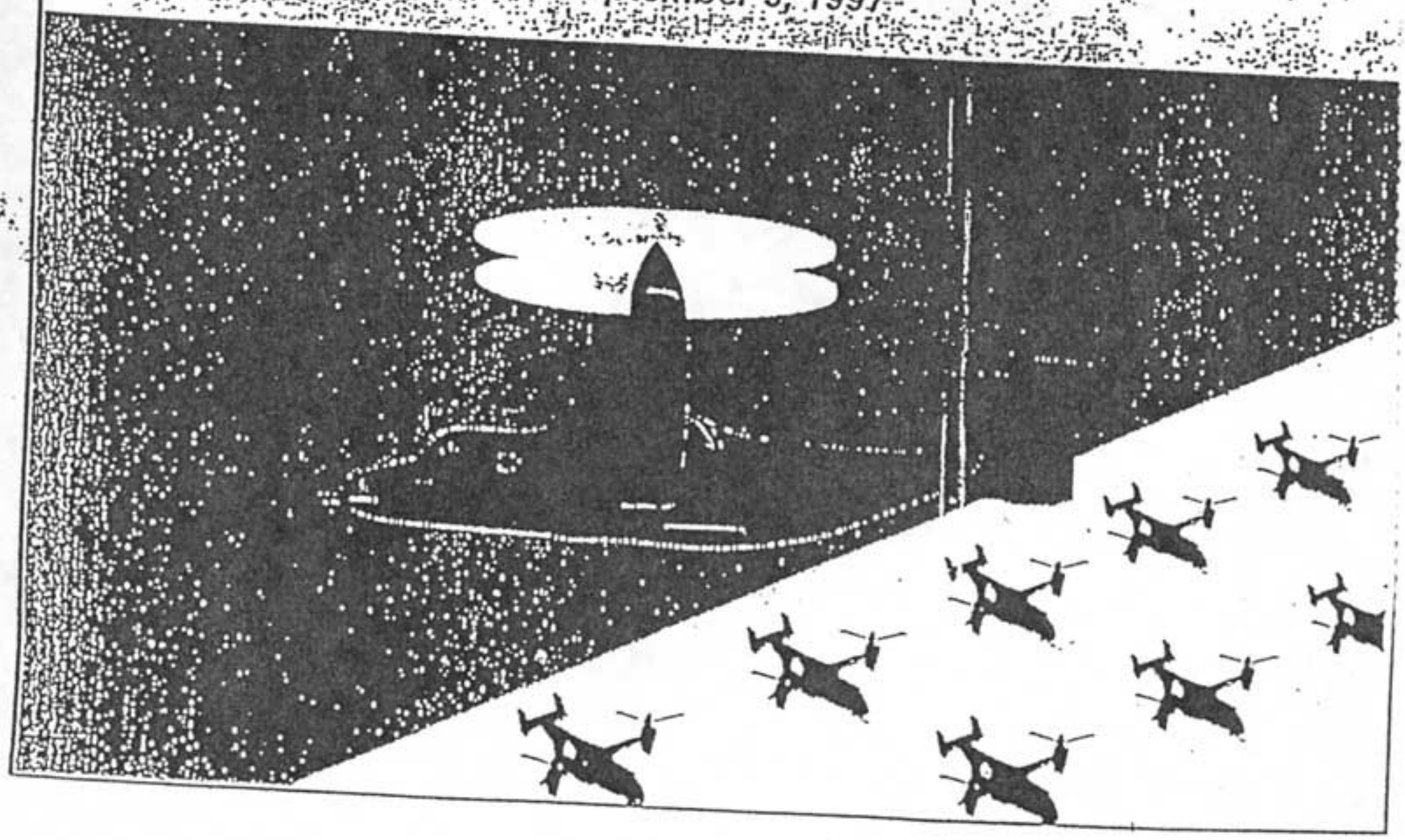
SBF SEA BASED FACILITY

Functional Analysis and Concept of Operations

MCAS Futenma Relocation

September 3, 1997



FACD Vol. 1 Executive Report

EXECUTIVE REPORT

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EXECUTIVE REPORT

DOD Functional Analysis and Concept of Operations for MCAS Futenma Relocation, Okinawa, Japan

Executive Summary

I. Purpose

The purpose of this document is to summarize the functional requirements and concept of operations for the relocation of MCAS Futenma based on the multi-agency Function Analysis Concept Development (FACD) meetings conducted by Pacific Division, Naval Facilities Engineering Command (PACNAVFACENGCOM) in Honolulu, Hawaii, August 25-29, 1997.

II. SACO Final Report

The relocation of Marine Corps Air Station (MCAS) Futenma was agreed upon by the bilateral Special Action Committee on Okinawa (SACO) on 2 December 1996. The SACO Final Report states that the air station (referred to as Futenma Air Station) will be returned to the Government of Japan (GOJ) after adequate replacement facilities are completed and operational. The study area for this project is shown in Attachment 1.

A. In the SACO Report, it was estimated that the relocation of MCAS Futenma would require five to seven years to complete.

B. The SACO Final Report on Futenma Air Station called for the creation of the Futenma Implementation Group (FIG). The FIG is a bilateral committee charged with identifying the relocation site for Futenma and preparing a detailed Implementation Plan for the relocation. Both the SACO Final Report and the SACO Final Report on Futenma Air Station are included as Attachment 2.

C. The SACO Final Report on Futenma Air Station stated that a Sea-Based Facility (SBF) would be constructed on the eastern part of Okinawa to absorb most of the helicopter operational functions of Futenma Air Station. The SBF will be 1,500-meters long with a 1,300-meter long Instrument Flight Rules (IFR) capable runway.

III. Issues/Concerns

The following are the major issues and concerns resulting from the FACD.

A. Completion of this project is estimated at 9-10 years from December 1996 versus the 5-7 years stated in the SACO Final Report.

B. Facility requirements for the relocation of MCAS Futenma are based on operational requirements not on Quid Pro Quo. GOJ relocation rules (quid pro quo) cannot be applied to the relocation of Futenma Air Station. Asset increases will be necessary to accommodate units that are split, shared assets that can no longer be shared, new mission requirements (MV-22), and extraordinary requirements resulting from operating off a SBF.

C. SBF maintenance is above the maintenance of a land based facility. For that reason the maintenance of the SBF and related facilities should be the responsibility of the GOJ.

D. Additional relocations could result from the current Relocation Plan because of capacity constraints at other U.S. facilities on Okinawa.

E. Maintaining operational readiness at MCAS Futenma during the stand-up of operations at the SBF will require additional resources for operating expenses, staffing and equipment.

F. The Defense Special Weapons Agency will be consulted for all force protection issues regarding the SBF

IV. Major Recommendations

Following are the major recommendations resulting from the collaborative efforts of the FACD participants.

A. FIG Organization

1. That Secretary of Defense (SECDEF) designate Under Secretary of Defense for Acquisition and Technology (USD (A&T)) as the DOD oversight activity, Assistant Secretary of the Navy Installation and Environment (ASN (I&E)) as the program executive, and U. S. Forces Japan (USFJ) as the Program Manager's conduit to the GOJ for the acquisition of the SBF.

2. That ASN(I&E) designate a professional Program Management office separate but in concert with the operational commands, to conduct program planning, concentrate and allocate resources, and oversee program execution of the relocation of MCAS Futenma to a SBF.

B. Schedule

That an additional design phase (Preliminary Design) occurring after concept selection be conducted before detail design and construction of the SBF. This Preliminary Design phase is required to prove that the proposed platform can meet U.S. safety and affordability (operations and support) requirements and will be operationally suitable for the USMC.

The addition of a professional Program Management office and inclusion of a Preliminary Design Phase in the SBF acquisition plan will significantly minimize USG risk in obtaining adequate relocation facilities.

V. Follow-on Action Items

The FACD study identified follow-on action items listed below.

A. Refine SBF operational requirements by combining the results of the FACD and the Marine Forces Japan (MARFORJ) Operational Requirements. (Action: PACNAVFACENGCOM)

B. Coordinate Operational Requirements with GOJ. (Action: USFJ)

C. Complete Technical Criteria for the SBF. (Action: NFESC)

D. Provide a Technical Criteria Package to the GOJ for use in the Concept Development for the SBF. (Action: USFJ)

E. Establish a Technical Support Team to review the concept design selected by the GOJ. (Action: PACNAVFACENGCOM)

F. Provide USG data (flight tracks, flight activity, and aircraft noise) to GOJ to allow them to perform a study to determine airfield runway orientation. (Action: MARFORJ).

G. Perform study of Okinawan air space. (Action: MARFORJ)

H. Determine communication requirements for the relocation of MCAS Futenma. (Action: MARFORJ)

EXECUTIVE REPORT

DOD Functional Analysis and Concept of Operations for MCAS Futenma Relocation, Okinawa, Japan

I. Introduction

Functional Analysis Concept Development (FACD) study of the DOD Functional Analysis and Concept of Operations for MCAS Futenma Relocation, Okinawa, Japan was conducted from August 25 to August 29, 1997. This process involved representatives from OSD, USCINCPAC, USFJ, USMC, US Navy, USAF, US Army, and DLA to analyze the MCAS Futenma mission and operational units in order to define the facilities, their location and space requirements.

The departure point for this functional analysis and concept of operations study was the preliminary operational plan as documented in the MARFORJ Operational Requirements for MCAS Futenma Relocation, dated 25 June 1997. PACNAVFACENGCOM reviewed and revised this document prior to the start of the study. The revised MARFORJ Operational Requirements for MCAS Futenma Relocation was completed on 3 July 1997.

