established by extending Marine
6 Avenue on a straight line to Route 16).

7 8 **Cargo and Mail**

9 Cargo and mail are important to the economy of Guam with most cargo
10 arriving and departing in combination aircraft as belly-cargo. Cargo into Guam
11 is limited predominantly to consumables and items for retail sale. Outgoing
12 cargo is mostly fish and seafood. The average annual growth rate for the
13 planning period is 5.6 percent, increasing from 22 million pounds in 1985 to 211
14 million pounds in 2015. Annual total on-and off-island mail is forecast to increase
15 from 10 million pounds to 32 million pounds. The present facility is at capacity
16 and will need upgrading to meet future demand.

17 The area established by extending Marine Avenue on a straight line to
18 Route 16 will make available adequate acreage for the expansion of bonded cargo
19 and mail facilities immediately adjacent to the Guam Main Facility post office on
20 Route 16. Likewise, the enlisted men's housing area, up to East Sunset Boulevard
21 will be available to the airport for expansion of cargo consolidation operations
22 and warehousing.

23 24 **Air Carrier Operations**

25 Air carrier and commuter operations are forecast by dividing passengers
26 by the expected average boarding per passenger flight. The average air carrier
27 operation in 1993 and 1994 had 122 enplaning passengers on board. Two
28 factors tend to increase the average enplanements on a typical departing flight.

1 First, the aircraft size tends to increase over time. Second, the enplaning load
2 factor (percentage of seats occupied) tends to increase over time. It is forecast
3 that the enplanements per air carrier operation will increase to 160 in the year
4 2000, 175 in 2005 and 190 in 2015. Air carrier operations are determined using
5 passenger forecasts and the above load factors.

6

7 **General Aviation**

8 General aviation demand on Guam has been limited over the years. Past
9 analysis has indicated a significant potential demand for aviation activity on
10 Guam. The present projections cover only a base level demand for general
11 aviation activity, and rely heavily on the FAA Terminal Area Forecast for Guam.
12 It is possible that general aviation demand could be considerably higher,
13 particularly if one of the possible developments a major training facility for air
14 carrier pilots occurs. The FAA forecast of activity is used as a base in this plan
15 with the addition of one activity which will be part of the demand on Guam
16 sightseeing flights of either fixed wing aircraft or helicopters. This market is
17 developing on Guam, although most helicopter sightseeing trips presently operate
18 off airport. It is assumed that there is an equivalent of 16 trips a day in 2000, 24
19 trips a day in 2005, and 32 trips a day in 2015. The forecast also assumes that
20 the there are approximately 5,000 air taxi operations in each year. These
21 represent the purchase of service of small planes on demand. In addition to the air
22 taxi demand, there is expected to be a level of approximately 20,000 local general
23 aviation operations per year, in line with recent use. These are primarily
24 training flights.

25

26 **Airport Land Use Plan**

27 The principal use recommended for NAS Agaña is as the expanded Guam
28 International Airport. This includes the airfield, passenger and cargo terminals,

1 maintenance hangars and support facilities, airport related commerce and
2 industries and airport access roads.

4 **Runways and Taxiways**

5 Growth at the airport will require extensions to both runways. This is
6 required to accommodate non-stop flights to the U.S. west coast and to ensure
7 that one runway is capable of accommodating non-stop flights at all times.
8 Construction of a new taxiway on the north side of the airport is planned so that
9 runways will not have to be used as taxiways. Removal of the southeastern hill
10 will allow for expansion of the south runway to 10,000 feet.

12 **Passenger Terminal**

13 The current terminal expansion will provide capacity for 6 million
14 enplaned passengers annually, adequate through the 2015 planning horizon. For
15 the long term, a reserve zone has been created to the west of the existing terminal
16 for expansion beyond 2015.

18 **Cargo Center**

19 Creation of a new cargo terminal on the north side of the airport to receive
20 and distribute air freight is planned to meet increasing cargo demand. The plan
21 calls for a new cargo center to be built west of the existing cargo building. The
22 new center will remain close to the terminal so that it will be convenient to
23 handle the cargo on passenger flights, which will carry the majority of the cargo.
24 However, because the only feasible area for future expansion of the passenger
25 terminal beyond the year 2015 is to the west, adequate expansion space has been
26 retained between the passenger terminal and cargo center to accommodate long
27 term facility growth.

Aircraft Maintenance Center

Establishment of an aircraft maintenance base and aviation industry center can generate a new job base on Guam. One major airline plans at present to create a primary maintenance base at Guam. Others could soon follow, especially if lower fees and lease charges can attract them from crowded Asian airports. A large maintenance base will depend on creating a growing well-trained labor pool, thus underlining the importance of aviation training proposals discussed elsewhere in the plan. This function is proposed to be located on the south side of the airfield in existing hangars. Existing hangars designated 17-100 17-3308 and 17-3404 are recommended as the initial location for establishing this center. The development of 17-100 is expected to occur in the first year after Base closure. Expansion of the hangars is foreseen by addition of large aircraft hangars bays to the north of the existing hangars to accommodate B-747 and other large aircraft.

These areas and facilities, located between the runways and Mariner Avenue have been included within the boundaries of the Guam Airport Authority.

Aircraft Maintenance Support Industries

There are a host of potential aircraft and aviation maintenance support industries which have expressed interest in the facilities available at Guam International Airport. Buildings 17-3305, 17-3305A, 17-3306, 17-3403, and 17-3414, located on the south side of the airport in the area "behind" the hangars are recommended to be used for these purposes. These areas and facilities, located between the runways and Mariner Avenue, have been included within the boundaries of the Guam Airport Authority.

1 **Airport Maintenance**

2 The airport maintenance function including vehicle maintenance,
3 warehousing, landscaping and various trade shops, is recommended for building
4 16-6103. This building located on the southwest corner of the airfield represents
5 a significant opportunity for the development of a facility to replace the limited
6 storage yard and vehicle repair area now used by the GAA. This facility, located
7 between the runways and Mariner Avenue, has been included within the
8 boundaries of the Guam Airport Authority.

9

10 **Flight Kitchens**

11 At the present time the single flight kitchen operator is located off-airport.
12 This presents a workable but undesirable situation. Space for two flight kitchens
13 is recommended for future development, to be located in the airport industrial
14 park on the north east side of the airfield. A direct connection to the security
15 guard post is to be provided near this location.

16

17 **Fuel Farm**

18 It is recommended that the Fuel Farm be completely removed as the
19 facilities will not meet EPA and DOT regulations beyond 1998. Several fuel
20 supplies were approached to determine interest in the fuel farm and these
21 suppliers all agreed that it would be more economical to have the facilities
22 removed.

23

24 **Air Traffic Control Tower**

25 A new Air Traffic Control Tower (ATCT) site has been identified as a
26 desirable long term development project. The existing ATCT on the south side
27 of the airfield has line-of-sight limitations to large areas of the east terminal
28 expansion area. Space has been reserved on the north side of the airfield for a

1 proposed air traffic control tower. Prior to actual construction of the control
2 tower, the FAA will select a site on the north side and determine the appropriate
3 placement of the tower facility.

