
FINAL
Environmental Assessment
for
Restoration and Stabilization of Eastern Shoreline
MacDill AFB, Florida



Headquarters Air Mobility Command

MacDill AFB, FL

December 2005

Report Documentation Page

Form Approved
OMB No. 0704-0188

Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

1. REPORT DATE DEC 2005	2. REPORT TYPE	3. DATES COVERED 00-00-2005 to 00-00-2005	
4. TITLE AND SUBTITLE Final Environmental Assessment for Restoration and Stabilization of Eastern Shoreline MacDill AFB, Florida		5a. CONTRACT NUMBER	
		5b. GRANT NUMBER	
		5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)		5d. PROJECT NUMBER	
		5e. TASK NUMBER	
		5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) 6 Civil Engineer Squadron (6 CES/CEVN),7621 Hillsborough Loop Drive,MacDill AFB,FL,33621-5207		8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)		10. SPONSOR/MONITOR'S ACRONYM(S)	
		11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited			
13. SUPPLEMENTARY NOTES			
14. ABSTRACT			
15. SUBJECT TERMS			
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified	Same as Report (SAR)
			18. NUMBER OF PAGES 117
			19a. NAME OF RESPONSIBLE PERSON

STAFF SUMMARY SHEET

	TO	ACTION	SIGNATURE (Surname), GRADE AND DATE		TO	ACTION	SIGNATURE (Surname), GRADE AND DATE
1	JA	Coord	B/Gen Sanborn, 28 Apr 06	6			
2	PA	Coord	Mr. Brewer, 25 Apr 06	7			
3	DA7	Sign	<i>Kellogg 5/2/06</i>	8			
4				9			
5				10			

SURNAME OF ACTION OFFICER AND GRADE	SYMBOL	PHONE	TYPIST'S INITIALS	SUSPENSE DATE
Mr. Doug Allbright	A75C	220-0846	eda	20060503

SUBJECT	DATE
FONSI/FONPA an Eastern Shoreline Stabilization & Restoration Project, MacDill AFB	20060502

SUMMARY

1. The purpose of this SSS is to request HQ AMC/A7 sign the FONSI/FONPA for a Shoreline Stabilization Project, MacDill AFB FL (Tab 1).
2. SUMMARY/BACKGROUND: Air Force Environmental Impact Analysis Process (EIAP) at Title 32 Code of Federal Regulations (CFR) Part 989 directs the Air Force to conduct an environmental assessment prior to undertaking any action for new construction. The Environmental Assessment (EA) recommends restoration and reuse of the eastern shoreline from the Bayshore Gate to just south of the Golf Course Clubhouse. The EA was deemed legally sufficient by the 6 AMW/JA on 2 Nov 05.
 - a. Air Force EIAP implements Executive Order 11988, Floodplain Management, Section 2(d), requiring each federal agency to pursue non-hazardous use of coastal floodplain in connection with its activities and Executive Order 11990, Protection of Wetlands, Section 1(a) requires each federal agency to provide leadership and take action to minimize the destruction, loss or degradation of wetlands.
 - b. The Proposed Action involves approximately 120 acres of the eastern shoreline on MacDill AFB, originating at the Bayshore Gate and extending south of the Golf Course Clubhouse. The project includes installation of a limestone boulder revetment within the project area (including the reclamation of approximately 10,000 square feet (0.23 acres) of land currently seaward from the shoreline), planting of dune vegetation behind the revetment along the shoreline, and construction of boardwalks, picnic pavilions, beach access points, and walking paths. (Tab 2). The action allows MacDill AFB to restore the existing shoreline to reduce/minimize erosion. Air Force EIAP at 32 CFR 989.14(g) requires other practicable alternatives be considered to avoid impacts to the floodplain and wetlands, and that the finding be submitted to the MAJCOM EPF as a specific FONPA. This assessment evaluated the proposed action, installing a ball reef, beach nourishment, Geotube Wave Energy Barrier, Construct Seawall, and the no action alternative. Only the proposed alternative provides the required configuration to meet MAJCOM standards. The proposal imposes negligible long-term environmental impacts.
 - c. This proposed project will not be elevated above mean sea level or the floodplain.
3. VIEWS OF OTHERS: Comments received were addressed in a joint HQ AMC/6 AMW board review conducted on 6 Dec 05 and incorporated in these documents. HQ AMC/JA found this approach and documents legally sufficient. (Tab 3)
4. RECOMMENDATION: HQ AMC/A7 sign the FONSI/FONPA at Tab 1.