The following narrative summarizes the MCAS Futenma project scope, critical project elements, and recommendations made in formulating the approved concept of operations. The intent of these approved documents is to establish the basis of operational requirements for the relocation of MCAS Futenma.

II. Project Background

The GOJ and the USG formed the SACO in November 1995. The stated purpose of the SACO was to reduce the burden of the U.S. military presence on the people of Okinawa. The SACO developed recommendations for the Security Consultative Committee (SCC) on ways to realign, consolidate and reduce U.S. facilities and areas, and adjust operational procedures of U.S. forces in Okinawa consistent with their respective obligations under the Treaty of Mutual Cooperation and Security.

The SACO Interim Report was approved in April 1996. Recommendations in this report included several significant initiatives and instructed the SACO to complete concrete implementation plans by November 1996. Of the 26 initiatives proposed by the SACO, 11 involved facility realignments or relocations.

On 2 December 1996, the SCC signed the SACO Final Report. This report included an addendum, the SACO Final Report on Futenma Air Station, which documented the decisions of the SCC, provided guiding principles for the relocation and established key milestones. The report established the FIG, which was tasked to develop a detailed implementation plan by December 1997. A copy of the SACO Final Report on Futenma Air Station is provided as Attachment 2.

The SCC determined that a Sea Based Facility (SBF) was the best option for relocation of Futenma Air Station in terms of enhanced safety and quality of life for the Okinawan people while maintaining operational capabilities of the U.S. forces.

Groups including GOJ engineers, university professors and other experts outside the Government have conducted studies unrelated to the FACD. The studies concluded that the three SBF construction methods mentioned below were technically feasible.

A. Pile Supported Pier Type (or Quick Installation Platform): Supported by steel columns fixed to the sea bed.

B. Pontoon-type (MEGAFLOAT): Steel pontoon type units. installed in a calm sea protected by a breakwater.

C. Semi-submersible type: A platform above the waves supported by underwater hulls.

The following sections of this report document a general Concept of Operations for the SBF and key program management items. The purpose of this Concept of Operations is to concisely communicate to interested parties the basic functional relationships of the SBF.

III. Relocation Plan

The closing of MCAS Futenma will require relocating Marines to several bases in the region. The following describes the preliminary relocation plan.

A. There are four principal commands at MCAS Futenma:

1. Marine Corps Air Station (MCAS)
2. Marine Aircraft Group 36 (MAG-36)
3. Marine Air Control Group 18 (MACG-18)
4. Marine Wing Support Squadron 172 (MWSS-172)

B. MAG-36 will relocate to the SBF. Current GOJ relocation site survey efforts are concentrated on the Camp Schwab area.

C. The Headquarters Division, Engineer Ops Division, and the Motor T Division of MWSS-172 will relocate to Camp Foster where three of their branches (Fuels/EAF/Comm), which fall under the Air Ops Division, are presently located.

D. The MCAS Operational Support Aircraft (OSA) (2 C-12 and 1 T-39) will be relocated to Kadena Air Base.

E. All MACG-18 units (MACG-18, MTACS-18, 1st Stinger Battery, MASS-2, MACS-4) presently located on MCAS Futenma will be relocated to Kadena Air Base, or Camp Foster, or a combination of the two (discussion has been initiated with the Air Force). MWCS-18 presently located at Camp Foster could remain there.

F. Contingency AM-2 matting and associated Expeditionary Airfield (EAF) equipment, currently at MCAS Futenma, needs to be relocated. Relocation sites, in order of most desired by the Marine Corps, are Naha Port, MCAS Iwakuni, and White Beach.

G. VMGR-152 will relocate to MCAS Iwakuni and become part of MAG-12.

H. Due to the limited land at Camp Schwab it is anticipated that the MCAS Futenma relocation to Camp Schwab will cause some Marine units to relocate to Camp Hansen.

I. These relocations are graphically represented on Attachment 3.

IV. SBF/Camp Schwab Facility Locations

MAG-36 will become the major tenant aboard the Sea Based Facility (SBF). MCAS will provide the functions required to operate the airfield. The remainder of MCAS functions will reside shoreside. Location of key facilities are listed below:

SBF	Camp Schwab Shoreside
MAG-36 HQ	MCAS HQ
MALS-36	Billeting
HMM Squadron (3)	Public Works
HMH Squadron	Medical/Dental
HMLA Squadron	MWR Facilities
Airfield Operations	Mess Hall
Ordnance Areas	Community Support Facilities
Compass Calibration Pad	Station Supply
Field Carrier Landing Practice Deck (FCLP)	Aviation Physiology/NVG Lab
Flight Line Mess	Airport Surveillance Radar (ASR)
Re-Fuel Pits	Ordnance Storage (Henoko ASP)
Fuel Storage	Aircraft Rescue and Fire Fighting (ARFF)
Warehouse	Utilities (Electrical, Water, Sewer)
Rinse Facility	Small Craft Pier
Combat Aircraft Loading area (CALA)	
Vehicle Parking (GOV/POV)	
Communications	
Compass Calibration Pad	
Ready Magazine (HE)	
Public Works Satellite Shop	
Aviation Supply	
Crash Fire Pit	
Small Craft Operations	
Mechanical Plant	
Corrosion Control	
NAPRA	
Engine Test Cell	
Cargo Ship Facility	

The locations of key functional areas are graphically shown on Attachment 4.

V. Projected Base Loading

Listed below is the projected base loading for the relocation of MAGS-36 to the SBF and Camp Schwab.

A. SBF: The SBF will become the new home of MAG-36 and as such will support the following units:

- 3 HMM squadrons of 12 aircraft/142 personnel each,
- 1 HMH squadron of 16 aircraft/241 personnel,
- 1 HMLA squadron of 27 aircraft/316 personnel,
- 1 Marine Aviation Logistics Squadron (MALS)/ 528 personnel and
- 1 Headquarters squadron/ 98 personnel..

B. In addition to MAG-36 commands, Naval Air Engineering Support Unit with 18 personnel. Naval Air Pacific Rework Activity with 51 personnel and MCAS with approximately 200 personnel to run the airfield will all be working aboard the SBF. These approximate numbers total 79 aircraft and 1,878 personnel.

C. Camp Schwab: Camp Schwab will see an increase of approximately 718 personnel coming from MCAS and other sources of civilian hire.

D. NOTE: The Loading is based on the Facilities Support Requirement (FSR) of 4 August 95 adjusted by CG III MEF letter of 19 July 96 and increased aircraft loading per HQMC fax of 23 May 97. The loading assumes the relocation of VMGR-152 (KC-130s) to MCAS Iwakuni.

VI. Functional Analysis

Based on a review of the Operational Plan–MCAS Futenma, a Function Analysis System Technique Model was developed (one for the Overall MARFOR Mission and one for the MCAS Futenma Relocation) showing the key functional relationships of the project functions. These diagrams are included as Attachments 5 and 6. The initial analysis of the requirements indicated that the primary functions of MCAS Futenma were to *Maintain Readiness* by *Training Marines*.

The participants were formed into teams to focus on the following key functions:

1. Airfield Operations
2. Maintain Aircraft
3. Support Operations
4. Fuels
5. Communications
6. Public Works
7. Survivability and Maintainability
8. Manage Project/Implementation

VII. SBF Size Requirements

A preliminary analysis of the space required on the surface of the SBF to accommodate the key operational requirements and functional areas, resulted in the following projected minimum size requirements.

A. The minimum SBF size is estimated at 1500-meters in length and 800-meters wide. The width could increase to 1000-meters or more depending on facilities layout on the SBF.

1. The length has been sized to accommodate a 1300-meter runway with 100-meter overruns at each end.

2. The width will be determined by airfield operational clearances and facilities required on the surface of the SBF. These facilities include; runway with necessary clearances, parking for all aircraft, hangars, refueling pit, CALA, compass calibration pad, FCLP deck, fire fighting pit, perimeter road, cargo ship facilities, and Air Traffic Control (ATC) tower. Based on these requirements, the minimum width is projected to be 800-meters. The width could be 1,000-meters if all facilities required to be on the SBF are located on the top surface.

B. A notional layout of the SBF is shown on Attachment 7.

VIII. Schedule

The project management team analyzed the overall project schedule and confirmed that the acquisition of the sea based facility is the determining factor. Land based construction at the receiving facilities all fall within the timeframe required to build the SBF.

A. The overall schedule (Attachment 8) is considered to be 9-10 years from December 1996 versus the 5-7 year period stated in the SACO report.

B. Training/Certification at SBF

It is anticipated that there will be an extended period to train personnel on the SBF systems and to certify the facility ready to accommodate flight operations.

C. Transition of Operations to SBF

1. The SBF shall be fully functional at the time of closing MCAS Futenma, which means a duplication of equipment aboard the SBF allowing for a transition period for personnel to familiarize themselves with SBF operations.

2. Time to transition from MCAS Futenma to the SBF is estimated to be at least 18 months based on recent base closure experience in the U.S.

D. To minimize split operations, construction at the receiving sites is projected in conjunction with the SBF completion. This could result in GOJ having funding flows, which may lead them to request earlier construction at several locations.

E. A near term schedule including milestones from now until the completion of the implementation plan in mid-April 98 was developed (Attachment 9). This highlighted the actions needed and responsibility to provide the draft evaluation criteria to GOJ to permit the start of concept design by mid December.

IX. Risk Management

The USG and GOJ are developing a SBF to conduct USMC aviation training operations for forces based on Okinawa. The construction of this multi-billion dollar facility is a high-risk project as it will be the first of a kind and will be subjected to extreme weather conditions (typhoons, tsunamis) and seismic events. For these reasons actions should be taken to minimize risk to the USG.

