



CIVILIAN MILITARY TASK FORCE

Planning for Military Growth: November 2007 Needs Assessment

Executive Summary

Felix P. Camacho
Governor of Guam

INTRODUCTION

U.S. national interests and treaty commitments require strengthening of U.S. military capabilities in the Western Pacific. U.S. forces must be positioned to maintain regional stability, ensure flexibility to respond to regional threats, project power throughout the region, defend our assets as well as those of our allies, and provide forces to respond to global contingencies.

The relocation of III Marine Expeditionary Force (III MEF) personnel from Okinawa to Guam under U.S. Japan Alliance Transformation and Realignment is part of a broader realignment that, when implemented, will strengthen our regional posture, deter potential aggressors, and provide capabilities that can be flexibly deployed in contingencies, which are essential for the Defense of Japan and for peace and security in the region. For the Marines, this development will balance the Marine Air Ground Task Force (MAGTF) lay down across the region with improved flexibility. The 8,000 plus Marines and their 9,000 plus dependents leaving Japan will reduce the footprints of U.S. forces in Okinawa. This will facilitate consolidation of U.S. bases on Okinawa to allow additional land returns in Japan.

In line with the U.S. Japan Alliance Transformation and Realignment Agreement, the U.S. Pacific Command in May 2006 proposed a massive military buildup on Guam as a key component of its initiative known as the “Integrated Global Presence and Basing Strategy.” The principal elements of the U.S. Pacific Command’s initiative are:

- Relocating the U.S. Marine Corps Expeditionary Force components and headquarters in Okinawa to Guam
- Improving Guam’s Naval Base to serve as a forward operational and logistic hub or a mix of platforms and joint operations.
- Continuing the development of Andersen Air Force Base to serve new forward-based and rotational mission requirements.

The major component of the U.S. Pacific Command’s initiative is the relocation of the U.S. Marine Corps Expeditionary Force to Guam. Under the agreement reached with the Government of Japan, Japan will contribute funding to relocate the Marines. The Department of Defense plans being developed for the military growth on Guam do not take into consideration preparations that must be made by the people of Guam and the Government of Guam to accommodate the growth.

In 2006, Governor Felix P. Camacho signed Executive Order 2006-10 establishing the Civilian Military Task Force (CMTF) to maximize opportunities for the civilian and military community resulting from increases in military presence. Under Executive Order 2006-10 eleven (11) subcommittees were established. One of the CMTF’s responsibilities is to develop a comprehensive master plan that will accommodate military buildup and the relocation of the Marines to Guam.

The planned military buildup brings Guam new economic opportunities while at the same time bringing challenges. Guam has a long history of significant military growths and declines since its liberation from the Japanese 63 years ago in 1944. It is from those times when the military’s mission elevated Guam’s strategic importance that the island is able to draw upon its past

experiences to help it identify potential challenges that this military buildup might bring and to begin the planning process to meet those challenges.

This is the second of what will be many efforts to identify the challenges Guam will face and to begin effectively planning for them. Over the next five years, the planning process will be refined as more data becomes available and analyzed. Those sectors that will be immediately impacted during the preconstruction and construction phases of the buildup have become actively engaged in identifying the challenges that must be met and the means by which to meet them.

This document is a synopsis of the second needs assessment conducted by each of the Civilian Military Task Force's Subcommittees. In addition, this document builds upon the Government of Guam's Infrastructure Improvement Forecast that was released during April 2006.

Table of Contents

Natural Resources and Environment	4
Cost Estimate as of November 2007:	7
Ports and Customs	10
Cost Estimate as of November 2007:	11
Labor	13
Cost Estimate as of November 2007:	14
Infrastructure	16
Cost Estimate as of November 2007:	16
Education	19
Cost Estimate as of November 2007:	21
Health and Social Services	22
Cost Estimate as of November 2007:	24
Economic Development	25
Cost Estimate as of November 2007:	26
Housing	27
Cost Estimate as of November 2007:	28

NATURAL RESOURCES AND ENVIRONMENT

Planning Assumptions:

- The protection of Guam's natural resources is paramount to the island's sustained growth and to ensuring its residents will have a high quality of life beyond DOD's military buildup and far into the future to the next century.
- Guam's ecosystem is fragile. It is those entities charged with ensuring its protection that will ensure Guam will have the ability to sustain continued economic growth and social development.
- The Department of Defense's aggressive construction timeline for housing and base facilities to accommodate the transfer of DOD personnel and dependents to Guam by 2012 requires Guam to immediately respond by ensuring protocols are put into place to expedite and improve efficiencies in the permitting process, determining mitigation requirements and respond to an aggressive Environmental Impact Statement/Environmental Impact Statement (EIS/OEIS) process without harming or sacrificing the island's ecosystem in the process. Government of Guam and federal entities charged with the protection of Guam's natural resources and its environment are already being impacted by the military buildup.
- The pressures being borne by Guam's natural resource protection entities and permitting entities will not be abated with the completion of the military buildup's construction phase. Instead, the pressures being placed on natural resource entities are anticipated to increase as the Government of Guam and Guam's private sector begin to respond to the buildup and these pressures will continue far beyond the transfer of military personnel to Guam.

Coastal Zone Management:

- All of Guam's landmass in addition to its rivers and its surrounding ocean coastal waters are by federal statute defined as included within Guam's coastal zone. As a part of Guam's coastal management and protection of its ecosystem efforts, the Bureau of Statistics and Plans' Guam Coastal Management Program (GCMP) is charged with the responsibility for protecting Guam's coastal zone.
- Since the announcement of the planned military buildup, the number and complexity of Federal Consistency Determination applications for federally funded projects have increased. During 2006 the number rose to 150 applications. Development applications that have been spurred by Guam's anticipated economic growth from the buildup have also sharply increased with the announcement. With the passage of the Seashore Reserve Plan, there will be greater pressures placed upon GCMP to ensure Guam's coastal waters are not negatively impacted by military or private sector development.
- DOD will not be able to move forward to the construction phase of its military buildup plans until a Federal Consistency Determination is issued by GCMP. As DOD has

instituted an aggressive time table that will adhere to the minimum requirements set forth in federal statutes, GCMP must be ready to immediately respond by identifying and having addressed issues at the beginning of the EIS/OEIS process. Without the capacity to immediately respond, either Guam's natural resources and ecosystem will be harmed or DOD's military buildup plans that are considered necessary for the United States defense posture will be significantly delayed.