4

5 **Federal Aviation Administration Offices**

6 The Federal Aviation Administration (FAA) will require space for
7 administrative and technical functions at the airport. It is recommended that all
8 FAA spaces be located in the existing Administration Building which also
9 contains the control tower.

10

11 **National Weather Service**

12 Offices for the administration of functions performed by the National
13 Weather Service are recommended to be co-located in the building with the FAA
14 on the south side of the airport.

15

16 **General Aviation and Fixed Base Operations**

17 It is forecast that some air taxi and recreational tourist flying will be
18 accommodated in light planes and helicopters. A general aviation terminal and
19 service center is planned at the west end of the south apron, using the former
20 Coast Guard Hangar, previously designated as 17-80. This facility has hangar
21 space and areas for tenant office as well as a public airside interface which would
22 be well suited for this function. The adjacent apron area is relatively isolated
23 from large aircraft jet blast and of sufficient dimension to be flexibly developed
24 to accommodate a wide variety of parking arrangements for numerous aircraft
25 types.

26

27

28

1 **Flight School**

2 The good flying conditions on Guam provide an opportunity for creating a
3 commercial flight training school. Winds are less than 8 miles per hour nearly
4 90% of the time and Visual Flight Rules conditions prevail 99% of the time. No
5 other location so near to Asia presents the opportunity for United States
6 certification for pilots. The flight school activity is recommended to be carried
7 out from the General Aviation Terminal, with office space in the second floor of
8 the building perhaps serving as classroom space.

9

10 **Airframe and Powerplant School**

11 An airframe and powerplant school will be absolutely essential for Guam
12 to be able to attract an aircraft maintenance and/or refurbishment industry.
13 Plans and programs have already been put forward for this school. A
14 combination of classrooms and on-airport facilities such as hangars and machine
15 shops is needed for this program. The airframe and powerplant school is
16 recommended to utilize a mix of air hangar, laboratory, and classroom buildings
17 on the south side of the airfield. Buildings 17-3308, 17-3311, 17-3404, and 17-
18 3307 are recommended for these purposes.

19 The Bachelors Enlisted Quarters can be used for classrooms and faculty
20 offices, perhaps with the first level as classrooms with outside access to maximize
21 use of the full width of the building and offices and seminar spaces upstairs with
22 an interior hallway. If students can be attracted from other islands, some of the
23 existing barracks could be utilized directly and with minimal change as
24 dormitories. The former HC-5 hangar (17-3404) and large machine shop located
25 in the space behind the VQ-1 hangar (17-100) is the proposed training areas for
26 the airframe and powerplant school. They are near the proposed classrooms and
27 dormitories (13-16 through 13-20 © Bachelors Enlisted Quarters). Nearby space
28 can be used for future construction of classrooms or expanded shops. Inclusion

1 of courses on maintenance and use of avionics and navigation instruments would
2 be a useful part of the airframe and powerplant school.

3 Avionics Lab Building 17-3311 is among the available facilities on the
4 Base. Although the Navy will remove the instruments, the building's wiring and
5 facilities would make it easy to reuse for a classroom laboratory.

6

7 **Package Express/Cargo Hub**

8 Setting aside land on the south side for future large scale aviation
9 businesses such as a package express hub might bring as many as 1000 jobs to
10 Guam. A package express hub is very different from a general cargo center
11 such as planned for the north side near the passenger terminal. Instead of using
12 the lower deck or "belly" of passenger jets, the package express company
13 operates its own fleet of planes and therefore does not need to be located near the
14 terminal. In addition, there will be a large number of planes on the ground at
15 one time while packages are redistributed among the planes to be taken to their
16 destinations. As many as 35 planes may be on the apron at once. When the
17 Navy owned the Base, cargo and package express carriers were not able to
18 consider using Guam as a cargo airport or a package express hub because there
19 was no land for development of cargo infrastructure. While current air carrier
20 plans do not include Guam as a package express or cargo hub, the reuse of the
21 Base now provides an opportunity for consideration by air carriers. As with
22 passenger traffic, there is some hubbing of cargo at Guam today. Guam is a
23 natural connecting point for cargo to or from points in Micronesia, although it is
24 fairly low in volume. It is expected that this traffic will grow moderately in the
25 future. The real question is whether there might be a significant change in the
26 way freight is handled in the Pacific Rim area, and whether there is an option for
27 Guam to participate in the major traffic flows. A drawback to hubbing is that
28 Guam's geographic location does not provide efficiency for aircraft operations in

1 the large Asian markets. An advantage to Guam is its reputation for a stable
2 political climate which recommends it above most competing locations which are
3 politically less stable.

4

5 **Aircraft Rescue and Fire Fighting**

6 The existing U.S. Navy Public Works Center Maintenance Facility
7 (Building 17-3309) is recommended to be used for the purpose of maintenance
8 and repair of aircraft rescue and fire fighting equipment.

9

10 **Revenue Producing Properties**

11 Maintaining a financially sound international airport is vital to Guam's
12 economy. To offset increasing capital and operating costs, revenue producing
13 airport land should be developed. Land areas which are not currently needed to
14 support active airport operations, runway protection zones, or airfield security
15 are available for either short or long-term leasing. These land areas are
16 especially attractive for industries and business activities that can contribute to the
17 efficient and economical operation of the airport, (such as aircraft parts
18 suppliers) or that can benefit from use of properties adjacent to the airport (such
19 as freight forwarders). If needed, some of the leasable lands can be provided
20 with direct access to aircraft parking aprons through modifications to the
21 definition of the Airport Operating Area (AOA). Leasing of these properties can
22 contribute revenues toward support of the airport while allowing control to be
23 retained for future airport requirements currently unforeseen, or past the year
24 2015 time frame of this plan.

25

26 **Reuse of Enlisted Family Housing**

27 The Enlisted Family Housing consists of 352 dwelling units on the north
28 side of the airfield. The majority of the houses, primarily those situated south of

1 East Sunset Boulevard, are located within a noisy area as defined by the LDN 65
2 noise contour in the Airport Noise Study. It is not recommended to reuse these
3 buildings as residential.

4 All of the buildings are recommended for eventual removal for the
5 creation of an air cargo/airport related business complex and for the much
6 needed Laderan Tiyan Parkway on the edge of the bluff to provide a bypass for
7 Marine Drive. This is reflected in the Komitea Para Tiyan's recommendation
8 and definition of boundaries for the airport to include the property up to East
9 Sunset Boulevard for the planned expansion of the airport's taxiway and the
10 development of an airport business/industrial park for airport related industries.