A. The current aggressive program schedule does not include plans to conduct detailed risk assessments, life-cycle cost analyses, or design tradeoffs for candidate technologies prior to detail design and construction. Given the extraordinary scope, technical challenges and unique nature of the SBF, and the potential risk to life and critical strategic assets that will reside on the SBF, it is imperative that the USG insist a Program Development and Risk Reduction phase be included in the SBF development plan. Patterned after elements of the Defense Acquisition Model, this effort will permit the U.S. Government to ensure that the SBF will be both affordable and operationally suitable prior to committing to a specific platform design.

B. An important aspect of reducing risk on this project will be to incorporate a Program Management office in the FIG Organization (Attachment 10). To accomplish this the following actions should occur.

1. That Secretary of Defense (SECDEF) designate Under Secretary of Defense for Acquisition and Technology (USD (A&T)) as the DOD oversight activity, Assistant Secretary of the Navy Installation and Environment (ASN (I&E)) as the program executive, and U. S. Forces Japan (USFJ) as the Program Manager's conduit to the GOJ for the acquisition of the SBF.
2. That ASN(I&E) designate a professional Program Management office separate but in concert with the operational commands, to conduct program planning, concentrate and allocate resources, and oversee program execution of the relocation of MCAS Futenma to a SBF.

X. SBF Survivability and Maintainability

The SBF is a unique facility located in an extremely hazardous environment: design loads and structural assumptions are critical to the mission and survival of the Marines and their aircraft. Improper description and considerations of requirements for survivability and maintainability could result in premature failures, increased maintenance costs, injuries, loss of life, and loss of assets. Therefore, our key recommendation is that the U.S. Government review and approve the SBF design at key points during the process. In addition, the following should be considered.

1. Require that loads/structural design adheres to specified standards or that they be verified by tests where applicable standards do not exist.
2. Provide design features for mitigation and control of fire, smoke, and flooding on the SBF.
3. Require isolation of damage and resumption of full air operations within 48 hours after an incident and recover from damage to a causeway within 24 hours.
4. Incorporate maintainability requirements including repair preparedness.
5. Harden SBF critical structural areas to mitigate the effects of purposeful destructive acts.
6. Locate facility away from shipping lanes and provide NAVAIDS for ships.

7. Incorporate coatings and catholic protection systems to eliminate or minimize maintenance for the life of the structure.

8. Maintenance of the SBF is dependent upon the type of construction concept selected. All three concepts will require accessibility by boat/work platforms. Maintenance facilities for these boat/work platforms will be required with electrical power, water and compressed air.

XI. Environmental Issues

The USG desires that the MCAS Futenma relocation be accomplished in coordination with GOJ in a manner that will preserve and protect the natural resources of Okinawa. The following items should be considered.

A. Potential damage to the reef should avoided.

B. There will be a large amount of fuel stored on the SBF. In the event of a fuel system failure, contamination to the local waters could have long-term impacts.

C. Hazardous material on the SBF must be secured to prevent discharge into the ocean during storm conditions.

XII. SBF Operations

The general concept for the SBF is that it will be a working platform only. The SBF will be capable of supporting operations and training requirements for all tenant aircraft, including the MV-22, and have the capability to support and to park any current tailhook aircraft, VTOL aircraft (AV-8), and KC-130. The SBF will incorporate a runway, FCLP deck, parking apron and will support up to depot level maintenance functions. The SBF will be connected to shore by bridges or causeways. The SBF infrastructure must have provisions to accommodate a 20% growth.

A. MAG-36

MAG -36 is a subordinate command of 1st Marine Aircraft Wing (1st MAW) that provides tactical fixed and rotary wing support for Fleet Marine Forces operations. The concept of operations for MAG-36 at MCAS Schwab is to operate five tactical flying squadrons and MALS-36 from the SBF. The flying squadrons to be located at MCAS Schwab are three Marine Medium Helicopter squadrons, one Marine Heavy Helicopter squadron, and one Marine Light Attack Helicopter squadron.

B. Supply

Ready storage of aircraft and GSE spare parts shall be maintained on the SBF.

C. Terminal Services

Airfreight functions to include all cargo and passenger transportation needs, including movement of cargo, shall be under one roof adjacent to the visiting aircraft line.

D. Airfield Security

Airfield Security must have the ability to see the entire surface of airport and have the ability to respond to security violations as well as provide customs service, when required.

Airfield Security shall be integrated with the entire SBF security system, which shall be state of the art.

E. Aircraft Rescue and Fire Fighting

1. Consolidated Structural and Aircraft Rescue and Fire Fighting (ARFF) will be on the SBF.

2. Dispatcher must have clear view of the airport surfaces for minimum response time of 3 minutes to any emergency.

3. Rescue boat launch facility is required on the SBF.

4. A crash fire pit will be on the SBF to train aircraft fire and rescue personnel on effectively extinguishing aircraft fires.

F. Aircraft Recovery

Aircraft recovery system shall include:

1. Two sets of E-28 bi-directional arresting gear for recovery of divert tailhook equipped aircraft , and

2. Either the Precision Approach Path Indicator (PAPI) or Field Landing Optical Lighting System (FLOLS) systems.

G. Weather Services

1. Full weather service and facilities on the SBF will include all existing systems and related equipment at MCAS Futenma including equipment from MWSS-172 (small van pad for the Meteorological Mobile Facility). This includes all connections to weather equipment on the airport surface and elsewhere (Satellite links, modem, etc.).

2. In addition to all electronic weather equipment, a manual Visual Wind Direction indicator (Wind Sock) is required at each end of the runway and the FCLP deck.

H. Air Traffic Control (ATC)

1. ATC operates the equipment and Ground Electronic Maintenance Department (GEMD) maintains it.

2. Air Surveillance Radar (ASR) must be located to adequately cover the air space around the SBF.

3. The Precision Approach Radar (PAR) must be located a minimum 2500' from the end of the runway it serves. Therefore, the SBF must have two PAR.

4. The signals from PAR/ASR/Radio Transmitter and Receiver sites must be transmitted from the respective systems to the Radar Air Traffic Control Facility (RATCF). The industry standard for transmitting radar and communications signals over short distances is through fiber optic cables. Ducting must be provided to protect the fiber optic cabling and communications wiring and cabling.

5. Air Traffic patterns, approach control responsibilities, AICUZ (noise contours/abatement procedures) and Terminal Instrument Procedures (TERPs) (obstacle avoidance data) studies need to be determined.

6. Approach Lights and PAR centerline reflectors will be required to be placed off of the SBF in line with the projected centerline of the runway for instrument approaches and night landings at the primary runway (not for the FCLP deck).

7. Frequency assignments will be required for Navigation aids (NAVAIDS) ASR, PAR, tower controlled Airfield Lighting Control System, and voice communication frequencies from GOJ.

8. All ATC facilities require backup power sources (Emergency Generators/Uninterruptable Power Supplies).

I. Ground Electronics Maintenance Department

GEMD maintains the equipment for Weather and ATC and requires facilities for parts storage, office/work spaces, etc.

J. Flight Clearance

Services will be provided from Airfield Operations facility using equivalent equipment to what exists currently at MCAS Futenma, and must be co-located with Airfield Operations administration offices, weather, GEMD, and have connectivity to all airfield operations services, fuels, ordnance, squadrons, to include Naha flight clearance.

K. Ordnance

1. Long term ordnance storage should be located on shore at Henoko Ordnance Area.

2. Additional temporary storage for 10,000 lb, net explosive weight (NEW) Class 1/Division 1, 2, and 3 should be located on the SBF in a ready service magazine.

3. Use of a High Performance Magazine (HPM) type non-propagation walls will limit the maximum credible event for the ready service magazine to 2500 lb. NEW.

4. A CALA will support simultaneous loading of four MV-22 aircraft and be connected by taxiway. Aircraft spacing on the CALA will be such that accidental detonation of one aircraft's ordnance will not cause detonation of the ordnance on the other aircraft.

5. The CALA, Ready Service Magazine and munitions assembly area should collocated and must be sited 381-meters from inhabited buildings.

6. A 153-meter sphere about the magazine and assembly area will not be compromised by flight operations when ordnance is present.

XIII. Airfield Operations

The following functional areas need to be considered in order to operate an airfield on the SBF.

A. Airfield Characteristics

Based upon a 1966 study, the proposed runway orientation should be 7/25 (new study required). The runway will be 1300-meters long, 46-meters wide with 100-meter overruns. It will be an IFR Class II airfield. MV-22 Osprey is the governing aircraft for the runway designation. The SBF is also a divert field for fixed wing aircraft and will require airfield safety clearances based on Class A, Fixed Wing runway criteria. Two sets of E-28 arresting gear are required 457-meters from each end of the platform, which is approximately 366-meters from the end of the runway. A separate FCLP deck will be provided for training purposes, contingency parking, functional check flights.

A parallel 23-meter wide taxiway, 153-meters from runway centerline is required. Fixed obstacles will be no closer than 31-meters from taxiway centerline. Aircraft parking apron will

be provided for all tenant aircraft and room for a Visiting Aircraft Line (VAL) to fit a minimum of one (1) KC-130, or a maximum of 4 MV-22's with room to turn around and back taxi under their own power. A crash response pad will be provided in the proximity of the runway. Additional aircraft facilities to be provided are arm/dearm area, drive through rinse facility, compass calibration, and rapid refueling pit. The flightline will also be outfitted to provide lighting, tiedowns, and grounding. Flush mounted firefighting system should also be considered for the flightline, CALA and fuel pit.

Airfield Operations requires a control tower with a clear view of all airport surface areas and airborne traffic patterns. ARFF and security personnel must have a clear view of the airport surface and its perimeter.