- Prior to Fiscal Year 2009, GCMP must increase its staff capacity to review private sector and DOD development plans. GCMP will also need specialized professional services due to the complexity of DOD's development plans. Research studies will need to be conducted to provide the baseline data to ensure that mitigation, monitoring and enforcement are effectively implemented. These studies will determine the best methods of assessing cumulative and secondary impacts of projects of DOD and private development projects.

Flora and Fauna Protection:

- To meet DOD's aggressive timeline to complete the EIS/OEIS and ensure Guam's native flora and fauna are protected, a team of technical and biological staff will have to be formed and exclusively dedicated to the EIS/OEIS process. This cadre of specialists must have expertise/knowledge of marine, wildlife, and terrestrial ecology as they will be responsible for conducting environmental assessment reviews, verifying DOD's findings and conducting mitigation proposal assessments.
- The team of technical and biological staff dedicated to DOD's EIS/OEIS process must be formed and funded now. The cost for the staff is \$197,563 annually and they will need to be funded through the three year period of Fiscal Year 2008 through Fiscal Year 2010. There are other costs for equipment and supplies that will need to be immediately borne. The Guam Department of Agriculture estimates \$721,289 is required to meet the demands that will be placed upon it by DOD's aggressive EIS/OEIS timeline for the forward basing of Marines and their dependants.
- It is anticipated that DOD's expansion plans will continue beyond this initial effort and that once its moves into the construction phase, additional facilities will be identified and required based upon changing world geopolitical conditions. The team of staff dedicated to DOD's EIS/OEIS process will need to remain in place for the review of new DOD projects and the review of private projects that will be spun off as Guam's economy grows as a direct result of the military buildup.
- During the construction phase, monitoring will need to be put into place to ensure that Guam's native flora and fauna are not impacted. Aggressive efforts will need to be put into place to ensure new invasive species are not introduced or that they are immediately eradicated. By the start of the construction phase in 2010, a plant inspection station will need to be constructed and staffed along with the formulation and implementation of quarantine programs to prevent the introduction of invasive species as construction materials are brought into the island.

- During the post construction phase, a program to meet the growing demand for local produce will need to be put in place that will encourage increased agricultural productivity without damaging Guam's ecosystem.

Historic Preservation:

- Guam is an island with a rich cultural heritage. By 2000 BC, an indigenous population had settled on Guam. Rich deposits of cultural artifacts from its pre-latte, latte, Spanish, and World War II eras are found throughout the island. All of Guam's cultural artifacts require protection and preservation.
- As a part of the EIS/OEIS phase, Section 106 consultations are taking place on the procedures on how historic resources will be taken into account for and proposed undertakings. Known and suspected historic sites are being identified. In addition to identifying and ensuring the protection of known historic sites during the EIS/OEIS process, Guam will be responsible for insuring that archaeological firms hired by DOD are in compliance with National Park Service standards and guidelines for storing and analyzing excavated historic resources.
- It is anticipated significant findings of previously unknown archeological deposits will occur once DOD begins its civil engineering work during the construction phase. By 2010, Guam will need to have in place the capacity to conduct frequent site inspections and the capacity to catalog, account for and store recovered artifacts so that it can meet the archeological demands that will be forthcoming.

Environment Protection:

- To ensure Guam's coastal and groundwater quality are protected, DOD will have to develop a comprehensive wastewater collection system for all of its proposed housing and base facilities. The extensiveness of DOD's buildup along with its aggressive timetable will place severe burdens on Guam's ability to review all of DOD's wastewater plans and issue appropriate permits. Guam's capacity to review wastewater plans, issue permits and conduct inspections has been reached with a recent surge in private sector development and it is anticipated that this surge will continue. Guam will not compromise its water quality. DOD's aggressive timetable will be significantly pushed back unless Guam's capacity is significantly increased. The increase in Guam's capacity must occur now or DOD's timetable will be negatively impacted.
- DOD will have to prepare an Environmental Protection Plan, a Water Quality Plan and it will have to obtain permits before it can undertake any clearing and grading activities. Guam's capacity to review DOD's plans, issue permits and conduct inspections has been reached. Unless Guam's capacity is immediately increased, DOD's timetable will be negatively impacted as it will be unable to obtain the permits it requires in a timely manner to undertake any clearing, grading or excavation activity.
- Guam is responsible for ensuring DOD's drinking water systems meet Guam and U.S. Safe Drinking Water Standards. In addition, it is responsible for ensuring the viability of

the sole source aquifer which is the island's primary source of potable water. Guam's capacity to review DOD's plans and insure its drinking water meets water standards must be immediately increased or DOD's ability to meet its buildup timetable will not be met.

- DOD is required to receive solid waste management permits from Guam. DOD will not be able to dispose construction debris nor will it be allowed to establish a sanitary landfill without first having its plans reviewed and permits issued. Guam's capacity to review DOD's plans and issue permits must be immediately increased or DOD's ability to meet its buildup timetable will not be met.
- DOD is considering the option of constructing a power plant to provide power to its proposed military installations. DOD will not be able to construct any power plant facilities without permits issued by Guam. Guam's capacity to review DOD's plans and issue permits must be immediately increased or DOD's ability to meet its buildup timetable will not be met.