Michael W. Hutchison
 MICHAEL W. HUTCHISON, Colonel USAF
 Chief, Plans and Programs Division
 Directorate of Installations & Mission Support

- 3 Tabs
1. FONSI/FONPA for Shoreline
 2. EA for Shoreline Stabilization
 3. HQ AMC/JAV Legal Opinion

FINAL
FINDING OF NO SIGNIFICANT IMPACT
AND
FINDING OF NO PRACTICABLE ALTERNATIVE
EASTERN SHORELINE STABILIZATION AND RESTORATION
MACDILL AIR FORCE BASE, FLORIDA

Agency: United States Air Force (USAF), Headquarters, Air Mobility Command

Background: Pursuant to the President's Council on Environmental Quality (CEQ) regulations, Title 40 Code of Federal Regulations (CFR) Parts 1500-1508, as they implement the requirements of the National Environment Policy Act (NEPA) of 1969, 42 U.S.C. § 4321, et seq., and the Air Force Environmental Impact Analysis Process, as promulgated in 32 CFR Part 989, the U.S. Air Force conducted an assessment of the potential environmental consequences associated with implementation of the following Proposed Action: Restoration and stabilization of MacDill's eastern shoreline. The Environmental Assessment (EA) considered all potential impacts of the Proposed Action and alternatives, both as solitary actions and in conjunction with other proposed activities. This Finding of No Significant Impact (FONSI) summarizes the results of the evaluation and the conclusions regarding the significance of impacts from the Proposed Action. The Finding of No Practicable Alternative (FONPA) summarizes the conclusion reached regarding the location of the Proposed Action in a wetland and floodplain.

Proposed Action: The location of the Proposed Action is approximately 120 acres of the eastern shoreline of MacDill AFB, originating at the Bayshore Gate and extending to just south of the Golf Course Clubhouse. The Proposed Action includes the installation of a limestone boulder revetment within the project area (including the reclamation of approximately 10,000 square feet (0.23 acres) of land currently seaward from the shoreline); the planting of dune vegetation behind the revetment along the shoreline; and the construction of boardwalks, picnic pavilions, beach access points, and walking paths.

Alternatives: Five alternatives to the Proposed Action were considered as part of this EA, including the Reef Ball Shoreline Stabilization Alternative, Beach Nourishment Alternative, Geotube Wave Energy Barrier Alternative, Construct Seawall Alternative, and the No Action Alternative. However, only the Proposed Action and the No Action Alternatives were carried through the entire evaluation. The other alternatives were determined to be impractical based on a number of considerations, including timelines, success potential, and environmental concerns.

The No Action Alternative would include no construction and no stabilization or restoration. Current conditions and erosion processes along the eastern shoreline of MacDill AFB would continue. The EA process identified the Proposed Action as the preferred course of action since it would best suit the needs of the base and, if implemented properly, would not result in any significant adverse environmental impacts.

Summary of Findings: The environmental consequences associated with implementation of the Proposed Action are summarized below and are discussed in detail in Section 4.0 of the EA.

*Finding of No Significant Impact and Finding of No Practicable Alternative
Eastern Shoreline Stabilization and Restoration*

Air Quality: The operational and construction air emissions associated with the Proposed Action will be negligible and will not result in significant adverse impact to air quality.

Noise: Noise levels would increase temporarily during construction. However, the increased noise levels would not be continuous and the potential impacts on occupants of nearby buildings are considered minor.

Wastes, Hazardous Materials and Stored Fuels: All construction related hazardous wastes/materials, including petroleum products, would be removed and disposed of according to base procedures, as well as applicable state and federal regulations. Appreciable amounts of hazardous wastes would not be generated by personnel during the construction activities performed under the Proposed Action or by individuals using the recreational facilities constructed as part of the Proposed Action.

Physical Environment: The removal of the existing concrete rubble rip-rap and the installation of the limestone revetment in the project area may cause an increase in turbidity along the shoreline but this would be controlled through the use of floating turbidity barriers. The limited increase in turbidity is expected to be a temporary, adverse impact. Under the Proposed Action, there are no direct or indirect discharges to groundwater.

Floodplains and Wetlands: Currently, 80 percent of MacDill AFB is located within the coastal floodplain. The 20 percent of the installation that is not located within the floodplain is primarily being used for airfield operations and support. Shoreline stabilization and restoration activities would take place inside of the 100-year coastal floodplain and within areas classified as wetlands, along the eastern shoreline of the base. Implementation of the Proposed Action would not result in an increase of impervious surfaces within the floodplain. Significant adverse impacts to wetlands (including wetland communities of Tampa Bay) would not occur during the construction activities of the Proposed Action.