11 Many of the buildings, which for the interim period are housing
12 government offices, are planned to remain for approximately 5 years. These
13 buildings have been converted to offices. Office uses are not as noise sensitive as
14 homes, and the concrete construction of the buildings will provide a large
15 measure of the sound insulation needed. The duplex buildings are larger and
16 more conducive to remodeling as offices. Companies requiring more than 3000
17 square feet of space may not find this option attractive. Most of the single
18 family buildings have less than 1500 square feet. These buildings could be used
19 for very small companies on a short term basis only.

20

21 **Use of Environmental Cleanup Area**

22 An industrial area, designed primarily for airport related industries, is
23 planned to be located on the site of the existing sanitary landfill. It would require
24 removal of this landfill to make this site appropriate for construction of
25 buildings.

26

27

28

1 Airport Auto and Vehicle Circulation and Access

2 A new parkway along the top of the northern bluff overlooking the
3 Philippine Sea will provide an important access direct to the airport, acting as a
4 bypass for congested traffic on Marine Drive below and a beautiful promenade
5 for enhancement of tourist traffic in Guam. The Laderan Tiyan Parkway will
6 greatly improve the traffic efficiency of Route 8, Airport Access Road and
7 Marine Drive while greatly reducing congestion at the Agaña intersection of
8 Route 8 and Marine Drive. The Parkway will provide an alternative to Marine
9 Drive and Route 16 as access to the Airport from interior villages such as
10 Barrigada, Mangilao, MongMong-Toto-Maite.

11 A new arterial street will connect from Marine Drive at Camp Watkins
12 Road to Route 8 at Canada Toto Road. This connector will provide a new route
13 up the bluff to relieve traffic at the airport's terminal access road connection to
14 Route 1, improve access to the commercial centers and the medical services
15 facilities presently located in Tamuning. The new route will also restore a direct
16 link from the beaches and Marine Drive to Mongmong Toto-Maite and the
17 interior, which has been blocked by the Navy's presence since the 1940's.

18

19 ECONOMIC DEVELOPMENT AREAS

20 Areas not needed for airport operational or revenue generation use now or
21 in the foreseeable future are planned for economic activities which will provide
22 new jobs for the island. The southern portion of the Base is planned primarily as
23 an economic development area.

24 This area is divided into six economic zones (Figure 22) defined by major
25 collector and arterial streets. Each of these zones may be developed at different
26 times and in different intensities in response to community needs and market
27 conditions.

1 With the construction of the new parkway along Mariner Avenue from
2 Route 8 to Route 16, and the extension of Route 10 to meet it, a natural location
3 for commerce identified as zones A, B and C is created. This location is also the
4 central entrance to the airport's south side aviation industries area. These zones
5 are envisioned to contain commercial uses given their proximity to Routes 8, 16
6 and 10 (extension). Commercial uses including shopping and services is planned
7 in zones A, B and C, serving local residents, employees in the aviation service
8 industries and passing traffic on the Mariner Parkway and Route 10.

9 The commercial district is planned to be pedestrian scale, with arcade
10 shopping on the ground floor. Route 10, for the length of the commercial
11 district, is planned to be heavily planted on both sides to provide shade and an
12 aesthetic environment. Restaurants, banks and service offices are envisioned to
13 be important components of this center, some of them in second level locations
14 above the shopping. Surface parking in the rear is planned to ensure adequate
15 and convenient parking for all uses.

16 North of this town center toward the intersection of Mariner Parkway and
17 the Route 10 extension, are economic zones D, E and F in which light industrial
18 activities are proposed to create jobs and also to serve as a transitional buffer for
19 the heavy industry, aviation-related development south of the runways.

20 21 **PUBLIC USES**

22 Three major recreational areas and infrastructure improvements including
23 three new regional highways are proposed through the Base to alleviate these
24 long-standing needs.

25 26 **Reuse of Playing Fields**

27 A high degree of interest exists in Guam for outdoor recreation of all
28 types. Available facilities do not meet the current demand, especially in terms of

1 quality. Few facilities exist that can host public games or tournaments. Night
2 lighting is especially desired. Little funding is currently available for improving
3 existing public facilities. The playing fields at NAS Agaña are widely regarded
4 as some of the best maintained on the island and are highly sought after for local
5 and regional use. They could be managed as a unit by the Department of Parks
6 and Recreation as a regularly scheduled site for Micronesian Games, South
7 Pacific Games, Olympics trials and other tournaments. Space is available at the
8 playing fields for additional baseball, softball, football, track or other desired
9 facilities. An Olympics Training Center could be set up, perhaps on a regularly
10 scheduled basis, using not only the playing fields but the gymnasium, the
11 dormitories and classrooms of the Airframe and Powerplant School.

12 13 **Reuse of Swimming Pool at Bachelors Officers Quarters**

14 The swimming pool complex with diving facilities on the north side of
15 NAS Agaña is proposed to be temporarily reused as a training and public
16 swimming facility. The location of this pool at the edge of the Tiyan bluff could
17 make it a spectacular place to stage regional swimming events. Spectators and
18 TV cameras in the bleachers could enjoy not only the swimming and diving
19 events but the spectacular view of Tumon and Agaña Bays spread out below
20 them. However, the pool's location near the proposed taxiway makes
21 recreational use of this area a temporary one pending construction of the taxiway
22 proposed in this plan and studies to determine compliance with FAA and EPA
23 noise level regulations. That the swimming pool does not satisfy Olympic
24 requirements presents an additional limitation which reduces the pool's utility as a
25 venue for officially sanctioned events.

26
27

1

2 **Parks**

3 As the population of Guam expands, space for parks and outdoor sports
4 fields will become difficult to acquire for public use. Therefore, it is
5 recommended that as much park space be provided on the NAS Agaña lands as
6 consistent with the economic and social services goals of the plan. The following
7 additional park spaces are recommended in the plan:

8

9 **Regional Recreation Park**

10 A large islandwide park with open spaces, sports fields, and spectator areas
11 appropriate for regional, island-wide and inter-island events is an appropriate and
12 desirable use for NAS Agaña land along Route 8 in MongMong-Toto-Maite.
13 Although close to the aircraft approach zone to the Guam International Airport,
14 recreational use of this area will be permitted. Facilities construction, however,
15 should be reviewed by GAA and approved by FAA to ensure that structures meet
16 obstruction clearance and other regulatory requirements of the Federal Aviation
17 Administration.

18

19 **Laderan Tiyan Memorial Park**

20 The edge of the Tiyan Bluffs provide one of the most spectacular vistas on
21 Guam. Half the island can be seen from here, and the vista of clouds and sea is
22 ever changing. Few people on Guam have seen this vista because of the closed
23 access to the base. The plan includes a park and parkway along the edge of the
24 bluff. The park is planned to incorporate walkways, bikeways, jogging trails,
25 picnic and sitting areas and small open spaces for family fiestas and informal
26 sports. It is planned to extend the length of the bluff from the Bachelors
27 Officers Quarters to the Airport Terminal and range from 100 to 300 feet in
28 width.