Cost Estimate as of November 2007:

Coastal Zone Management:

The estimated additional funding required to protect Guam's coastal zone in order to meet the challenges imposed by the military buildup is as follows:

Estimated Additional Funding Required to Meet Military Growth Demands Bureau of Statistics and Plans: Guam Coastal Management Program			
Cost Sector	Pre-Construction Phase (EIS/OEIS) 2008 - 2010	Construction Phase 2010 - 2014	Post Construction Phase Beginning 2015
Personnel*	\$317,000	\$440,000	\$455,000
Office Space	\$15,000	\$50,000	\$50,000
Training	\$15,000	\$30,000	\$30,000
Equipment	\$5,000	\$72,500	
Research & Monitoring	\$120,000	\$100,000	
Educational Awareness	\$30,000	\$30,000	
Professional Services	\$120,000	\$120,000	\$60,000
Fuel and Supplies	\$4,000	\$10,000	\$12,500

*Personnel costs are the amount required annually

Flora and Fauna Protection:

The following are the estimated additional funding required to protect Guam’s flora and fauna that are related to the military buildup:

Estimated Additional Funding Required to Meet Military Growth Demands Department of Agriculture				
Division	Cost Sector	Pre-Construction Phase (EIS/OEIS) 2008 - 2010	Construction Phase 2010 - 2014	Post Construction Phase Beginning 2015
Aquatics and Wildlife				
	Personnel*	\$197,563	\$197,563	\$197,563
	Equipment and Supplies	\$114,600		
Conservation Enforcement				
	Personnel*		\$313,640	\$313,640
	Equipment		\$160,000	
Plant Inspection				
	Personnel*		\$172,417	\$172,417
Agricultural Development Services				
	Personnel*		\$59,194	\$59,194
	Equipment		\$40,000	

* Amount required annually for personnel costs

Historic Preservation:

The following are the estimated additional funding required to protect Guam’s historical and cultural resources that are related to the military buildup.

Estimated Additional Annual Funding Required to Meet Military Growth Demands Department of Parks and Recreation: Guam Historic Resources Division			
Cost Sector	Pre-Construction Phase (EIS/OEIS) 2008 - 2010	Construction Phase 2010 - 2014	Post Construction Phase Beginning 2015
Personnel*	\$130,000	\$130,000	
Equipment and Supplies	\$99,500		
Professional Services*	\$40,000	\$40,000	
Preservation Space – Construction	\$120,000		

*Amount required annually

Environment Protection:

The following are the estimated additional funding required to protect Guam’s environment and to ensure the necessary reviews, permits and inspections take place that will enable DOD to meet its aggressive military buildup timetable.

Estimated Additional Annual Funding Required to Meet Military Growth Demands Department of Guam Environmental Protection Agency			
Cost Sector	Pre-Construction Phase (EIS/OEIS) 2008 - 2010	Construction Phase 2010 - 2014	Post Construction Phase Beginning 2015
Personnel*	\$2,080,000	\$100,000	
Supplies & Fuel*	\$92,000	\$40,800	
Equipment	\$669,000	\$120,000	
Utilities*	\$92,000	\$65,500	
Professional Services	\$300,000	\$40,000	
Office Space Rental*	\$240,000	\$252,000	
Training	\$150,000	\$100,000	

* Amount required annually

PORTS AND CUSTOMS

While DOD is going through the EIS/OEIS process, the Port Authority of Guam (PAG) must use this time to make improvements to Guam's commercial port so that when DOD enters the construction phase, construction cargo can quickly move through the port and so that following the construction phase military household goods can flow as personnel are transferred to Guam.

- Port Authority of Guam must temper its infrastructure investment to ensure it doesn't have excess capacity after DOD has completed its construction phase and its personnel have been relocated and it is unable to support a transshipment and tourism industry. PAG's master plan consultants Parsons Brinckerhoff International (PBI) is presently developing specific requirements and cost estimates for priority expansion and development projects that support military buildup and long term future uses. Until PBI completes the master plan, PAG continues to estimate \$91 million in port upgrades (estimate includes regulatory agencies' needs) will need to be incurred to meet DOD's cargo estimate of 72,000 Twenty Foot Equivalent Units (TEUs). Anticipated port upgrades are:
 - Acquisition of 3 ship to shore gantry cranes
 - Crane rail replacement
 - Procurement of cargo handling equipment
 - Surveillance camera system for inner and outer harbor and the breakwater
 - Maintenance dredging
 - Acquisition of new Port Operations Information System and enhancement of current Financial Application and Network Infrastructure
 - Tracking information system
 - Container yard expansion and upgrades to the current container yard
 - Additional waterfront berthing: approximately 900 feet of new wharf space

- Sufficient port capacity alone will not ensure cargo efficiently flows to construction sites or household goods efficiently flow to military housing sites. Guam's commercial transportation system will have to be upgraded. Necessary anticipated improvements to commercial transportation system and assessments necessary include:
 - Chassis acquisitions
 - Tractor to dray container assessments and equipment acquisitions
 - Warehousing assessment and construction
 - Manpower assessments

- The availability of sufficient transportation manpower may become a problem. Biometric based credentialing will be required by the U.S. Transportation Security Administration (TSA) for all transportation workers to gain access to secure areas of maritime facilities and vessels. Because permanently disqualifying criminal offenses and interim disqualifying criminal offenses will result in the denial of the TWIC card, the pool of potential transportation workers may be reduced.

- DOD will need to establish a unified policy for all base commands on the delivery of construction cargo and equipment during the buildup's construction phase and during the delivery of household goods phase. Presently, the Navy has a separate line for cargo deliveries while the Air Force does not. The result is significant time delays in the delivery of cargo to Andersen Air Force Base. DOD's aggressive construction timetable will not be met if construction cargo and equipment deliveries are not treated differently and expeditiously.
- As a result of the massive influx of construction materials and equipment, the potential for the introduction of invasive species is extremely high. A quarantine, wash down and fumigation facility will need to be constructed and staffed at Guam's commercial port.
- The large amount of containers that will be flowing through the port during the construction phase significantly raises the potential for contraband to be smuggled into Guam undetected. The potential for drugs and weapons to enter the island will be extremely high. A mobile chassis x-ray system to locate contraband will enable containers to be quickly searched and released by Guam Customs. A funding source for the mobile chassis x-ray system needs to be identified and secured.
- It is recommended that all military goods, including household goods, personnel vehicles and military equipment, be prescreened and cleared by the U.S. Department of Agriculture, U.S. Customs and Border Patrol and Guam Customs prior to being shipped to Guam. This prescreening will significantly reduce the potential for invasive species to be introduced when the transfer of military commands and their personnel to Guam occurs.