Land Use: The current land use of the eastern shoreline of MacDill AFB is Open Space. The Proposed Action would involve construction of new recreational facilities along the eastern shoreline of MacDill AFB, including walking trails, boardwalks, beach access points, and picnic pavilions. Construction of these features would change the land use in those areas from Open Space to Outdoor Recreation; however, land use would remain Open Space for the majority of the shoreline included in the Proposed Action.

Transportation: An increase in traffic along Bayshore Boulevard is expected during implementation of the Proposed Action, due to the increase in construction-related activities. These negative impacts are minor and short-term. Upon completion, the Proposed Action would not result in a significant change in the number of vehicles driving along Bayshore Boulevard, as all recreational features constructed along the shoreline would be pedestrian accessible only and no parking areas would be constructed under the Proposed Action.

Currently, sections of Bayshore Boulevard are at risk of being damaged due to severe erosion. Upon the completion of the Proposed Action, these sections of Bayshore Boulevard will no longer be at risk. Therefore, implementation of the Proposed Action would have a beneficial impact on transportation at MacDill AFB.

Safety and Occupational Health: The proposed construction activities for the project would pose safety hazards to the workers similar to those associated with typical industrial construction projects, such as

*Finding of No Significant Impact and Finding of No Practicable Alternative
Eastern Shoreline Stabilization and Restoration*

falls, slips, heat stress, and machinery injuries. Construction would not involve any unique hazards and all construction methods would comply with Occupational Safety and Health Administration (OSHA) requirements to ensure the protection of workers and the general public during construction. Diligent, but not controlling, governmental oversight of contractor activities would help assure OSHA compliance.

The Proposed Action would involve construction activities near Environmental Restoration Program site boundaries (SWMU 61, AOCs 83 and 80, and Site 52). However, appropriate measures have been included in the project to reduce the potential for contact with contaminated media and to protect workers from exposure.

Socioeconomic Resources: Implementation of the Proposed Action would have a minor short-term economic benefit for the MacDill AFB region.

Environmental Justice: The Proposed Action would not disproportionately affect minority or low-income populations, given that there are no minority or low-income populations located within or adjacent to the project area. Similarly, the shoreline stabilization effort would have no adverse environmental effects on any off-base populations. Accordingly, there would be no environmental justice issues associated with the Proposed Action.

Biological Environment: Significant adverse impacts to wetlands (including wetland communities of Tampa Bay), wildlife, aquatic life, or protected species would not occur during construction activities of the Proposed Action. Consultation with the United States Fish and Wildlife Service indicates that there would be no adverse impacts on threatened or endangered species during construction and operation of the features and facilities included under the Proposed Action. There would be no net loss of Jurisdictional wetlands associated with the project. However, existing mangrove root structures originally planted in the 1980's to prevent shoreline erosion would be impacted and ultimately destroyed as a result of the Proposed Action. In order to mitigate these impacts, the Base proposes to plant native plant vegetation along the revetment, enhance existing wetlands on the base with additional mangrove plantings, and restore mangrove habitat by flattening soil mounds associated with old mosquito ditches that are currently impacting the hydrology of the area.

Cultural Resources: There would be no adverse impact to cultural resources under the Proposed Action. Consultation with the State Historic Preservation Office indicates that the Proposed Action would not effect cultural resources at MacDill AFB.

Infrastructure: An increase in the generation of solid waste would occur during construction activities for the Proposed Action. The base has sufficient resources to manage the temporary increase in solid waste and the local landfills have sufficient capacity to accept the additional solid waste. The Proposed Action would not increase the volume of wastewater to the base sanitary sewer system. Consequently, the Proposed Action would not have a significant impact on infrastructure.

Cumulative Impacts: There are no site-specific direct, indirect, or cumulative impacts associated with the Proposed Action. The construction and operational activities of the Proposed Action were considered in conjunction with other on-going or planned construction projects, and together they do not constitute significant cumulative adverse impacts.


*Finding of No Significant Impact and Finding of No Practicable Alternative
Eastern Shoreline Stabilization and Restoration*

Environmental Management: To compensate for the loss of the mangrove root structure along the shoreline, a mitigation plan will be negotiated with the Florida Department of Environmental Protection during the environmental permitting phase of the project. During construction activities, soil erosion and increased sedimentation into the Bay in disturbed areas would be controlled by implementation of a sediment and erosion control plan as well as best management practices.