1 The paralleling Laderan Tiyan Memorial Parkway, in addition to
2 performing its critical bypass service for Marine Drive, is planned to provide the
3 same spectacular view for the enjoyment of drivers and passengers. The
4 Parkway will be a beautiful entrance and exit for Guam's front door, the Airport
5 Terminal, and will become a tourist attraction, an added event for a stay in Guam
6 and a memorable "photo opportunity". As part of Laderan Tiyan Memorial
7 Park, it is proposed to construct a memorial to the men, women and children who
8 lived through the occupation and liberation of Guam, and especially to those who
9 were conscripted to construct the original airfield in Tiyan. The beautiful
10 setting would be appropriate to such a memorial.

11

12 **Transportation Improvements**

13 The regional highway system and local street system in the vicinity of NAS
14 Agaña must be substantially improved to correct historical inadequacies caused by
15 the closed nature of the base and to provide adequate access to the expanding
16 airport and planned new developments on the Base. Two kinds of improvements
17 must be made:

18 1. New north-south and east-west connections must be made through
19 the Base to provide relief and bypass routes for traffic that has been historically
20 limited to one street.

21 2. Local streets on and around the base must be improved to provide
22 access to the airport and proposed developments in a new and more open pattern
23 than the Navy gatehouses provide (Figure 23).

24 Correction of the existing regional bottlenecks and discontinuities is
25 required so that traffic can move efficiently from northern Guam to southern
26 Guam. Reduction of regional congestion is required to allow for the expansion of
27 Tamuning and central Guam to provide the needed services for the growing
28 population and economy. Regional improvements are necessary to provide

1 adequate connections to the new developments envisioned in the Base Reuse
2 Master Plan and to the airport.

3 The 2010 Highway Master Plan proposes a roadway linking Route 8 and
4 Route 10a along the top of the Tiyan Bluff and a roadway connecting up the bluff
5 from Route 1 to Route 8 as long term proposals. This Base Reuse Master Plan
6 proposes to take maximum advantage of the opportunities presented to resolve
7 both regional and airport access needs as soon as possible.

8 Many miles of new rights-of-way are available on the Base. These rights-
9 of-way should be designated immediately so that the opportunity is not lost but
10 held until funds are available for construction. The following regional access
11 improvements are required:

- 12 • a new Laderan Tiyan Memorial Parkway along the top of the
13 northern bluff;
- 14 • a new Camp Watkins Road/Toto Canada Road Connector Road from
15 Route 1 at Camp Watkins Road extending up the bluff to Toto Canada Road at
16 Route 8; and
- 17 • a new Cabras Parkway on the alignment of Mariner Drive on the
18 south boundary of the airport.

19 These regional improvements are consistent with the requirements for
20 circulation and access as shown in the "2010 Highway Master Plan for Guam".

21

22 **Laderan Tiyan Memorial Parkway**

23 The new Laderan Tiyan Parkway along the top of the northern bluff, will
24 provide local access to northside airport developments, a second entry to the
25 airport passenger terminal area, a bypass for traffic to avoid Marine Drive
26 (Route 1) and, if ultimately extended as shown here and in the "2010 Highway
27 Master Plan for Guam", a direct connection from Dededo in the north to Adelup
28 in the south.

1 The option for establishing the proposed Laderan Tiyan Parkway through
2 NAS Agaña is immediately available. It should be designated as a right-of-way
3 and constructed as soon as budgets and designs can be established. Consideration
4 should be given to diverting budgeted funds from proposed improvements and
5 widening of Route 1. They may be unnecessary, if the Parkway were to be
6 constructed at an early date to divert the traffic from Route 1. All plans which
7 have the effect of reducing traffic demand on existing Marine Drive and Airport
8 Road (Route 10a) will produce large benefits in terms of reduced delays and
9 improved safety.

10 The Laderan Tiyan Memorial Parkway is planned to be a high capacity
11 scenic road with four lanes in two widely separated carriageways that will be
12 capable of handling between 30,000 and 40,000 vehicles per day. This would
13 provide a significant capacity increase to handle the 65,000 to 70,000 vehicles per
14 day which currently use Route 1 through Tamuning. Access points along this
15 road will be limited to no less than 1/4 mile spacing. New interchanges at the
16 passenger terminal will provide the required service for 2015 and beyond.

17 It is recommended that a right-of-way no less than 200 feet wide and
18 varying up to 300 feet be established for the parkway. This will allow flexibility
19 to design a handsome and well landscaped parkway including paralleling
20 walkways, bikeways and jogging trails. The views from the Parkway across
21 Tamuning to the Philippine Sea will be spectacular. It is intended that the
22 Parkway should become an early and high quality link in a system of tourist and
23 pedestrian-oriented scenic highways on Guam.

24 25 **Adelup-Dededo Connector**

26 Minor changes to the regional highway network can be made which will
27 make the proposed Laderan Tiyan Memorial Parkway even more useful for
28 regional traffic purposes. The suggested changes would produce a new

1 continuous road paralleling Route 1 from Adelup to Dededo providing more a
2 convenient bypass to Route 1. These changes are expected to divert the
3 maximum amount of traffic from Route 1. For the first time, there would be
4 two north-south roads on the west coast instead of only one as at present. The
5 effect of this diversion on congestion through Tamuning would be dramatic. To
6 achieve this connection the following improvements are needed:

- 7 • The connection of East O'Brien Drive to Route 8 should be returned
8 to its original curving configuration so that it reestablishes a continuous
9 connection to Route 4;
- 10 • The continuation of O'Brien Drive along the base of the hill through
11 Agaña should be improved;
- 12 • O'Brien Drive should be connected to Route 1 near Adelup;
- 13 • Route 10a (which will be part of the proposed Parkway) should be
14 extended from Route 16 to Route 1 at Dededo as proposed in the "2010 Highway
15 Master Plan".

16 17 **Camp Watkins Road/Canada Toto Road Connector**

18 The new Camp Watkins Road/Canada Toto Road Connector Road is
19 planned to extend from Route 1 at the Camp Watkins Road intersection up the
20 bluff and across the airport to Route 8 at the Canada Toto Road intersection. This
21 will provide direct access from Tamuning to Maite and the southside airport
22 services and industries. It will also provide an alternative route to reduce traffic
23 on Airport Road (Route 10a) in front of the airport terminal. The new
24 Camp Watkins Road/Canada Toto Road Connector Road is planned to be a four
25 lane road from Route 1 to Route 8 capable of handling 20,000 to 30,000 cars per
26 day. It is recommended that a right-of-way not less than 150 feet wide be
27 established and that the road be planned for future expansion to as much as 8
28 lanes.