Cost Estimate as of November 2007:

Port Authority of Guam

Estimated Funding Required to Meet Military Growth Demands Port Authority of Guam		
Cost Sector	Estimated Cost	Pre-Construction Phase Target Completion Year
Gantry cranes (3)	\$21,000,000	2010
Crane rail replacement	\$2,200,000	
Cargo handling equipment	\$13,315,000	
Surveillance camera system	\$149,814	2008
Maintenance dredging	\$1,500,000	
Tracking Information System	\$1,745,000	2009
Container yard expansion	\$12,000,000	2010
Container yard upgrades	\$5,000,000	2010
F-7 Wharf	\$20,000,000	2013
Total	\$76,760,000	

Guam Customs and Quarantine Agency, Department of Agriculture and U.S. Department of Agriculture

Estimated Funding Required to Meet Military Growth Demands Guam Customs and Quarantine Agency, Department of Agriculture U.S. Department of Agriculture			
Cost Sector	Pre-Construction Phase Estimated Cost	Target Completion Date	Construction Phase Estimated Cost
Mobile chassis x-ray machine (2)	\$4,000,000		
Wash down, Fumigation facility	\$5,000,000 - \$9,000,000		
Cargo inspection equipment			\$342,000
Office building (construction)	\$250,000		
Port Customs Personnel*			\$150,000
Airport Customs Personnel*			\$150,000
Total:	\$13,250,000		\$642,000

* Annual cost for additional personnel

LABOR

Employment Opportunities Resulting from the Military Buildup:

- Planning for labor requirements for employment opportunities has begun. To insure Guam's workers benefit from the military buildup, a study must be funded and immediately undertaken to determine employment trends and skills and knowledge that will be required and to identify specific actions that will need to be undertaken. Detailed information is required from DOD on the types of skilled and professional civilian workers that it and its contractors will require. An assessment of the skills sets and knowledge of Guam's current available worker force will also need to be conducted.

This study needs to be completed before DOD enters into its construction phase in order for the University of Guam and the Guam Community College to develop and implement appropriate curriculums that will provide the knowledge and skills sets that DOD will need. In addition, this study also needs to be completed before the construction phase begins in order for school guidance counselors to provide meaningful career guidance to secondary school students.

- As DOD's construction activity begins, a growth in private sector economic opportunities and employment opportunities is anticipated. As DOD's construction phase winds down, Guam Department of Labor (DOL) will be matching U.S. workers to the new employment opportunities that will be created. A strain upon Guam's present capacity to match U.S. workers to employment opportunities is anticipated to begin with the start of DOD's issuance of construction contracts. Further automation and expansion of DOL's Employment Services are required to insure Guam's workers will directly benefit from the new economic opportunities that will be created.

Construction Work Force:

- The immediate concern is ensuring Guam has the construction labor force that will be needed by 2010/2011 when construction is slated to begin. The recent approval by the U.S. House of Representatives to remove the H-2B Visa Program's quota restrictions on Guam's military related construction projects will help to insure a construction workforce will be in place for those projects directly related to DOD's military buildup.
- The removal of the restrictions will impose challenges for Guam's US workforce and it will impose social economic challenges for the island. It will be incumbent upon Guam to protect both nonimmigrant alien workers and U.S. workers. Guam presently lacks sufficient manpower and resources to oversee the importation of 10,000 to 20,000 nonimmigrant workers under the H-2B Visa Program. The Guam Department of Labor's Alien Labor Processing and Certification Division will need to be expanded in order to:
 - Process and certify alien labor requests
 - Detect and prevent alien labor fraud and abuse
 - Conduct labor market testing in compliance with the Wagner Peyser Act
 - Ensure OSHA compliance and compliance with Workman's Compensation Laws

- Detect, prevent and investigate wage and hour abuses

- It appears the lifting of the H-2B Visa quota restrictions will apply only to DOD construction projects and will not apply to Government of Guam infrastructure projects that will be undertaken in support of the military buildup. A mechanism is needed to insure port, road and utility projects that are related to DOD's buildup will not be impacted and that any H-2B Visa quota exemptions is also applied to the Government of Guam's construction projects.

- Guam's Apprenticeship Programs has suffered over the past decade and have almost become nonexistent. The large construction workforce that will be required for the military buildup provides an excellent opportunity for a meaningful Apprenticeship Program to be established. Efforts have already begun and collaboration has taken place with Guam's construction industry. To insure the Apprenticeship Program is not negatively impacted and insure Guam is able to have in place a construction workforce of U.S. workers following the buildup's construction phase, participation in the Apprenticeship Program by contractors who use nonimmigrant alien workers should remain a condition to use H-2B workers.