B. Clearance Zones/lighting/marking

Approach lighting at each end of the runway will be provided. Runway, helicopter pads and taxiway marking, lighting and clearance zones will be per appropriate references.

C. Communications

Communications connectivity is vital to airfield operations on the SBF. Air traffic, weather, and flight surveillance information needs to be exchanged throughout the air base as well as with other on-island airfields and global air traffic control systems. A graphical representation of the communication systems is shown in Attachment 11.

The SBF will require provisions for Defense Information Infrastructure (DII/Defense Information System Network (DISN)) base, and tactical level connectivity supporting C4I systems normally associated with airfield operations. There currently is DII connectivity to Camp Schwab; connection to the SBF will need to be made when the construction is completed. Transition to the SBF when MCAS Futenma closes will require the duplication of the high speed processors for the operation of the airfield. The fiber optic transmission facility serving the southern part of the island runs through MCAS Futenma and will need to be replaced or easements acquired upon closure of the air station when the land is returned.

D. Simulators

Flight simulators are required for all types of aircraft to be located on the SBF. Simulators should be located as close as possible to the squadrons and flight line to save time, travel requirements, and cost.

E. Security/Search and Rescue Boat Operations

Security operations for the SBF should include one access gate on each causeway, whether on the landside or the SBF side with appropriate guard post facilities with phone and air conditioning. A catwalk or other provision for patrolling the perimeter of the SBF will be required with provisions for telephone, FM radios and landlines. Lighting should be provided for vehicle/walking patrols for security and safety. Security offices, armory, storage, billeting and detention areas will be provided on the shore side.

Search and rescue boats are required in the event of an aircraft mishap or an accidental man overboard. Boats will also be needed to maintain the airfield related lights located off the SBF in the surrounding waters. Berthing facilities are required on the SBF. Small boat maintenance facility will be on shore.

F. Lighting/Arresting Gear

The FCLP deck will be lighted separately to support both unaided and Night Vision Goggle landing.

The airfield will serve as a divert airfield for any aircraft capable of safely landing on a 1300-meter runway or any tailhook equipped aircraft, as the SBF will maintain two sets of E-28 arresting gear.

XIV. Aircraft Maintenance

All aircraft maintenance functions will be located on the SBF. The key aircraft maintenance functions are discussed below.

A. Hangars

Hangars are required for the five helicopter squadrons (three HMM, one HMH and one HMLA) that are relocating to the SBF as well as additional hangars for the MALS, NAPRA and corrosion control. Hangars will be used for maintenance of aircraft in open hangar spaces, while providing maintenance shop spaces, and offices for squadron personnel. Specialized spaces such as secure storage, clean rooms for hydraulics, and storage for embarkation boxes for mobilization gear are also required to be located within the squadron hangars. Hangar heights and overhead hoist equipment shall be sufficient to allow servicing both CH-53E and MV-22 aircraft. The squadron maintenance requirements will be conducted separately from the MALS and NAPRA maintenance. (MALS and NAPRA operations are addressed separately.)

The required hangars should be provided for the type of aircraft to be assigned. Heavy lift aircraft require Type II hangars and other lighter rotary wing squadrons require Type I hangars.

—The frequency and intensity of typhoons affecting Okinawa require all aircraft to be placed in hangars. Aircraft assigned to the SBF will not have the capability to fly to a safe haven. Manpower constraints require that all aircraft maintenance and hangaring be performed on the top deck.

B. Corrosion Control

A corrosion control facility is required to eliminate the effects caused by the inherently corrosive environment of Okinawa. It will be used for aircraft and component stripping, treatment, and painting in a controlled environment. This facility must be completely contained to allow for the use of potentially hazardous materials, ensuring proper corrosion control techniques are adhered to and effective training is conducted. Two separate bays are required: one for stripping and one for painting. Each bay must be able to accommodate the largest aircraft, i.e. MV-22, CH-53E.

C. Marine Aviation Logistics Squadron –36

MALS-36 provides intermediate level maintenance on aircraft and aeronautical equipment of all supported units of MAG-36. One Type II hangar is required to service CH-53E helicopters to support the intermediate maintenance program and is in addition to the hangars required for organizational maintenance. MALS includes an airframes/power plants division, an ordnance division, an avionics division, a supply division, and a headquarters.

D. Aircraft Rinse and Wash Facilities

An Aircraft Rinse facility will be needed on the SBF to provide unattended taxi-through fresh water deluge system for assigned aircraft. The facility should be sized to accommodate both rotary wing and fixed wing aircraft such as the MV-22.

Aircraft Wash Facilities are required IAW the OPNAVINST 4790.2 series and the Maintenance Requirement Card, which requires aircraft to be washed on a regular basis to arrest corrosion. The anticipated wash cycle due to the location of the SBF will require aircraft to be washed once every 7 days versus the normal once every 14 days for shore based airfields. The wash facilities must be sized to accommodate one MV-22 and one CH-53E spread at the same time. High-pressure cold and hot water as well as high-pressure air are used for wash operations. The facility should be easily accessed by ground support equipment used to tow aircraft.

E. Ground Support Equipment

Approximately, 16,000 pieces of GSE are utilized at MCAS Futenma in support of MAG-36 and MCAS. A facility for the storage, service and maintenance of GSE as well as a facility for corrosion removal and repainting is required.

F. Mobile Facilities/Van Pad

A Mobile Facilities (MF) Van Pad for approximately 307 vans is required to support the Marine Aviation Logistic Support Program (MALSP) concept. The van pad needs to be placed in close proximity to the MALS and the flightline since the vans are used as maintenance spaces. Since the vans are critical to operations, the van pad area requires emergency back-up generator power.

A Mobile Van Maintenance Facility is also required by MALS to maintain and repair their MF vans. The facility shall include a maintenance area, sandblast room, paint room, air conditioning repair room, office/administration spaces, storage parts room, restrooms, lockers/showers and mechanical equipment room. This facility should be located with the MF van pad area.

MF Vans can be task organized to support deployed units during contingencies. The requirement exists to load the vans onto cargo ships from the SBF since the road network between Camp Schwab and Naha Port is not conducive to their overland transport.

G. Navy Calibration Lab

The Navy calibration lab provides calibration of over 3,000 aviation assets within established cycles and tolerances. The lab supports USMC, USAF and USN requirements and will be located at Kadena AB.

H. Naval Air Pacific Rework Activity

NAPRA provides depot level in-service repair of aircraft airframes (damage resulting from crashes or severe corrosion; aircraft are usually not able to fly). NAPRA builds components and parts that are irreplaceable or require too long an acquisition time for obtaining the part via the supply system. NAPRA requires a hangar for induction of aircraft for depot level work as well as shops in the hangar to support the repairs. Shops for manufacturing and testing these parts include machine and metal working shops, composite repair clean rooms, blast and paint booths, non-destructive testing, tool rooms, and metal stockpile and storage.

NAPRA also services aircraft that are deployed on ships in various theaters as well as units deployed to MCAS Iwakuni and Kadena AB. Servicing of these aircraft requires storage of propositioned tool and equipment kits that are sent to the various ships or bases as required. Administrative offices are also required to support and manage the aircraft repair operations. The Type II hangar would provide sufficient space for servicing the CH-53E aircraft. Normally, two to three helicopter airframes are undergoing repair at one time.

I. Compass Calibration

A compass calibration pad is required for calibrating compasses for assigned aircraft on the SBF.

J. Engine Test Cell

Test cells for out of frame testing are required for the five different types of engines to be services at the SBF. The test cells should be located on the SBF close to the engine repair shop.

XV. Logistics

The following discusses the key logistical functional areas required to support the MCAS Futenma relocation.

A. Supply

Warehouse facilities are required for aviation maintenance support and organic mount-out of equipment by the tenant units at MCAS Futenma.

B. Fuel/Oil Supply and Spill Response

MCAS Futenma currently has approximately 828,000 gallons of fuel storage for aircraft, which is resupplied from the Army's storage facility at Camp Lester. The fuel is shared by all of the station aircraft including KC-130, C-12, T-39, CH-53E, CH-46, AH-1 and UH-1. Storage requirements for a 35-day minimum operating supply for assigned aircraft at the SBF needs to be determined. Storage facilities will be located on the SBF.

Fuel truck fill stand and defueling capability for two trucks simultaneously is required. The eight fuel trucks operated for delivery of fuel to aircraft also require parking facilities with proper spill containment provisions.

The preferred resupply option to support SBF operation is a 22 mile pipeline from the Army's Chimu Wan storage facility near Tengan Pier to Camp Schwab to minimize long term operational and maintenance costs. A possible obstacle for this option is obtaining property rights-of-way for the line. A right of way presently exists for communications lines that may allow a pipeline to be constructed in the same corridor. A less preferred option is resupply by barge or tanker ship to bring fuel to the SBF. This option requires wharf facilities or a fueling buoy to be provided. However, this resupply option will require added functions and associated manpower or cost for tug assist and stevedoring for ship berthing, oil spill response and containment as well as high maintenance cost for fuel buoys. The resupply by ship and barge also is subject to scheduling difficulties due to inclement weather or availability of ships. If tanker ships are used the storage capacity at the SBF will need to be increased greatly to accommodate the quantity of fuel the tankers deliver. In addition, 100% redundancy of fuel storage is required.

Aircraft fueling pits at the flightline are required. The fuel pits required are hot refuel type capable of fueling four MV-22 aircraft simultaneously.

C. SBF POV Parking and Personnel Transport

Single personnel will be billeted shoreside. Married personnel will be billeted in Military Family Housing (MFH) closest to Camp Schwab, i.e. Kadena AB, Camp McTureous and Camp Courtney MFH areas.