1 The grade up to the top of the bluff can be accomplished with a 7%
2 maximum slope and with cut and fill not exceeding 60 feet. Design of the road
3 should incorporate walkways, bikeways and landscaping located so that these
4 features need not be removed if the road is widened. Ultimately, this new
5 connector road could be extended from the bottom of Canada Toto Road to Route
6 10 at University Drive, providing a new east-west link in the island wide network
7 providing a direct connection from San Vitores Road to Mangilao and the
8 University of Guam campus.

9 10 **Cabras Parkway (Mariner Drive Parkway)**

11 The plan recommends construction of a new Parkway on the alignment of
12 Mariner Avenue through the south side of the Base. This new Parkway will
13 initially provide a direct link through the former Navy Base from Route 8 to
14 Route 16 and access to southside airport lands and services. This is planned to be
15 a four lane divided roadway with a capacity of 30,000 to 40,000 vehicles per day.
16 Access to this parkway is proposed to be limited and based on service access
17 requirements of adjacent land uses. Access points at 350 foot spacing in the town
18 center area on the south side of the airport are proposed to provide good access
19 to the commercial and industrial developments here. To the east and west of its
20 intersection with Route 10, access should be limited to 1000 feet or so. It is
21 recommended that a minimum of 100 feet be established as the right-of-way
22 width for this parkway, and that walkways, bikeways and landscaping be part of
23 the original design for the Parkway.

24 Ultimately, the parkway proposed on the Mariner Avenue alignment could
25 be extended northward and southward to create a third north-south road
26 paralleling the east coast from the port area at Cabras to the Ysengsong area in
27 North Dededo. This road would provide long term traffic relief to the
28 congested Tumon and Agaña areas. The Parkway could be extended southward

1 in the right-of-way of the military pipeline across Agaña Swamp, up the Chaot
2 River Valley, across the heights of Asan and down to Cabras, joining Route 1 at
3 Route 6.

4 Although it would have to be widened, use of this right-of-way may ease
5 acquisition. The military pipeline will have to be protected, perhaps by burial.
6 The area in the swamp and Chaot Valley is one of the most beautiful natural
7 country remaining on Guam. It would be beautiful if a very wide right-of-way
8 could be established and the vegetation protected so that a true parkway could
9 provide a new environmental amenity and addition to the scenic highway
10 network. An alternative alignment is shown in the 2010 Highway Master Plan
11 for Guam which could also be used to provide the link to Cabras.

12 Northward, the parkway can be extended along the edge of the NCTAMS
13 WESTPAC Communications Station and along the southeast flank of Barrigada
14 Hill, crossing Route 1 in south Dededo and following Ysengsong Road to Route 3
15 and the northern end of the island. This portion of the road should be provided
16 with a 100 foot right-of-way and be designed in a more urban way for service to
17 the areas along it. Most of the proposed right-of-way for the Cabras Island
18 Parkway is not built up. Securing the right-of-way should be undertaken as soon
19 as possible because the rapid growth of population in this part of Guam will soon
20 make this idea infeasible.

21

22 **Access to the Airport**

23 A plan for improving circulation in front of the newly expanded passenger
24 terminal building has been prepared by the Guam Airport Authority. Objectives
25 of this plan are to reduce conflicts between through traffic using Airport Road
26 (Route 10a) as a shortcut between Tamuning and Route 16 and to allow free flow
27 of traffic to and from the terminal, eliminating the need for traffic signals. With
28 the closure of NAS Agaña, Central Avenue will be opened to public traffic for

1 the first time. It is expected that this will quickly become a heavily traveled
2 route to reach Barrigada and Route 10 and southeastern Guam from the
3 Tamuning area. The plan for improvements in front of the terminal did not
4 anticipate this new traffic pattern. If the Central Avenue connection to the
5 terminal area remains as shown in the plan, traffic in the vicinity of the terminal
6 is expected to become congested, increasing delays and compromising safety.
7 Traffic from Central Avenue and, ultimately, from the new Laderan Tiyan
8 Memorial Parkway must be incorporated into this plan.

9 The new Laderan Tiyan Memorial Parkway should be treated as a
10 continuous north/south through route from Route 4 in Agaña to Route 16 and
11 beyond to Dededo, with Airport Road (Route 10a) becoming a short connecting
12 road from Marine Drive (Route 1) to the airport terminal. The new Parkway
13 should be completely separated from the return loop in front of the passenger
14 terminal so that no intermingling of through and terminal traffic occurs. A new
15 interchange should be built to connect Laderan Tiyan Memorial Parkway to
16 Airport Road passing underneath the Parkway. The plan to accomplish these
17 objectives is shown in Figure 19.

18

19 **Access to Proposed Development: Route 10 Extension**

20 Route 10 is planned to be extended northward from its current terminus at
21 Route 8 through the existing Navy (Contractors) gate to a new terminus at the
22 planned Cabras Parkway. A right-of-way of 100 feet is proposed for this road.
23 For the two blocks as this road passes through the town center, it is envisioned
24 that there will be a large central median and diagonal parking.

25

26 **Route 8 and Route 16**

27 Traffic will be reduced on Routes 8 and 16 in the Barrigada area because
28 the through traffic will be using the Cabras Island Parkway. Southbound traffic

1 on Route 10 may continue to use the existing roads. Proposed widening of the
2 routes should be unnecessary. Turning movements at Route 10 will also be
3 reduced since they will be distributed to two intersections rather than one. When
4 the Navy's fence is removed, Routes 8 and 16 can be relandscaped.

5 The pipeline paralleling the roads will remain and will need to be
6 protected. It is recommended that parts of it be buried so that local street
7 connections can be made across from Barrigada into the former Base so that the
8 strong separation is blurred.

10 **Collector Street Framework**

11 Local collector streets will be designed at the time of subdivision of the
12 larger parcels and will be based on the land use decisions made at that time. The
13 local streets should have rights-of-way of 70 feet in commercial and industrial
14 areas. These are slightly wider than the current standards and are recommended
15 because the current standards do not adequately provide for landscaping and the
16 possibility of on-street parking.

18 **Other Utilities and Infrastructure**

20 **Water**

21 The entire water demand for the existing facilities on NAS is currently
22 being supplied by a 16" Navy waterline located along Route 8 and Route 16.
23 Since this waterline also serves Navy facilities along Route 3 and the vicinity of
24 Radio Barrigada, it will not be turned over to the Government of Guam and
25 according to the representatives of the Navy, will remain under Navy ownership.
26 PUAG will be required to enter into an agreement to purchase water from the
27 Navy. The proposed water system is shown in Figure 24. Based on preliminary
28 engineering analyses, fire flow requirements of 3500 gallons per minute (gpm)

1 for two hours for industrial and commercial areas dictate the sizing and pressures
2 of the water distribution system. Potable water demand requirements will be
3 met partially by the existing 16-inch Navy line along Route 8 and Route 16. The
4 remaining water requirements must be supplied by PUAG. The conceptual
5 design of the proposed water system provides 12 and 16 inch diameter lines that
6 form the backbone of the water distribution network, whereas secondary 8 and
7 10 inch diameter lines will be looped to serve smaller subareas. Fire flow and
8 emergency flow requirements will be supplied by new on-site water storage tanks
9 and booster pumps that will keep the system adequately pressured.-