- The large influx of temporary nonimmigrant construction workers brings other challenges to the island and Guam presently does not have the capacity to meet these challenges. The large influx of temporary nonimmigrant construction workers also brings potential opportunities. These challenges and opportunities are as follows:
 - Health Challenges: Emergency Care and Immunization Compliance
 - Housing/Barracks Challenges: Ensuring compliance with sanitary food and barracks health regulations
 - Housing/Barracks Future Low to Moderate Housing Potential Opportunities

Cost Estimate as of November 2007:

Civilian Military Task Force: Planning for Military Growth: November 2007 Needs Assessment
Executive Summary

Estimated Funding Required to Meet Military Growth Demands Guam Department of Labor						
	Pre-Construction Phase: EIS/OEIS		Construction Phase			
	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014
Personnel	5,338,688	5,628,725	\$5,748,610	\$5,748,610	\$5,748,610	5,495,586
Rental ¹	\$599,976	\$599,976	\$599,976	\$599,976	\$599,976	\$599,976
Work Stations	\$68,000	\$15,300	\$6,800	\$0.00	\$0.00	\$0.00
Server	\$20,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
Router/Firewall	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000
Power Backup	\$15,200	\$3,600	\$1,600	\$0.00	\$0.00	\$0.00
Computer Supplies ²	\$23,550	\$24,900	\$25,500	\$25,500	\$25,500	\$25,500
Government Vehicles	\$0.00	\$28,000	\$0.00	\$0.00	\$0.00	\$0.00
Vehicle Maintenance	\$6,000	\$7,000	\$7,000	\$7,000	\$7,000	\$7,000
Training & Development ³	\$43,317,416	\$75,613,692	\$109,288,769	\$88,212,722	\$65,971,353	\$33,675,077
TOTALS:	\$49,389,830	\$81,927,193	\$115,684,255	\$94,599,808	\$72,358,439	\$39,809,139

¹Rental Markup 15% of current rate.

²Computer Supplies = \$150.00 per annum per workstation.

³Training of apprentices baseline = Average cost of apprenticeship training with WIA funds.

INFRASTRUCTURE

- In the absence of a plan from DOD, Guam’s utility agencies and the Department of Public Works are using DOD’s unofficial GIMDA document for their baseline planning activities. As they need to finalize their plans and go through the EIS process, DOD’s plans are urgently required if they are to meet DOD’s personnel relocation timeline.
- Reverting to two separately run utility systems is not cost efficient for DOD or for the Government of Guam’s utilities due to economies of scale. Guam’s utility systems are prepared to be the sole provider of electrical and wastewater services and to provide a sanitary landfill.
- The Guam Power Authority’s power consumers cannot afford a rate increase for the sole purpose of building increased generation and transmission capacity to meet DOD’s demands.
- During DOD’s EIS/OEIS Phase, the Guam Power Authority will need to undertake a number of studies that include modeling the distribution system to determine future system improvements. Improvements to the system will need to begin by 2009 in addition to initiating the design work for a 60 MW baseload generation facility.
- Guam’s public roadways will have to be expanded and redesigned to accommodate the movement of DOD’s personnel and equipment between its military installations.

Cost Estimate as of November 2007:

Guam Power Authority

Project	Description	Pre-Construction Phase (EIS/OEIS)	
		Project Estimate	Timeline
Integrated Resource Plan (Study)	This project will analyze GPA’s existing infrastructure with demand and economy forecasts and provide a guideline to accommodate future growth considering fuel diversification and energy production alternatives. Includes forecast work.	\$450,000	2008
Long Range Transmission Planning	This study will determine the transmission infrastructure requirements to support future load growth, improve power system robustness and reduce system losses	\$135,000	2008-2009
Distribution System Medium Range Planning and Performance Analysis	The project will model the existing disruption system and determine where system improvements need to be made. The project will also model future loads and provide direction on where system expansion is necessary	\$600,000	2008-2010
Substation and Distribution Capacitor Program	The project will help boot system voltage, reduce system losses and decrease the reliance of reactive power generation from the power plants saving system assets	\$450,000	2008-2010

*Civilian Military Task Force: Planning for Military Growth: November 2007 Needs Assessment
Executive Summary*

Project	Description	Pre-Construction Phase (EIS/OEIS)	
		Project Estimate	Timeline
T & D Asset Assessment and Mapping	The project will develop a methodology to properly manage GPA's assets by identifying the resources including equipment and personnel, and the procedures necessary to implement a system that will effectively account for all of GPA's assets on an accurate mapping system	\$100,000	2008-2009
Guam Sea Water Air Conditioning (Design and Construction)	This project will design a deep sea water cooling system that will pipe cold sea water to major customers in Tumon for air conditioning cooling. This project will offset high power demand for air conditioning systems.	\$100 Million	2008-2012
Load Research and Cost of Service Studies	The Load Research Project will identify the contributions to peak and energy of each rate class in order to provide information for rate design. This project will look at implementing new rate designs.	\$550,000	2008-2009
60MW Baseload Design & Construction	This project will build and commission a new power plant. The construction of a new baseload power plant is dependent on the finalization of the GPA IRP and DOD Military Buildup Input.	\$300 Million	2009-2014
Human Resources Augmentation	Additional certified professional personnel to augment staffing levels within the Engineering Division and Strategic Planning and Operations Division for conducting and coordinating studies and for designing and constructing capital improvements.	\$300,000	2008-xxxx

Guam Waterworks Authority:

PROJECT TYPE	PROJECT DESCRIPTION	BUDGET COST
Water Source	16 New Water Wells	\$ 12,000,000
Water Source/Security	Radial Collector Well	\$ 10,000,000
Water Distribution	Distribution Line Replacement	\$ 40,000,000
Water Source	Ugum Raw Water Intake Modifications	\$ 550,000
Water Distribution	Southern Booster Station Modifications	\$ 1,500,000
Water Storage	Steel Reservoir Corrosion Repairs	\$ 2,000,000
Water Distribution	Northern Distribution Improvements	\$ 7,280,000
Water Distribution	Central Distribution Improvements	\$ 1,860,000
Water Distribution	Southern Distribution Improvements	\$ 11,000,000
Water Transmission	Northern Raw Water Transmission Line	\$ 34,720,000
	Water Sub-total	\$120,910,000
Wastewater Treatment	Agat Treatment Plant	\$ 30,000,000
Wastewater Treatment	Northern Plant Expansion	\$ 30,000,000
Wastewater Collection	Northern Collection System Upgrades	\$ 3,900,000

*Civilian Military Task Force: Planning for Military Growth: November 2007 Needs Assessment
Executive Summary*

PROJECT TYPE	PROJECT DESCRIPTION	BUDGET COST
Wastewater Collection	Central Collection System Upgrades	\$ 2,000,000
	Wastewater Sub-total	\$ 65,900,000
	TOTAL	\$186,810,000