Florida Coastal Zone Management: In accordance with the federal Coastal Zone Management Act (CZMA) and the Florida CZMA, this Federal action must be consistent "to the maximum extent practicable" with the Florida Coastal Management Program (CMP). Appendix B to the EA contains the Air Force's Consistency Statement and finds that the conceptual Proposed Action and alternative plans presented in the EA are consistent with Florida's CMP. In accordance with Florida statutes, the Air Force submitted a copy of the attached EA to the State of Florida so that they could perform a coastal zone consistency evaluation. The State of Florida determined that, at this stage, the Proposed Action is consistent with the Florida CMP. The state's final concurrence of the project's consistency with the CMP will be determined during the environmental permitting stage of the project.

FINDING OF NO SIGNIFICANT IMPACT: Based upon my review of the facts and analyses contained in the attached EA, which is hereby incorporated by reference, I conclude that implementation of the Proposed Action will not have a significant environmental impact, either by itself or cumulatively with other projects at MacDill AFB. Accordingly, the requirements of NEPA and the regulations promulgated by the Council on Environmental Quality and the Air Force are fulfilled and an Environmental Impact Statement is not required. The Tampa Tribune published a Notice of Availability on June 19, 2005. Copies of agency coordination letters, project correspondence, and comments received are included in Appendix D of the EA. The signing of this combined Finding of No Significant Impact and Finding of No Practicable Alternative (FONSI/FONPA) completes the environmental impact analysis process under Air Force regulations.

FINDING OF NO PRACTICABLE ALTERNATIVE: Pursuant to Executive Orders 11988 and 11990, the authority delegated in Secretary of the Air Force Order (SAFO) 791.1, and taking into consideration the findings of the EA, which is incorporated herein by reference, I find that there is no practicable alternative to the Proposed Action occurring in a wetland and floodplain. The Proposed Action includes all practicable measures to minimize harm to the environment. Based upon the environmental constraints and the nature of a shoreline restoration and stabilization project, there are no other available areas located on MacDill AFB that would satisfy the objectives of the Proposed Action. The Proposed Action, as designed, includes all practicable measures to minimize harm to the coastal wetland and floodplain. The Air Force has sent all required notices to Federal agencies, single points of contact, the State of Florida, local government representatives, and the local news media.



JAMES G. KOLLING, Colonel USAF
Deputy Director, Installations &
Mission Support

2 May 06
DATE

Attachment: Environmental Assessment

TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
1.0 PURPOSE OF AND NEED FOR PROPOSED ACTION	1
1.1 PURPOSE OF THE PROPOSED ACTION.....	1
1.2 NEED FOR THE PROPOSED ACTION.....	1
1.3 OBJECTIVES OF THE PROPOSED ACTION	2
1.4 SCOPE OF THE ENVIRONMENTAL REVIEW	3
1.5 ENVIRONMENTAL PERMIT REQUIREMENTS.....	3
1.5.1 Environmental Resource Permit (ERP)	4
1.5.2 U.S. Army Corps of Engineers 404 Permit.....	4
1.5.3 Tampa Port Authority Permit	4
1.5.4 Stormwater Discharge Permit for Construction Activities	5
1.5.5 Stormwater Discharge Associated with Industrial Activity and Phase II Municipal Storm Sewer Systems	6
2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES.....	7
2.1 DETAILED DESCRIPTION OF THE PROPOSED ACTION	7
2.1.1 Background.....	7
2.1.2 Proposed Action.....	8
2.2 DESCRIPTION OF ALTERNATIVE ACTIONS	9
2.2.1 Alternatives Eliminated from Further Study.....	9
2.2.2 Description of the No Action Alternative	12
2.2.3 Comparison of Environmental Effects of the Proposed Action and Alternatives	12
3.0 AFFECTED ENVIRONMENT.....	14
3.1 AIR QUALITY.....	14
3.2 NOISE.....	15
3.3 WASTES, HAZARDOUS MATERIALS, AND STORED FUEL	15
3.4 PHYSICAL ENVIRONMENT	17
3.4.1 Water Quality.....	17
3.4.2 Stormwater.....	18
3.4.3 Floodplains and Wetlands.....	19
3.4.4 Shoreline	19
3.5 LAND USE	20
3.6 TRANSPORTATION.....	20
3.7 SAFETY AND OCCUPATIONAL HEALTH.....	21
3.8 SOCIOECONOMICS	21
3.9 ENVIRONMENTAL JUSTICE	22
3.10 BIOLOGICAL ENVIRONMENT.....	22
3.10.1 Ecological Communities.....	22
3.10.2 Endangered, Threatened, or Special Concern (ETSC) Species	25
3.11 CULTURAL RESOURCES.....	25
3.12 INFRASTRUCTURE	26