10

11 **Sanitary Sewer**

12 The wastewater generated by existing base facilities is currently routed via
13 8, 10 and 12-inch lines to an existing 18-inch interceptor line along Route 8.
14 This interceptor currently falls under the ownership of Government of Guam.
15 The proposed sanitary sewer system is shown in Figure 25. The conceptual
16 design of the proposed sewer system incorporates the minimum standards adopted
17 by PUAG. Wastewater flows generated by the new facilities will be routed
18 through new 8, 10 and 12 inch sewer lines to 18 inch sewer interceptor. Due to
19 grade differences, wastewater generated in certain areas will have to be pumped
20 into the gravity collection system. Wastewater flows will be routed to the Agaña
21 Wastewater Treatment Plant via a new 24-inch sewer line. Based on data
22 available from the Wastewater Facilities Master Plan, the existing treatment
23 facility is capable of handling additional flows from the airport.

24

25 **Storm Drainage**

26 Based on available information, there are currently three National
27 Pollutant Discharge Elimination System (NPDES) permits issued for base
28 stormwater discharge into the percolation system and the Harmon Sink area.

1 These permits were issued to Continental, Lockheed and GAA. There is storm
2 water monitoring equipment located near Outfall No. 1. GAA currently
3 performs manual water sampling near GAA Outfall No. 1. The Navy currently
4 does not possess any NPDES permit for its stormwater discharge. Since
5 improvements will likely result in additional runoff that will be routed to the
6 Harmon Sink, it is anticipated that additional NPDES permits will be required.
7 Existing NPDES permits licensed to GAA and its tenants should not be affected
8 by the NAS Agaña base closure. A group NPDES permit application for NAS
9 Agaña has been prepared and submitted by PACNAVFACENGCOM, and is
10 currently being processed. Figure 26 shows the proposed storm drainage system.
11 The storm drainage system for the proposed roadways will be routed through a
12 roadside drainage collection system to a series of percolation basins. The storm
13 drainage runoff generated from the northern section of the airport which is
14 expected to potentially carry significant pollutants and contaminants will be
15 routed through oil/water separators before discharge to percolation basins located
16 on-site or the Harmon Sink. The remainder of the runoff not expected to
17 potentially carry significant pollutants and contaminants will continue to be
18 disposed of in the same manner as the existing system. The storm drainage
19 runoff generated by the southern section of airfield which is expected to
20 potentially carry significant pollutants and contaminants will also be routed
21 through an oil/water separator before discharge to a percolation system.
22 Remainder of the runoff from this area that is not expected to carry significant
23 pollutants and contaminants will continue to be disposed of in the same manner as
24 the existing system.

25

26 Telephone

27 Based on discussions with the Navy, the ownership and use of the primary
28 telephone lines that originate from the Tamuning Telephone Exchange and are

1 routed underneath the airfield to Route 16 will be retained by the Navy via an
2 easement. Some secondary lines, however will be available to the Guam
3 Telephone Authority (GTA) for future use. The proposed telephone system is
4 shown in Figure 27. Based on discussions with GTA, there will be two primary
5 switching facilities that will be required to adequately serve this project. Most of
6 the infrastructure currently in-place will need to be replaced.

7

8 **Power**

9 It is anticipated that due to additional electrical demands caused by
10 proposed new facilities, only a portion of the existing electrical infrastructure
11 will be reusable. Most of the existing system must be replaced as a result of new
12 improvements. The proposed electrical system is shown in Figure 28. It is
13 anticipated that most of the existing electrical system will be replaced.

14

15 **Secondary Improvements on Project-by-Project Basis**

16 It is anticipated that the government will provide the primary road and
17 utility infrastructure to serve the general area. The construction of secondary
18 road and utility infrastructure will be addressed by the entities responsible for
19 developing the base parcels.

20

1 **CHAPTER VI**

3 **Implementation Base Realignment and Closure Process**

4 The following section describes the Base Realignment and Closure Process,
5 recent statutory updates and recommendations for the designated Local
6 Redevelopment Authority.

8 **Statutory Update**

9 In October of 1994 the Pryor Amendment Interim Rules were modified in
10 response to comments received during the public comment period. The thrust of
11 the modifications was to revise the provisions pertaining specifically to Economic
12 Development Conveyance Requests. On July 20, 1995, the final base closure
13 rules were promulgated and on August 8, 1995, the homeless assistance interim
14 rules were published. Comments on the interim rules are due on October 10,
15 1995 but are required to be followed during the comment period.

17 **Designation of LRA**

18 The Government of Guam has been designated as the LRA by the Office of
19 Economic Adjustment since it has the ability to own and hold title to property.
20 Given the substantial adverse impact created by the closure and realignment
21 decisions made by BRACC '95 and the Komitea Para Tiyan's renewed focus on
22 economic initiatives to offset these impacts, the designation of a new LRA is
23 being considered in order to focus substantially more effort on economic
24 recovery.

DOD/Federal Agency Screening

The Department of Defense (DOD) conducted Federal Agency screening early in 1994. The following federal entities made requests for portions of NAS Agaña:

1. General Services Administration for 8 acres to construct a federal courthouse;
2. U.S. Army Reserve for the Bachelors Officers Quarters to consolidate Reserve activities (this request was subsequently withdrawn);
3. U.S. Property and Fiscal Office for Guam (Guam Army National Guard) for various facilities on the south side to be temporary used for operational purposes until their new facility in Radio Barrigada is completed;
4. U.S. Postal Service for a building to house postal activities;
5. Federal Aviation Administration for the air traffic control facility for their operations;
6. National Weather Service for their operations; and
7. Defense Commissary Agency (DECA) for the large warehouse for storage of commodities for resale at commissary facilities.

The Komitea Para Tiyan reviewed each federal agency request for consistency with the draft reuse plan and recommended that only the Federal Aviation Administration and the National Weather Service requests be approved as these agencies perform functions essential to the operations of an airport. Although the Commander of the Naval Forces in the Marianas agreed with the position of the Komitea Para Tiyan, higher Navy command has yet to make its final decision on federal agency requests.

McKinney Act Screening

In accordance with the provisions of the Base Closure Community Development and Homeless Assistance Act, Guam has indicated its intent to

1 control the McKinney Act Screening process. Approved by the Navy, the
2 Government of Guam now has opportunity to address homeless requests in a
3 manner that is consistent with the local reuse plan. Essentially, the provisions of
4 the law mandate that all homeless providers submit their applications directly to
5 the LRA, whereupon the LRA is to hold outreach seminars and prepare its reuse
6 plan in a manner which attempts to accommodate the needs of the homeless.
7 Upon completion of the reuse plan, the plan, along with a homeless assistance
8 application, are submitted to the Department of Housing and Urban Development
9 (HUD) for evaluation and a determination as to whether HUD believes the needs
10 of the homeless have been adequately addressed, either on or off base. To the
11 extent the reuse plan is deemed to adequately address the needs of the homeless,
12 reuse decisions on homeless requests will be made in accordance with the reuse
13 plan.