Department of Public Works:

Divisional OA&M Needs	PHASE I	PHASE II	PHASE III
	Pre-Const.	Construction	Post-Const.
Horizontals & Highways	\$595,953	\$7,032,910	\$4,829,273
Solid Waste Management	\$802,063	\$9,465,242	\$6,499,478
Verticals, CIPs & Buildings	\$264,246	\$3,118,401	\$2,141,306
Public & Private School Transportation	\$500,316	\$5,904,291	\$4,054,287
GovGuam Transportation Fleet Mgmt.	\$65,912	\$777,836	\$534,115
Administrative Support Services	\$137,737	\$1,625,456	\$1,116,148
Grand Total	\$2,366,227	\$27,924,136	\$19,174,607

EDUCATION

Planning Assumptions:

- Critically needed, and requested, data remains unavailable from the Department of Defense on the composition of DOD military buildup dependents and civilian labor requirements. This data is required to project and plan for elementary, middle, secondary and post secondary education facilities, personnel, and curriculum requirements.
- In the absence of data from DOD, civilian population growth as a result of military buildup is estimated to be 20,000 of which 4,958 are projected to be school aged children. Civilian population growth is anticipated to begin in 2010, two years before military personnel arrive in 2012. Civilian growth will likely occur within 5 to 10 miles from military housing and base facilities.

Compulsive Education (Elementary, Middle and Senior High Schools):

- Presently, Guam has a shortage of approximately 80 teachers within in public school system. Guam's current teacher shortage will be further exacerbated by military buildup.
- Based upon current teacher to student ratios within the DODEA school system, DODEA will require a minimum of 170 additional teachers to educate 4,070 additional students that are anticipated with the military buildup. Of the additional teachers, 17 to 34 of the teacher positions will be filled from Guam's teacher pool based on current trend of 10 to 20 percent of DODEA's teachers are from Guam's teacher pool and are locally hire.
- Based upon current teacher to student ratios within Guam's public school system, it is anticipated Guam's public school system will require an additional 164 to 261 teachers to meet student population growth of 4,958 students resulting from military growth.
- To meet student population growth resulting from military growth within Guam's DODEA and public school systems, Guam's local teacher pool will require an additional 181 to 295 teachers. The anticipated number of additional teachers does not take into consideration specialized teachers in critical areas such as Special Education, English as a Second Language and Gifted and Talented Education.
- The projected number of additional teachers that will be required to meet student growth does not include other education personnel that will be required such as: administrators, counselors and therapists, school administrative staff, school nurses, librarians, transportation providers, maintenance and custodial staff, and food service staff. Within the public school system's elementary level, it is anticipated an additional 12 to 15 administrators, 40 to 50 specialized teachers, and 72 to 90 specialized and administrative staff will be required to meet student population growth resulting from military growth. No staffing estimates are available for middle school and high school levels at this time. No staffing estimates have been developed for transportation providers, maintenance and custodial staff and for food service staff.

- The anticipated student enrollment increase within Guam’s public school will require the construction of new schools. The new schools are in addition to the three elementary schools (750 capacity each), two middle (400 capacity each) and one high school (675 capacity) presently being constructed. Anticipated new schools to accommodate civilian student growth are as follows:

New School Category	Age Group	Number in 2007	Percent	Projected School Age Children	Enrollment Ceiling*	Projected Number of New Schools
Elementary	5-10	20,547	.118457	2,369 (48%)	550	4-5
Middle	11-13	9,873	.056919	1,138 (23%)	700	1-2
High	14-17	12,587	.072566	1,451 (29%)	1,200	1-2
Total		43,007		4,958 (100%)		

* Enrollment Ceiling set by Guam Public Laws 24-73 and 28-009.

- Construction of new schools in addition to redistricting will need to begin by 2010 to meet student enrollment increases resulting from the military buildup. It is anticipated schools will need to be constructed in Finegayan and Dededo areas.
- Information is not available on the military buildup’s impact on Guam’s private school system.

Post Secondary Education:

- The Guam Community College provides vocational education at the high school level in addition to providing post secondary vocational programs, adult and continuing education, community education and short-term, specialized training. Its educational programs are provided both on and off-campus, in satellite programs and on-site at businesses as needed. It offers over 50 job-related courses of study and prepares students for transfer to four-year colleges with advanced standing in professional and technical degree programs.
- The Guam Community College is presently working with the construction industry, the Guam Department of Labor, the community and private sector, and government agencies to validate their workforce needs based on the military expansion impact so that it can assess, prioritize and leverage limited resources to meet current addition demands. A needs assessment will be prepared by GCC once initial training requirements are identified.
- The University of Guam is the only four-year United States Land Grant Institution in the Western Pacific. UOG has seen a significant increase over the last three years and continued enrollment increases are projected. It is anticipating additional needs for many community professionals to include nurses, allied health personnel, engineers, educators, hospitality managers, technologists, safety personnel, advanced project management assistants, and business managers. UOG however requires more information on the

types of post-construction professionals that will be required in order to develop academic programs that will insure UOG's graduates have the necessary skills and knowledge.

- The University of Guam is in the process of identifying types of professionals that will be required once the construction phase of the military buildup is completed. Once it has identified the types and numbers of required professionals, it will be able to develop a more precise needs assessment to meet the challenges of the military buildup.

Cost Estimate as of November 2007:

Public School System

- The planning, securing of land and the securing of funding for the construction of new schools should begin by 2010 and will need to occur prior to the end of the military buildup's construction. Student redistricting and construction of temporary classrooms will only address overcrowded conditions for the short term.