POV parking for personnel will be available on the SBF. POV and government vehicle parking will be based on MIL-HDBK-1190 allowances. Vehicle access from shoreside shall be via causeways or bridges.

Transportation to and from the SBF by the station shuttle similar to what currently exists on station today will also be available.

D. Cargo Ship Facility

A cargo ship facility for an AFS Supply Ship (TAVB) is required at the SBF and must have dockside capability to load/unload 307 MF Vans.

XVI. Support

The following discusses the key support functional areas required for the MCAS Futenma relocation.

A. Mess/Flight Line Kitchen/Snack Bar

Based on SBF working personnel being billeted shoreside on Camp Schwab, the bulk of the personnel are anticipated to eat breakfast and dinner in the Camp Schwab shoreside mess hall and lunch on the SBF. There is also a requirement for midrat meals on the SBF for working sections that miss regular meals.

Therefore, a satellite messing facility shall be provided on the SBF. This facility will operate as a fast-food kitchen with a serving/dining deck, allowing personnel to eat-in or take out meals. Food Services estimate a need to mess 1,400 personnel per meal on the SBF. The satellite facility is anticipated to be supported by the Cook/Chill concept with a fast-food kitchen and a Food Court style menu and a 300 person capacity messdeck to provide for food variety and surge feeding. A continuous snack line would operate, making midrat meals and snacks available at all times.

B. Medical/Dental

No dental services will be provided on the SBF as all oral health care services will be provided on the Camp Schwab shoreside dental facility.

Although a Branch Medical Clinic on the Camp Schwab shoreside will provide the predominant medical health care treatment, a Medical Flight Line Aid Station with ambulance is needed on the SBF to provide on-site access to medical care and emergency medical response to SBF emergencies.

C. Public Works

a. Water, electricity and fuel will be delivered externally to the SBF by appropriate means (versus ship-like internal generation). Sewage will be piped off the SBF a shore

based treatment facility. The current Camp Schwab facility cannot accommodate the increased sewerage requirement generated by the SBF.

b. A utility corridor on each access road shall be provided for ease of maintenance and redundancy, minimize exposure to corrosive elements, and protection from damage due to subversive acts.

c. Compressed air and HVAC will be generated on the SBF.

d. Gray water will be collected and sent to an oil water separator prior to sea disposal provided that it meets Japan Environmental Governing Standards (JEGS). Otherwise a treatment facility will be constructed on the SBF.

e. Storm water will be discharged directly to the ocean, as there are no GOJ or USG regulations prohibiting it. If the GOJ determines collection and treatment of storm water is necessary, they shall provide and be responsible for the cost of operating and maintaining the system as this is a cost not associated with based facilities.

f. If the SBF infrastructure requires bilgewater treatment, this shall be the responsibility of the GOJ to provide and be responsible for the cost of operating and maintaining the system as this is a cost not associated with land based facilities.

g. Hazardous release response requires storage of cleanup material and equipment, and staging of oil booms at strategic locations on the SBF.

h. A small boat berth and small boat maintenance facility is required on shore.

i. Infrastructure to support AFFF systems at the hangars is required. Potable water is required with this system.

D. Circulation

The SBF will be built to support normal vehicle traffic and access with provisions for POV and government vehicle parking. Access shall be by bridges or causeways. Two separate bridges/causeways shall be provided. SBF access roads shall be designed for two-way traffic with bike lanes and pedestrian sidewalks. Traditional vehicle and perimeter roads are required on the SBF. The access bridges or causeways shall allow for security and maintenance boats to cross without impacting access road operations.

XVII. Design Considerations

During planning and design the following should be addressed.

A. Design for the Physically Handicapped

Accessibility to meet federal regulations will be provided in the new or renovated facilities at the SBF and Camp Schwab.

B. Permits and Approvals

All permit and approvals for this project shall be obtained by the GOJ

C. Base Master Plan

Shoreside facilities must comply with the Base Master Plan. Once facility requirements for Camp Schwab are finalized, the Base Master Plan should be updated.

D. Site Approval

The information in this report will be used by the GOJ to develop a concept design for the SBF. The concept design will include a recommended site, basing mode, configuration plan, and a functional plan. This information will be reviewed and approved by the FIG.

E. SBF Equipment

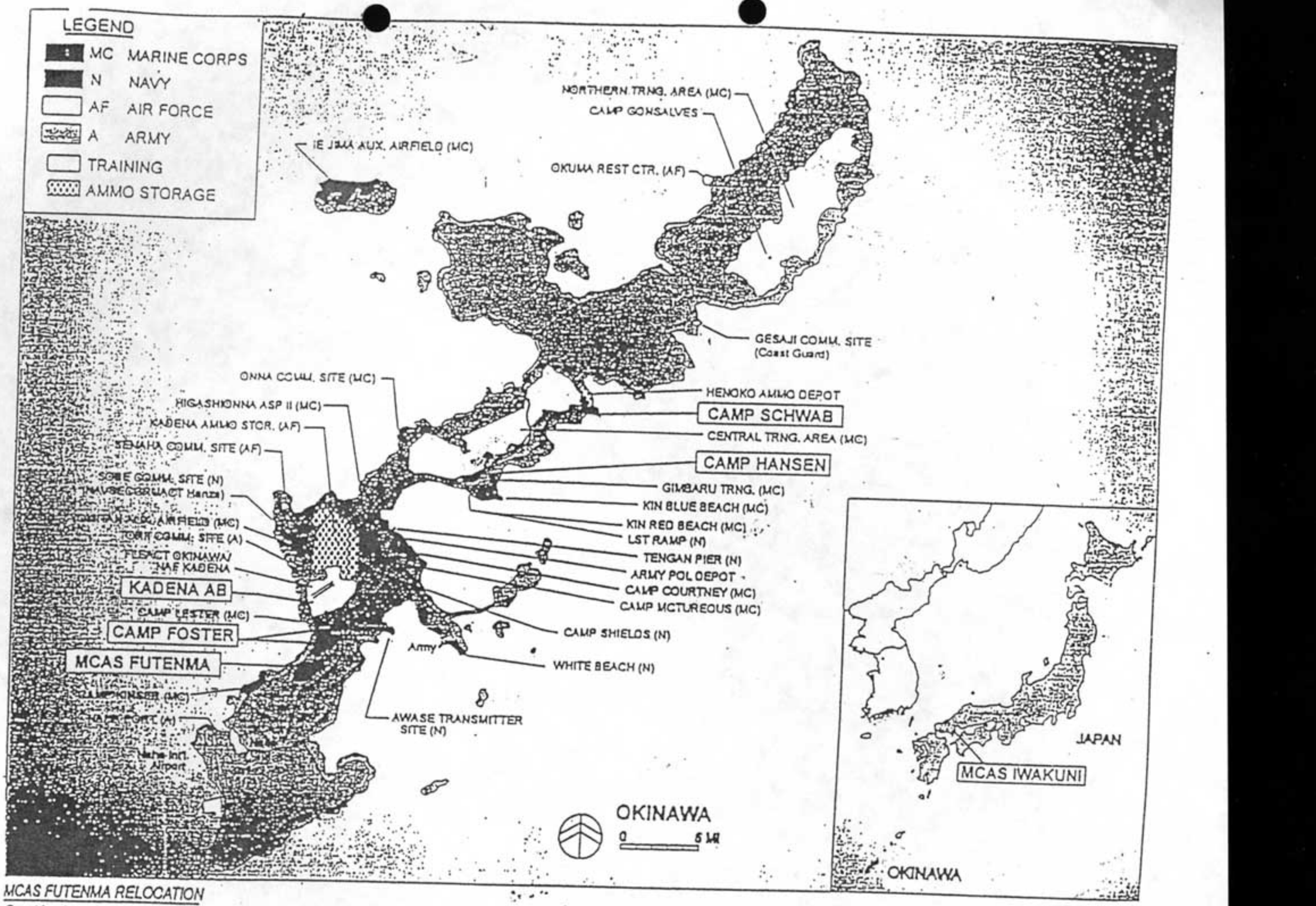
Equipment required to operate and maintain the SBF shall be provided by GOJ. This equipment shall include small craft necessary to patrol and maintain the facility.

F. Sustainable Development

The design of the SBF should consider the ability to recycle materials and conservation of energy and natural resources. The full cycle optimization of materials should be considered.