14 To the extent HUD feels that this reuse plan does not adequately address the
15 needs of the homeless, then HUD will make disposal recommendations to the DOD
16 as to homeless parcels, which recommendations will then be followed by DOD.

17 Given the accelerated schedule of the Base Disposal Process, this Reuse
18 Plan will be completed and submitted before the McKinney Act screening process
19 can be completed. Consequently, this Base Reuse Plan may require modification
20 or amendment upon completion of the screening process.

21 To date, the following steps have been taken to complete the McKinney Act
22 screening process requirement:

23 1. The Komitea Para Tiyan has received applications from homeless
24 providers.

25 2. The Komitea Para Tiyan has applied and received HUD approval for
26 a grant to fund a community wide study of homelessness. This study will
27 provide the basis for determining whether this community has adequately
28 addressed homeless issues, overall. This study will provide the Komitea Para

1 tiyan with the data it needs to decide whether homeless needs should be met on
2 Tiyan.

3 3. The Interim Use Authority has set aside a portion of the existing
4 enlisted men's housing area, i.e. those units outside of the 65 db noise level zones,
5 for temporary use by qualified homeless providers. The Guam Housing and
6 Urban Renewal Authority is assigned the responsibility for management of these
7 housing resources.

8 4. The Local Redevelopment Authority (GovGuam) will enter into a
9 legally binding agreement with GHURA to insure that the needs of the homeless
10 providers are accommodated in accordance with the provisions of federal
11 mandates.

12 5. GHURA, in collaboration with the Homeless Consortium will
13 develop timelines and qualifying guidelines for the acceptance and approval of
14 applications for service or facilities under the agreement between GHURA and
15 the LRA.

16 Furthermore, BRACC 95 specifies that additional bases on Guam will be
17 closed. These bases include housing facilities. Therefore, the Komitea Pra Tiyan
18 believes homeless issues must be set aside until the community wide study of
19 homelessness has been completed and an overall, community wide determination
20 of homeless needs and resources which can be allocated can be completed.

21

22 **Other Base Property Transfers**

23 The transfer process for the remaining portions of the NAS Agaña,
24 exclusive of any Federal Agency requests approved by the Navy, now consists of
25 Public Benefit Conveyance Requests, Economic Development Conveyance
26 requests and negotiated and/or public sales.

27

28

1 **Public Benefit Transfers**

2 The KPT and GAA have analyzed the boundaries of a proposed public
3 benefit transfer request for airport uses. As a result, this plan recommends that
4 the airport operations area be transferred to the Guam Airport Authority. In
5 addition, the boundaries approved by the Komitea for transfer to GAA includes
6 other properties which will be used for airport related uses to benefit the airport.
7 The Komitea Para Tiyan has included these parcels within the GAA boundaries
8 because of compatibility issues and revenue generation concerns. The final
9 boundaries for the Guam Airport Authority is depicted on appended diagrams.
10 The Federal Aviation Administration ("FAA") will decide upon this request soon
11 after the public benefit application is submitted by GAA.

12 Other areas for which public benefit transfers will be requested include:

13 **A. By the Department of Public Works** under the sponsorship of the
14 Department of Transportation, for improvements to the island's highway and
15 street network utilizing NAS parcels:

16 1. the rights of way required for the development of the Laderan Tiyan
17 Memorial Parkway;

18 2. the rights of way required for the development of Cabras
19 Parkway/Mariner Avenue Parkway; and

20 3. the rights of way for the completion of the Route 10 Extension.

21 **B. By the Department of Parks and Recreation** under the sponsorship
22 of the Department of the Interior, National Park Service for:

23 1. the Laderan Tiyan Memorial Park;

24 2. the MongMong-Toto-Maite Regional Park (adjacent to the NAS
25 Officer's Housing Area and the Calvo Family Compound); and

26 3. the Sports and Recreational fields and facilities.

27

28

1 **Economic Development Requests**

2 The new amended rules under the Pryor Amendment have simplified the
3 Economic Development Conveyance Request process, to some extent.
4 Specifically, the previous market test requirement has been eliminated and certain
5 eligibility criteria have been established by the DOD in order to evaluate
6 Economic Development Conveyance Requests. In addition, the terms of any
7 Economic Development Conveyance Requests have been modified so as to
8 provide greater flexibility in negotiations between LRA's and DOD with respect
9 to price and terms. This plan recommends that Economic Development
10 Conveyance applications for the economic development areas contained in the
11 plan be submitted by the LRA for approval by the Navy upon acceptance of the
12 NAS Base Reuse Plan. Any application for an Economic Development
13 Conveyance Request must now contain the following elements:

- 14 1. An adopted redevelopment plan;
- 15 2. An indication of the size of the parcels and the intended uses;
- 16 3. Discussion of the impacts of the closure of the base;
- 17 4. A job creation strategy;
- 18 5. A market analysis and business plan to determine financial
19 feasibility; and
- 20 6. A statement of why the conveyance is needed and why other disposal
21 authorities cannot be used to create jobs.

22 The criteria to be used by DOD in evaluating Economic Development
23 Conveyance Requests include the following:

- 24 1. Job creation potential;
- 25 2. Impact of closure on the local community;
- 26 3. Feasibility of development under the reuse plan;
- 27 4. Local investment and risk;
- 28 5. Local real estate market conditions;

- 1 6. Relationship with disposal plan of the military departments;
- 2 7. Extent of economic benefit conveyances to governmental entities
- 3 (including maintenance costs savings factors); and
- 4 8. Comments from other Federal Disposal Agencies.

5 6 **Rural Exemption**

7 The Navy has notified the Government of Guam that its application for
8 rural designation has been approved. As a result, Guam would be eligible to
9 receive properties under an Economic Development Conveyance at no cost.

10 11 **Negotiated and/or Public Sales**

12 To the extent the property is not disposed of in accordance with any of the
13 preceding procedures, it may then be offered for sale, either on a negotiated basis
14 to an identified entity (in this case presumably GovGuam), or failing that, to the
15 public. Generally, such a sale would seek recoupment by the Navy of the
16 property's fair market value however, ultimate use of the property would be
17 governed by this reuse plan.