Projected New School Costs: Cost Per New School						
Type of School	Land Acquisition		Construction Cost	Annual Salaries		Collateral Equipment
	No. of Acres	Cost based on \$35 per square meter		Teachers \$	Staff \$	
Elementary	8	\$1.14 m	\$ 8-9 m	1.527 m	.615 m	\$.714 m
Middle	20	\$2.84 m	\$17 – 18 m	N/A	N/A	\$.997 m
High	30	\$4.25 m	\$29 – 30 m	N/A	N/A	\$1.278 m

- The Government of Guam can anticipate a sharp rise in salary costs for additional teachers, equipment and textbooks to begin occurring by 2010 due to the anticipated migration of people to Guam looking for economic opportunities when the construction phase begins.
- The annual additional cost in salaries for new teachers at the elementary school level to accommodate civilian growth resulting from the military buildup is anticipated to be \$6.108 m to \$7.636 m.

HEALTH AND SOCIAL SERVICES

Government of Guam entities, Naval Hospital, non government organizations and private practitioners have been working diligently to identify potential challenges and benefits the military buildup will have upon the delivery of health and social services. The delivery of health care services will be the first to be impacted by DOD's military buildup.

Health Care:

- Most of the H-2B construction workers that will come to Guam will be from countries with high tuberculosis rates and other communicable disease rates. Currently, only immigrant aliens applying for U.S. visas for permanent residence are required to undergo medical examination before their admission into the U.S. by federal statute. With 10,000 to 20,000 nonimmigrant workers entering the island, Guam will be at high risk for the spread for communicable diseases.
- Each H-2B worker should be required to undergo a medical examination similar to the medical screening of aliens applying for U.S. visa to exclude any communicable diseases of public health significance. The medical examination must be done by a licensed physician on Guam and must include at minimum, a physical examination, chest X-ray, tuberculin skin test, serological tests for Human Immunodeficiency Virus and syphilis. Immunizations recommended for age must also be completed. The Government of Guam does not have the capacity to absorb the cost of providing the medical examination and immunizations. As a condition of being allowed to bring in a H-2B worker, employers should be responsible for all costs related to completion of the medical examination.
- A sharp rise in the incidence of sexually transmitted diseases is anticipated as the military buildup enters the construction phase.
- Guam's Department of Public Health is responsible for conducting environmental health inspections of barracks and all establishments that prepare food. Its capacity to conduct environmental health inspections is strained. As barracks are established and workers are imported, all inspections will suffer and the health of Guam's civilian population could be put at risk. Guam's capacity to conduct environmental health inspections and provide vector control must be expanded.
- Mandatory health insurance should be required in addition to Workman's Compensation coverage for all H-2B workers. The emergency room at Guam's only civilian hospital is strained and it cannot handle any further strain from H-2B workers seeking nonemergency medical care that could be provided in a doctor's office.
- Guam has always had a continuous shortage of health care workers. During DOD's construction phase, a significant rise in hospital utilization rates and demand for hospital services are anticipated as Guam's civilian population begins to grow. Guam's civilian hospital needs to be expanded and renovated in order meet the challenges a larger civilian population will place upon it. To meet the health care worker shortage, a health care Visa

waiver program is needed to enable Guam to easily recruit foreign trained nurses, doctors and allied health professionals.

- To meet funding challenges placed upon the Guam Memorial Hospital, it requires the status of a Critical Access Hospital without having it removed from their current Medicare status as a TEFRA facility in order to not decrease its reimbursement level. This status designation will require close coordination with the U.S. Department of Agriculture and the Department of Health and Human Services.
- Military personnel with disabled children are able to participate in Guam's locally funded respite care program. Under the program families select their own caregivers. Guam does not have the resources to accommodate an influx of military personnel with children requiring respite care.

Employment of Individuals with Disabilities

- Individuals with disabilities will be at a disadvantage and in fierce competition with non-disabled individuals seeking gainful employment in the public sector and within the military community. DOD needs to find ways to enable Guam's vocational rehabilitation consumers the opportunity to be trained and employed in the jobs that will be created as a result of the military buildup.

Cost Estimate as of November 2007:

Estimated Additional Funding Required to Meet Military Growth Demands			
Cost Sector	Pre-Construction Phase (EIS/OEIS) 2008 - 2010	Construction Phase 2010 - 2014	Post Construction Phase Beginning 2015
Guam Memorial Hospital Expansion and Renovation		\$100,000,000	
DPHSS Vector Control Program			
Personnel*	735,000	735,000	
Equipment and Contracts	100,000		
DPHSS Foreign Quarantine and Enteric Disease Program			
Personnel*	76,082	76,082	
Equipment & Supplies	15,000		
DPHSS Immunization Program			
Personnel*	187,094	187,094	
Laboratory	\$50,000		
Equipment & Supplies	\$175,000		
DPHSS STD & HIV Program			
Personnel*		250,000	
Contracted Services*		100,000	
Vehicles		30,000	
DPHSS TB Control Program			
TB Wing at Hospital		1,500,000	
Personnel*		126,735	126,735
Equipment		181,500	

* Amount required annually

ECONOMIC DEVELOPMENT

The financial impact of the proposed actions on the Guam economy and in particular, their effect on the cost of living during the period of construction and post-construction must be projected including the number and types of jobs to be created during each phase; and the revenues projected to be payable to the Government of Guam in each phase. While the Navy's EIS was expected to thoroughly assess the economic impacts of military growth, it was recently learned that the EIS would not produce this assessment. The following additional assessments need to be conducted:

- Projections on how much spending will occur off-base as well as on-base by the various industrial categories during each phase must be developed to allow businesses to have market information required for business expansion and new business introduction.
- As many active duty personnel have been only temporarily assigned to Guam, Section 30 taxes are not paid into the Guam treasury, even though temporarily assigned active duty personnel utilize services on Guam.

A significant challenge for Guam is to capitalize on several years of double digit growth generated by military expansion to develop a sustainable, diversified economy that supports economic independence and increases the quality of life for all Guam residents. To achieve this, Guam must continue to develop tax and revenue policies that promote private sector investment and diversify the economic base; improve infrastructure; restore investment grade bond ratings; support local and small businesses, improve collection and release of business and economic data; and prepare an economic development plan, among other initiatives.