XVIII. Attachments

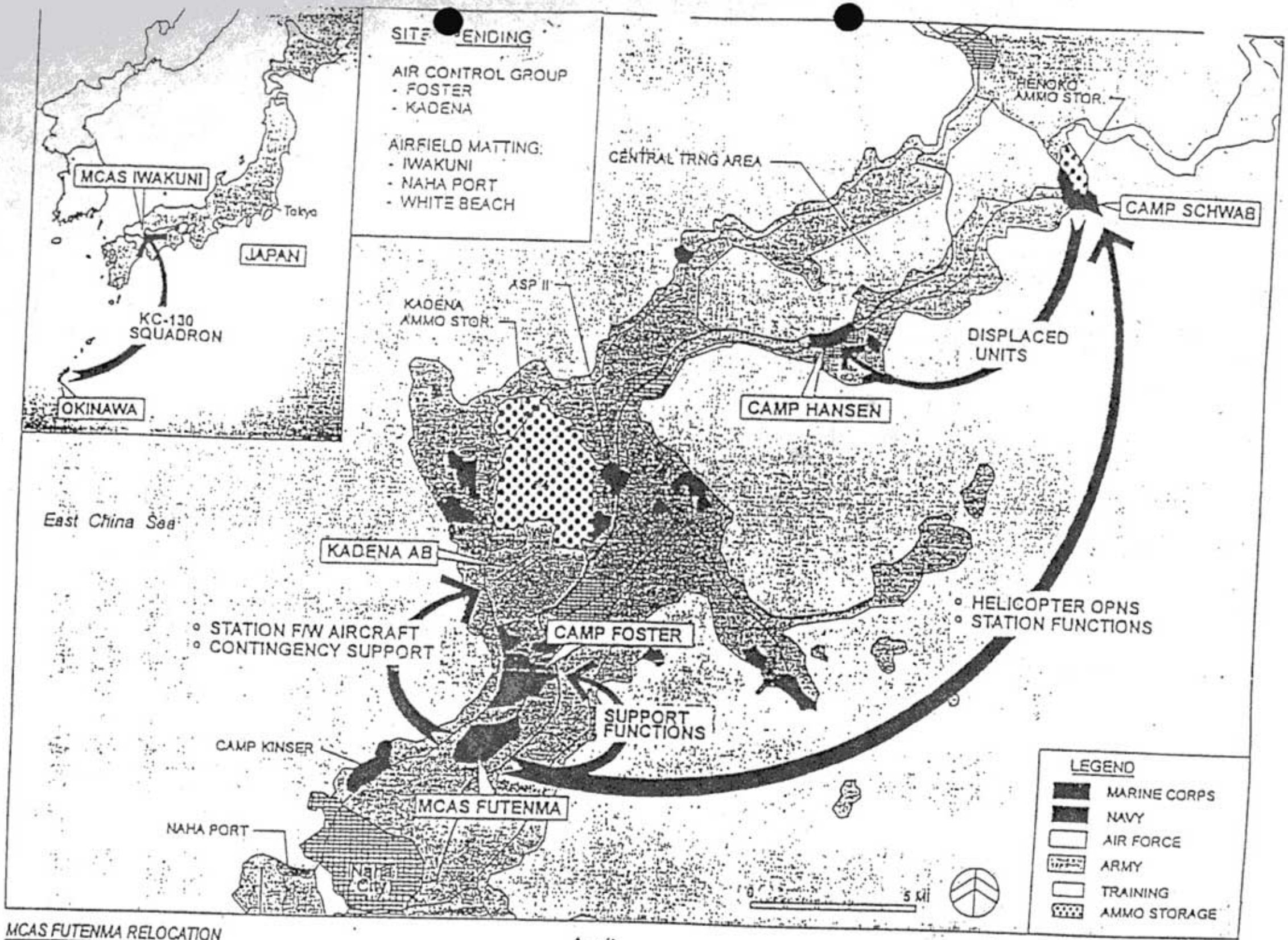
1. Study Area
2. SACO Final Report
3. Relocation Overview
4. Function Analysis Summary
5. FAST Diagram - Overall Mission
6. FAST Diagram - MCAS Futenma Relocation
7. SBF Notional Layout
8. Schedule - Overall
9. Schedule - Near Term
10. Program Management Organization
11. Communications Schematic



MCAS FUTENMA RELOCATION

O K I N A W A

STUDY AREA



MCAS FUTENMA RELOCATION
OKINAWA

HENOKO ORDNANCE AREA

CAMP SCHWAB

Henoko Village

STATION SUPPORT FUNCTIONS

- BILLETING / MESSING
- TROOP SUPPORT / MWR
- ORDNANCE STORAGE (HENOKO) *
- BASE SUPPLY
- MEDICAL / DENTAL
- UTILITIES (ELEC, WATER, SEWER)
- PUBLIC WORKS MAINT.

AIRFIELD SUPPORT FUNCTIONS

- AIR OPERATIONS
- A/C MAINT. (ORG./INT./DEPOT *)
- READY MAG (HE)
- CALA
- AVIATION SUPPLY
- VEHICLE PARKING
- COMMUNICATIONS
- FUEL STORAGE
- SATELLITE MESS
- FCLP DECK
- CRASH FIRE PIT

DUAL ROAD ACCESS *

SMALL CRAFT OPS

FCLP DECK

SEA BASED FACILITY

CLASS "A" FIXED WING RUNWAY *

CALA

PIER

NOTES: • FUEL SUPPLY BY PIPELINE PREFERRED.
* CHANGE FROM OPERATIONAL REQUIREMENTS BOOK.

MCAS FUTENMA RELOCATION
OKINAWA

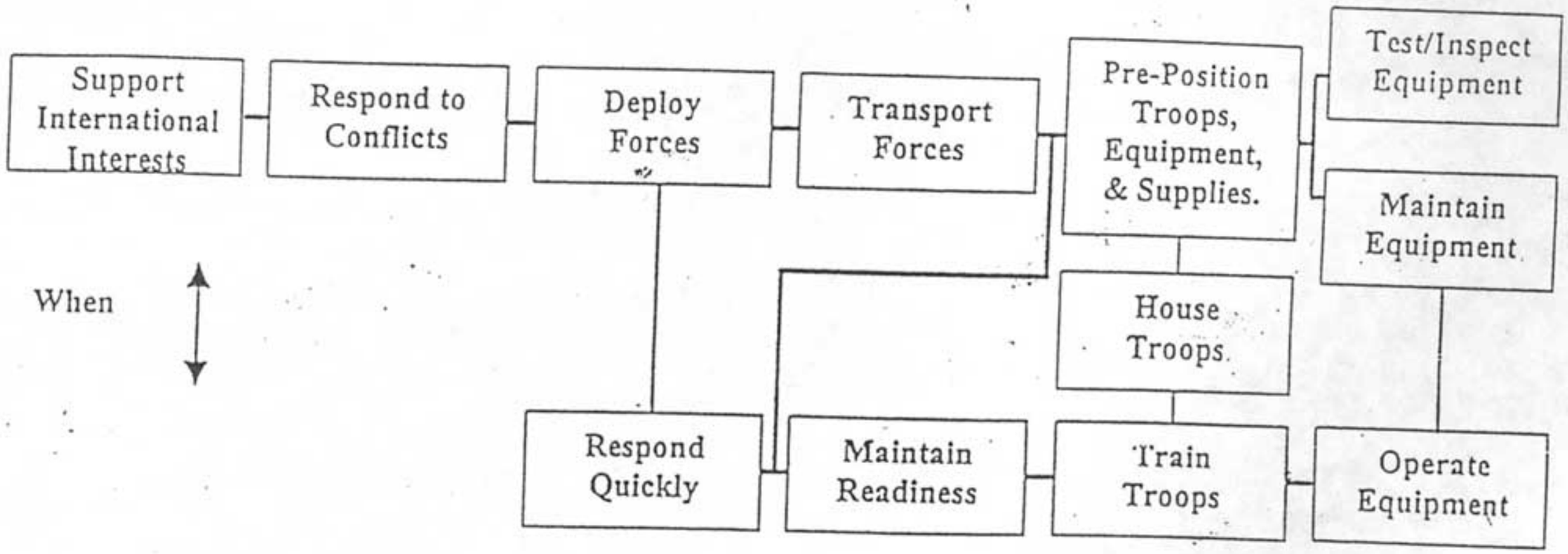
FUNCTIONAL RELATIONSHIPS DIAGRAM

FAST Diagram
Overall MARFORJ Mission

How?

Why?