18 19 **CAPITAL IMPROVEMENT PROGRAM**

20 21 **Costs**

22 The costs for implementing the Base Reuse Plan will be shared by both
23 public and private sectors over the next twenty years and will at the same time
24 represent economic opportunities in terms of jobs and business opportunities
25 created in order to implement the plan .Public implementation costs will be
26 shared among a number of governmental bodies. Some agencies have direct
27 revenue sources such as dedicated income from operations, and federal grants.
28 Included among these agencies are the Guam Airport Authority and the

1 Department of Public Works. Other agencies must depend on the General Fund
2 and will thus be dependent upon general economic conditions to provide adequate
3 budgets for implementation. Major costs related to commercial and industrial
4 development will be borne by the private sector. Development of tracts and
5 major projects is expected to include development of local streets and utilities and
6 contributions to offsite utility costs needed to service the development; i.e., a
7 private developer will finance this infrastructure out of the project budget with
8 little or no public subsidy. The cost estimates presented in this section are
9 developed at a conceptual level and have been costed using realistic average rates
10 for the various works. As such, these estimates must be considered to be an
11 indication only of the likely order of costs to be incurred.

12 Significant detail design work will need to be completed before these
13 budgets are converted to and considered as construction cost estimates. All
14 estimates are based on cost as of February 1995. No allowances have been
15 included for increasing costs due to inflation and market factors. To attempt to
16 forecast the effect of rising costs for up to twenty years in the future would only
17 serve to completely distort the cost structures and diminish the accuracy of the
18 estimates. In any case, increases in development costs through inflation or
19 market pressures will generally be balanced by increased income for those
20 organizations funding the work. Estimates for design and construction
21 management fees are included here, but provisions have not been made for
22 administration or supervision costs which may be incurred by GovGuam
23 Departments or Agencies which have jurisdiction over individual sections of the
24 development program. The summary in the following tables has been formulated
25 to identify the cost of three major cost centers. These three cost centers are:

- 26 1. Regional Infrastructure;
- 27 2. Airport Developments; and
- 28 3. Community Developments

1 The purpose of this breakdown is to be able to assess the costs to each of
2 the major cost centers that will be involved in implementing the plan.

3 4 **Regional Infrastructure**

5 Referring to Table 17, arterial roads and primary utilities will provide a
6 benefit to the airport, the developments proposed on NAS Agaña and the
7 surrounding region by improving traffic flow and utilities availability to and
8 around NAS Agaña. The cost of these roads and utilities will generally be
9 shared between airport-related and community-related developments. In some
10 cases, private developers of large projects and GovGuam agencies developing
11 large projects such as housing may be required to contribute to the cost of the
12 improvements in proportion to their use. Further detail design will require to
13 be completed prior to establishing an accurate cost sharing formula for these
14 utilities.

15 Airport Costs for projects on airport lands will be borne either by the
16 airport directly with reimbursement coming through user fees or leases or by the
17 developer of the facility with ground leases or other fees going to the airport
18 authority (Table 18). The airport cost center has been further broken down into
19 three sub-centers as follows:

20 **Airfield Upgrading**

21 Included are the estimated cost of runway, taxiway apron and other
22 remedial works and extensions. Although the cost of these works is required to
23 be funded directly by GAA, this sub-center includes only those works which are
24 likely to attract FAA subsidies.

25 26 **Aviation Industries/Infrastructure**

27 This cost sub-center includes the local roads and utilities required to
28 service the proposed developments within the Guam International Airport

1 boundaries. The cost of this infrastructure will be recovered from the proceeds
2 of the sale or lease of the available land.

3 **Developments**

4 The cost of upgrading existing structures and constructing new structures
5 are included in this cost sub-center. It is envisaged that most of these costs will
6 be met by private developers or business organizations constructing specific use
7 facilities. In some cases, the Airport Authority may choose to fund these
8 developments and recover costs through leases and fees.

10 **Community**

11 Referring to Table 19, this cost center has been further broken down into a
12 Community Infrastructure cost sub-center and a Commercial and Industrial
13 Developments cost sub-center. However, it should be noted that some of the
14 costs identified in these sub-centers were based upon the draft Base Reuse Master
15 Plan that included certain land uses (e.g., housing) that were subsequently revised
16 by the Komitea Para Tiyan. These costs will be revised after all local approvals
17 of the plan have been obtained and are provided only to give a sense for the costs
18 involved.

20 **Community Infrastructure**

21 This cost subcenter includes the cost of collector roads and primary utility
22 feeders necessary to enable further subdivision of the available land into the
23 economic zones described in Figure 22. The funding for this infrastructure will
24 need to be provided by the relevant Government agencies or instrumentalities in
25 advance of the developments. Costs are expected to be recovered through normal
26 user fees, although in instances of large development proposals, some or all of
27 these costs may be negotiated to be borne up front by the developing company or
28 agency.

Commercial and Industrial Developments

This cost sub-center includes the capital cost of both public developments such as recreation and private developments such as retail, commercial services, offices, and industrial development (Table 20). The associated local infrastructure including streets and utilities are included in this sub-center but are identified separately. This is because the cost of these services can be recovered from the proceeds of the lease of the available land to either private developers or the government agency which will be operating the facilities.

REVENUE CONSIDERATIONS

Referring to Table 21, the economic benefits resulting from the operational phase of the reuse activities will flow through the local Guam economy in several forms:

- **Direct Impacts:** The direct impacts are created by proprietors as they make purchases in the local economy for goods and services.
- **Indirect Impacts:** The direct expenditures by proprietors flow to vendors and other service providers, which in turn cycle the expenditures to other suppliers. This spending results in the so-called multiplier effect, and the dollars ripple through the economy. Typically, a dollar will turnover a total of five to six times in a regional economy before all the stimulative effects are exhausted.
- **Induced Impacts:** Induced impacts occur at the household sector level and result from the expenditure of payroll dollars in the local economy for goods and services. It is at this third level, the household level, where the benefits to individuals are most strongly felt. In time, as the economic benefits of the NAS reuse flow through to the household sector, an overall improvement in per capita incomes and quality of life will be achieved.

1 • **Government Revenues:** The reuse of the NAS property creates
2 government revenues in several stages:

3 1. The conveyance of leases to qualified parties for use of the
4 properties will create ground lease revenue streams. To the extent that the
5 ground leases are structured to include participation in project revenue streams,
6 additional revenues to the government may occur.

7 2. As business activities are initiated and expand, there will be revenues
8 to the government from gross receipts taxes, business license fees, income taxes
9 and other applicable fees. It is difficult to quantify these potential revenue
10 streams since they depend on the particular use, absorption and overall feasibility
11 of a development project.

12 3. In addition, depending on the structure and the land disposition
13 agreement with the Navy, there may be off-setting caretaker costs associated with
14 the NAS property.

15

16 **Job Generation**

17 The most important objective which drives the development of any base
18 reuse plan, and in particular, the reuse plan for Naval Air Station Agana, is the
19 generation of new jobs to off set the jobs lost as a result of closures and to
20 provide gainful and meaningful employment to those who are among the
21 unfortunate casualties of military downsizing. As shown in Tables 21 and 22,
22 reuse of NAS Agaña has the potential of generating over 6,700 new jobs after full
23 implementation, 4,500 in commercial and industrial uses and 2,200 in aviation
24 related uses.