Greater opportunity for local businesses to obtain a larger share of the contract amounts awarded must be provided.

- U. S. small business programs are not required to be followed by US contractors in Okinawa, nor can we expect Japanese companies who will use Japanese government funding to comply with small business programs.
- Small business targets are nation-wide goals ie, if these goals have already been reached in other US locations, use of funding in Guam need not have small business goals.
- Local businesses may have franchises to supply certain goods and services to Guam consumers but the military or its contractors can ignore franchises and deal directly with off-island business with the same franchise because Guam is an "overseas" area.
- Local wholesalers are at a disadvantage in competing with off-island wholesalers since shipping of goods is subsidized by the military.
- Local business/residents must be able to participate and benefit from public/private partnerships.
- Use of "Special Purpose Entities" by the Japanese Government must allow local businesses and financial institutions to directly benefit.
- If military support services that are not intrinsically governmental may be contracted to the private sector, similar to the Base Operating Support contract for Naval Base Guam, then scopes of work should be tailored to the capabilities

of local companies and a local business preference system should be instituted similar to that afforded US companies that compete against foreign companies for U.S. work. If local preference is unprecedented or not possible, funding set-asides under the Historically Underutilized Business (HUB) Zone program should be established.

Cost Estimate as of November 2007:

Estimated Additional Funding Required to Meet Military Growth Demands			
Cost Sector	Pre-Construction Phase (EIS/OEIS) 2008 - 2010	Construction Phase 2010 - 2014	Post Construction Phase Beginning 2015
Economic Impact Study and Modeling	\$5 Million		
Revolving Business Loan Program	\$20 Million		
Financial advisory services	\$2 Million		
Business Capabilities and Business Development Studies	\$1 Million		
Infrastructure feasibility studies on former Crown Properties	\$1 Million		
Administrative costs to enable Government of Guam to respond to DOD's buildup	\$2 Million		

* Amount required annually

The above activities that require funding assistance (costs are estimates) are listed in the order below:

- i. Conduct an Economic Impact Study and Modeling including development of a model to project revenues including income tax, real property tax, corporate taxes, and other sources of revenue to obtain projections of GovGuam revenues potentially available to accommodate military growth initiatives - \$5 Million
- ii. \$20 Million in a revolving loan program to provide business development and expansion loans to HUBZone-registered businesses to include hiring of staff to develop business plans as part of the assistance provided to potential loan clients. Assistance could also be provided in the area of performance bonding, although the components of this program need to be developed.
- iii. \$2 Million to pay costs associated with obtaining financial advisory services to help Guam regain and maintain its bond ratings to allow access to private markets for infrastructure financing
- iv. Business Capabilities and Business Development Studies are needed to ascertain the ability of local businesses to carry out the work required by the military expansion program and to identify new business development opportunities including recycling, green building technology and Guam as a residential, business and recreation destination for American expatriates working in Asia - \$1M

HOUSING

Housing Study:

An affordable housing stock inventory study is urgently needed to ensure there will be an adequate supply of low to moderate income housing:

- With a larger population there will be a greater percentage of families displaced from a disaster, homeless people, and those needing transitional type assistance. The island's current population already strains its inventory of emergency and transitional housing.
- Rental prices near economic centers will increase driving those who cannot afford these rents further away from their place of work. Families may find themselves priced out of the market and have difficulty finding places to live close to our island's employment centers. It must be determined if the working class citizen will be able to afford living these economic centers and if there will be inventory available should they need to relocate to a cheaper area of the island. Statistical data is needed to determine the population's actual median income versus the island's Fair Market Rent.
- Most of Guam's housing developments are being geared toward the upper-middle income range. The need for more affordable housing developments must be assessed for both home buyers and renters.

Current housing production is not expected to match future demand and due to this lag, Guam will have a deficit in the total housing and most especially affordable units.

Housing shortages will have to be mitigated by long-term partnerships with the military and by aligning federal dollars from DOD and the U.S. Housing and Urban Development (HUD) with the area median income levels on Guam and apply dollar growth to match the future housing market.

A foreseen problematic area is pressure being placed on current affordable rental units. While these units have been a staple for Section 8 clients within HUD's Section 8 vouchers program, military BAQ subsidies will adversely affect market conditions since they offer higher dollar scale for members opting to live off base. Shifting conditions such as this will inadvertently lead landlords to gravitate more towards military members and thus leaving Section 8 clients with little to no rental opportunities. This trend is occurring in Hawaii's rental market..

American Communities Survey:

In 2010, the U.S. Census Bureau will conduct the Decennial Census with the next Decennial Census to be conducted in 2020. It is based upon the decennial population that funding levels are determined for most federal grant in aid programs. Within the fifty states, the U.S. Census Bureau conducts the American Communities Survey in between the decennial censuses. Guam

along with the other U.S. territories does not participate in this survey. The transfer of military personnel prior to 2015 will significantly change Guam’s population base and increase it. The American Communities Survey or another similar type of survey needs to be conducted on Guam in 2015. The U.S. Census Bureau will need to include Guam when it begins the budgeting process for the 2015 census.

Cost Estimate as of November 2007:

Estimated Additional Funding Required to Meet Military Growth Demands Guam Housing and Urban Renewal Authority			
Cost Sector	Pre-Construction Phase (EIS/OEIS) 2008 - 2010	Construction Phase 2010 - 2014	Post Construction Phase Beginning 2015
Low to Moderate Income Housing Study	\$500,000		

Estimated Additional Funding Required to Meet Military Growth Demands Bureau of Statistics and Plans			
Cost Sector	Pre-Construction Phase (EIS/OEIS) 2008 - 2010	Construction Phase 2010 - 2014	Post Construction Phase Beginning 2015
Inclusion in American Communities Survey in 2015		\$500,000*	

* Funding is identified under the Construction Phase as the U.S. Census Bureau will need to budget for Guam’s inclusion in the American Communities Survey during this phase.