When

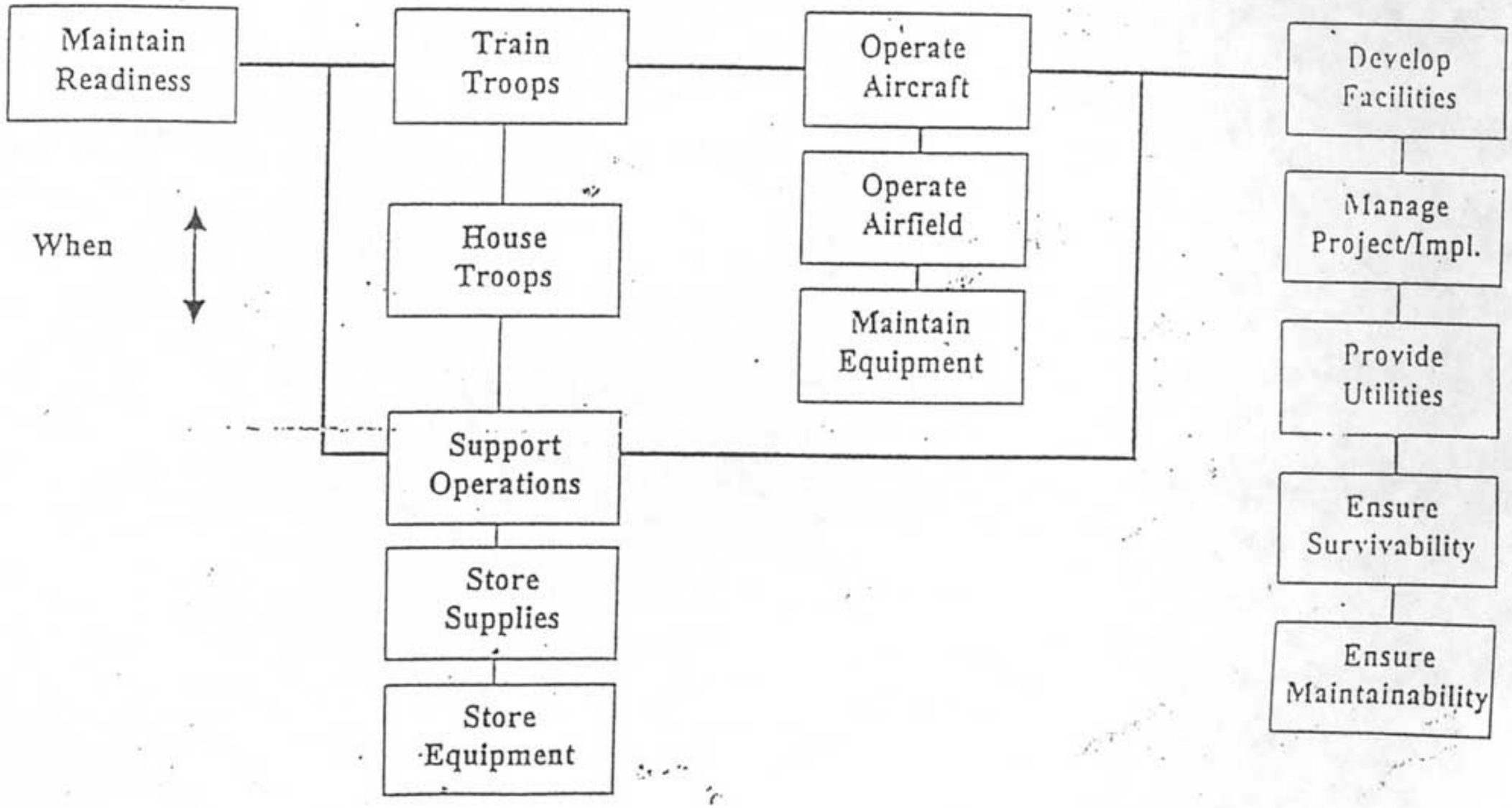


FAST Diagram
MCAS Futenma/Schwab

How? →

← Why?

When ↕



At the same time, the SBF retains many aspects of a traditional construction project (i.e., the facilities located on the sea based platform are designed to meet land based criteria).

With this in mind, the DOD acquisition system was used as a model to help implement the FIG. This model establishes clear lines of acquisition authority and responsibility by using three tiers: Service Acquisition Executive, (at the Secretariat level); Program Executive Officer (for groups of similar programs); and the Program Manager (for individual acquisition programs). In the case of the FIG, we believe that the Service Acquisition Executive would be the ASN (I&E), the Program Executive Officer would be the NAVFACENGCOM, and the Program Manager would be a 0-6 Navy Civil Engineer with design, construction and acquisition experience and authority.

NAVFACENGCOM: Navy Facilities Engineering Command is recommended to become the Program Executive Officer and would assume planning and technical responsibility for the FIG. The NAVFACENGCOM has a field operating division, Pacific Division, Naval Facilities Engineering Command, that has Okinawa and Japan responsibilities.

PROGRAM MANAGER (Japan): The Program Manager (PM) is the central focus for the implementation of the FIG and would be based in Japan. The PM receives funding and executes the required activities to implement requirements, (whether they are facilities or equipment). The PM must be cognizant that the relationship between the Government of Japan and United States Forces Japan is well established in terms of host nation construction rules and regulations. The PM's principal role is to fund and manage resources within the established roles of the DOD Executive Agents and Service Components in Japan. As the Program Manager's office becomes more robust, we anticipate that the PM would have small field offices in Washington D.C. and Okinawa.

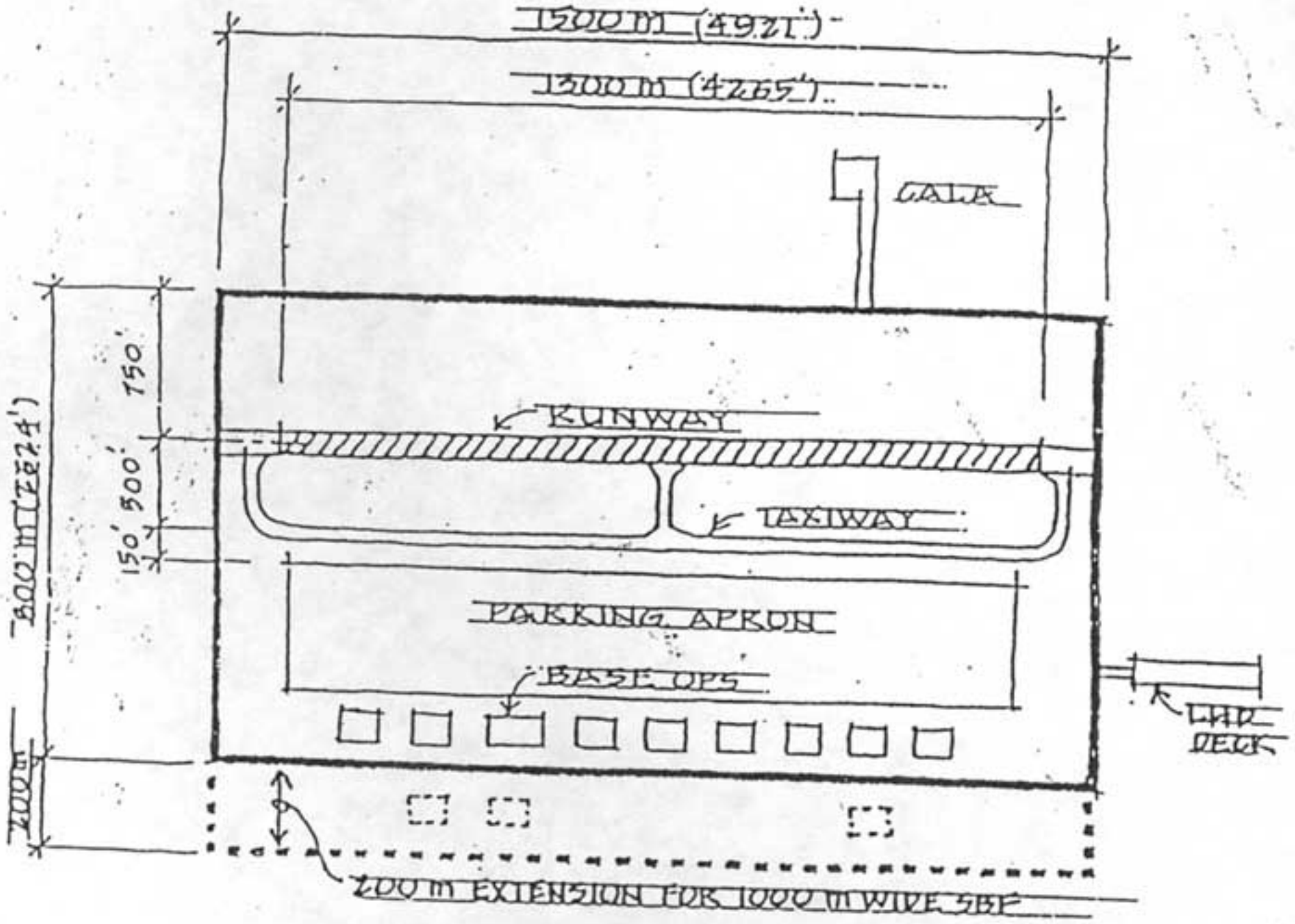
USARJ: United States Army Japan is the DOD Executive Agent for POL and Communications in Okinawa. They are the key designated component in dealing with the POL and Communications issues connected with the FIG particularly in the development of POL pipelines and communications infrastructure required supporting the new SBF.

USAFJ: United States Air Forces Japan is the DOD Executive Agent for Military Family Housing (MFH) in Okinawa. USAFJ has the installation, Kadena Air Base, Okinawa which has been identified in the *SACO Final Report on Futenma Air Station* as the base to support aircraft, maintenance and logistics operations which are currently available at Futenma Air Station but are not relocated to the SBF or Iwakuni Air Base. This primarily requires the relocation of three fixed-wing station aircraft from MCAS Futenma.

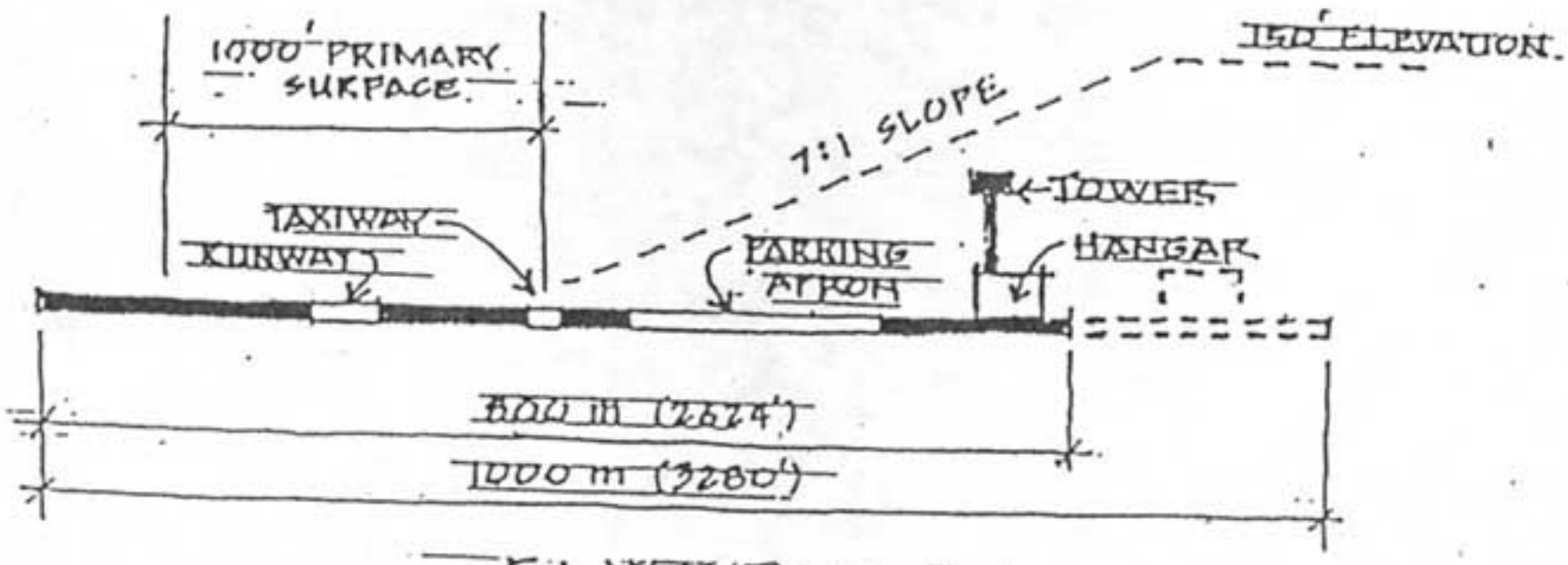
MARFORJ: United States Marine Forces Japan is the key recipient of the relocation program from MCAS Futenma to the SBF that will be located on the east coast of Okinawa (now planned in the vicinity of Camp Schwab). As such, they are the principals for the re-development of facilities and equipment requirements in order to implement the operational requirements stemming from the FIG agreements. We recommend that MARFORJ establish a FIG Implementation Office, similar to the current MARFORJ SACO Office. We also recommend a 0-6 Marine Aviator head this office and be the central focus of all aviation standards planned on the SBF.

CNFJ: Commander Naval Forces Japan has a naval component on Okinawa, Commander Fleet Activities Okinawa (CFAO) which is co-located on Kadena Air Base. CFAO also has an installation at White Beach Area. CNFJ will be involved in potential siting of Marine Corps units that would require relocation.

JED: Japan Engineer District is an operating field unit of the U.S. Army Corps of Engineers, Pacific Ocean Division. JED is the DOD Executive Agent for the Host Nation Funded Construction (HNFC)



PLAN VIEW



ELEVATION

MINIMUM DECK AREA = 1,200,000 SM ≈ 12,000,000 SF
TOTAL AREA REQ ≈ 1,300,000 SM ≈ 15,000,000 SF

MCAS FUTENMA RELOCATION
OKINAWA

SBF NOTIONAL LAYOUT

Attachment 7

OVERALL SCHEDULE - MAJOR MILESTONES

TASK NAME	97	98	99	00	01	02	03	04	05	06	07	08	09	10
	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Y11	Y12	Y13	Y14
MAJOR MILESTONES														
SBF														
CAMP SCHWAB														
CAMP HANSEN														
CAMP FOSTER (MACG?)														
MCAS IWAKUNI														
KADENA AB (MACG?)														
AF MATTING														
NAHA PORT?														
WHITE BEACH?														
MCAS IWAKUNI?														

LEGEND

- PLANNING/DESIGN
- CONSTRUCTION
- RELOCATION

[illegible] YEAR SCHEDULE

TASK NAME	Aug 97	Sep 97	Oct 97	Nov 97	Dec 97	Jan 98	Feb 98	Mar 98	Apr 98
OPERATIONAL REQUIREMENTS									
FACD REPORT (Preliminary)									
OPERATIONAL REQMTS REPORT									
BILATERAL COORDINATION									
EVALUATION CRITERIA									
PREPARE STRAWMAN REPORT									
DRAFT REPORT									
BILATERAL COORDINATION									
FINALIZE REPORT									
DC APPROVAL									
SUBMIT TO GOJ									
CONCEPT DEVELOPMENT									
CONCEPT DESIGN									
BILATERAL COORDINATION									
IMPLEMENTATION PLAN									
BILATERAL COORDINATION									

September 3, 1997

RECOMMENDED FUTENMA IMPLEMENTATION GROUP (FIG) MANAGEMENT ORGANIZATION

INTRODUCTION

This report describes the recommended Futenma Implementation Group (FIG) Management Organization that will be required to implement the provisions contained in *Special Action Committee on Okinawa (SACO) Final Report, December 2, 1996* and the *SACO Final Report on Futenma Air Station (An Integral Part of the SACO Final Report).* The report has two important functions: (a) describes roles and responsibilities of the FIG principals and Service components, and (b) recommends a proposed functional structure to transition from policy to execution. There are new concepts presented in this report and descriptions are provided to clarify each principal's role.

DESCRIPTION OF PRINCIPALS INVOLVED IN THE FUTENMA IMPLEMENTATION GROUP

The following principals are discussed below and their roles have been clarified or amplified based on their relationship of the Futenma Implementation Group. The functional management chart depicts these offices. (Attachment 1)

SECDEF: Secretary of Defense. Under SECDEF are two principal offices, the Office of the Secretary of Defense (OSD) Comptroller and the Assistant Secretary of Defense (ASD) International Security Affairs, that have directly affected the Special Action Committee on Okinawa (SACO) implementation planning. The July 25, 1997 Comptroller's Memorandum assigned the funding responsibility for the relocation of U.S. facilities on Okinawa to the Department of the Navy. The Comptroller has, in effect, made the implementation of the SACO agreement a Secretary of the Navy responsibility. It would then follow that the OSD lead should now transition to the office of the Under Secretary of Defense, Acquisition & Technology, (USD(A&T)) for facility implementation.

DASD(ISA): Deputy Assistant Secretary of Defense, International Security Affairs. The DASD was the principal negotiator for the SACO agreement and developed the policy strategy for the key agreements found in the *SACO Final Report, December 2, 1996.* The *SACO Final Report* also contained the *Final Report on Futenma Air Station* requiring the establishment of a Futenma Implementation Group (FIG) as well as the decision that the relocation would be to a Sea-Based Facility (SBF). By virtue of the DASD serving on the Security Sub-Committee and as Chairman of the Futenma Implementation Group, DASD continues to retain policy oversight, leaving the day-to-day responsibility of implementation to the Secretary of the Navy via USD (A&T).

SECNAV: OSD Comptroller assigned Secretary of the Navy funding responsibility for relocation of U.S. facilities on Okinawa. The ASN (Installations & Environment) would be the logical office to implement the FIG portion of the *SACO Final Report.* The SBF is a unique facility, which does not necessarily lend itself to traditional "construction" planning methodology. The technical challenges associated with this undertaking are similar in many respects to the research and development of a large acquisition program.

Attachment 10

program and has responsibility for engineering and construction after projects are approved by USFJ and the GOJ. The JED continues this responsibility, including facility construction projects in the FIG.

******

SCC: Security Consultative Committee is the highest consultative bilateral body between Japan and the United States. The members of the SCC are: The Minister for Foreign Affairs and the Minister of State for Defense; the Secretary of Defense and the Secretary of State. The SCC approved the *SACO Final Report*, and the *SACO Final Report on Futenma Air Station (an integral part of the SACO Final Report)* on December 2, 1996.

SSC: Security Sub-Committee is the bilateral implementation body of the SCC, and is tasked in the *SACO Final Report* to monitor activities in coordination at the Joint Committee the provisions and agreements contained in the *SACO Final Report*. Most importantly, the SSC will supervise the FIG.

FIG: Futenma Implementation Group was established by the SCC and is under the supervision of the SCC, as required in the provisions contained in the *SACO Final Report*. The FIG is a bilateral committee. The U. S. membership of the FIG includes the following offices: OSD/ISA (Chairman), JCS/J5, HQDA, HQMC, ASN(I&E), HQUSAF, USCINCPAC/J4 and J/5, AMEMBASSY-Tokyo, and USFJ/JO1.

The FIG was tasked to work with the US-Japan Joint Committee to develop an Implementation Plan for the return of Futenma Air Station, by December 1997. After approval of the FIG Implementation Plan by the SCC, the FIG, in a working relationship with the Joint Committee, will "oversee design, construction, testing and transfer of assets." The FIG must periodically report to the SSC on the status of its work.

USCINCPAC: United States Commander-in-Chief Pacific is the joint commander for the Pacific Region. Two members of his staff, the J4 and J5, represent the CINC on the FIG.

USFJ: United States Forces Japan is a sub-unified command under USCINCPAC. They are members of the US-Japan Joint Committee and as such, are responsible for the facilities and relocations funded by the GOJ. USFJ is also the DOD Executive Agent for Environment in Japan. They are members of the FIG.

GOJ: Government of Japan. They have equal counterparts on all the bilateral committees that are referenced above.

Attachment

1. Recommended FIG Program Management Organization

OKINAWA AIRBASE
APPROXIMATE INFRASTRUCTURE SPACE REQUIREMENTS

Entry Control Building	100 m^2
Hangar A	6,400 m^2
Hangar B	6,400 m^2
Hangar C	6,400 m^2
Hangar D	6,400 m^2
Hangar E	6,400 m^2
Hangar F	6,400 m^2
Hangar G	6,400 m^2
Station Hangar	900 m^2
Engine Test Cell	500 m^2
Aircraft Fire Fighting & Rescue Building	400 m^2
Military Operations Building	10,000 m^2
Station Headquarters	360 m^2
MAG Headquarters	2,000 m^2
Military Support Facilities (Medical, MWR, Hazardous Materia...)	7 at 450 m^2
Van Pad Complex	600 m^2
GSE Maintenance Facility	400 m^2
GSE Maintenance Yard	6,000 m^2
NAPRA	900 m^2
Ordnance Storage & Buildup Facility	150 m^2
Water Based Emergency & Rescue	150 m^2
Fuel Barge Dock Area	2,700 m^2
Fuel Tank Farm Area	3,000 m^2
Runway	1,500 m by 45 m
Parking for 78 Aircraft	670,000 m^2
Central Plant	450 m^2
Packaged Sanitary Plant	200 m^2
Water Tower	100 m^2
Automobile Parking	83,000 m^2
Control Tower	250 m^2