TABLE OF CONTENTS (continued)

<u>Section</u>	<u>Page</u>
4.0 ENVIRONMENTAL CONSEQUENCES.....	27
4.1 PROPOSED ACTION.....	27
4.1.1 Air Quality.....	27
4.1.2 Noise.....	28
4.1.3 Wastes, Hazardous Materials, and Stored Fuel.....	28
4.1.4 Physical Environment.....	29
4.1.4.1 Water Quality.....	29
4.1.4.2 Stormwater.....	29
4.1.4.3 Floodplains and Wetlands.....	30
4.1.4.4 Shoreline.....	31
4.1.5 Land Use.....	32
4.1.6 Transportation.....	32
4.1.7 Safety and Occupational Health.....	32
4.1.8 Socioeconomics.....	33
4.1.9 Environmental Justice.....	33
4.1.10 Biological Environment.....	34
4.1.11 Cultural Resources.....	35
4.1.12 Infrastructure.....	35
4.2 CUMULATIVE IMPACTS.....	36
4.3 NO ACTION ALTERNATIVE.....	36
5.0 CONCLUSIONS.....	38
6.0 MANAGEMENT REQUIREMENTS.....	39
6.1 AIR QUALITY.....	39
6.2 HAZARDOUS MATERIALS/WASTES.....	39
6.3 PHYSICAL ENVIRONMENT.....	39
6.4 SAFETY AND OCCUPATIONAL HEALTH.....	39
6.5 BIOLOGICAL ENVIRONMENT.....	40
7.0 PERSONS CONTACTED.....	41
8.0 LIST OF PREPARERS.....	42
9.0 REFERENCES.....	43

LIST OF FIGURES

- Figure 1-1 Project Location and Vicinity Map
- Figure 2-1 Project Area
- Figure 3-1 Environmental Constraints in Vicinity of Project Area
- Figure 3-2 100-Year Floodplain Map

LIST OF TABLES

- Table 2-1 Summary of Potential Environmental Consequences
- Table 3-1 Protected Species Potentially Occurring on the Eastern Shoreline of MacDill AFB

LIST OF APPENDICES

- Appendix A Air Force Form 813
- Appendix B Consistency Statement
- Appendix C ERP Site Summaries
- Appendix D Agency Coordination Letters and Comments
- Appendix E Standard Manatee Construction Conditions

LIST OF ACRONYMS

AF	Air Force
AFB	Air Force Base
AICUZ	Air Installation Compatible Use Zone
AOC	Area of Concern
AQCR	Air Quality Control Region
AST	aboveground storage tank
BMP	best management practice
BSG	Bay Study Group
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CES	Civil Engineering Squadron
CEV	Environmental Management
CFR	Code of Federal Regulations
CO	carbon monoxide
COE	Corps of Engineers
CWA	Clean Water Act
cy	cubic yard
CZMA	Coastal Zone Management Act
dB	decibel
DFSP	Defense Fuel Supply Point
DNL	Day-Night Average Sound Level
DO	dissolved oxygen
EA	Environmental Assessment
EIAP	Environmental Impact Analysis Process
EIR	Economic Impact Region
EIS	Environmental Impact Statement
EO	Executive Order
EPCHC	Environmental Protection Commission of Hillsborough County
ERP	Environmental Resource Permit
ERP	Environmental Restoration Program
ETSC	Endangered, Threatened, or Special Concern Species
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FDNR	Florida Department of Natural Resources
FEMA	Federal Emergency Management Agency
FICUN	Federal Interagency Committee on Urban Noise
FNAI	Florida Natural Areas Inventory
FONPA	Finding of No Practicable Alternative
FONSI	Finding of No Significant Impact
HAZWOPER	Hazardous Waste Operations and Emergency Response
INRMP	Integrated Natural Resources Management Plan
LTM	long-term monitoring
mgd	million gallons per day
mg/L	milligrams per liter

LIST OF ACRONYMS (continued)

NCO	Non-Commissioned Officer
NEPA	National Environmental Policy Act
NOI	Notice of Intent
NO ₂	nitrogen dioxide
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NTU	nephelometric turbidity unit
O ₃	ozone
OSHA	Occupational Safety and Health Administration
PAH	polycyclic aromatic carbons
Pb	lead
PM ₁₀	particulate matter less than 10 microns in diameter
PM _{2.5}	particulate matter less than 2.5 microns in diameter
PPE	Personal Protective Equipment
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
SO _x	sulfur oxides
SPCC	Spill Prevention Control and Countermeasures
SWFWMD	Southwest Florida Water Management District
SWMU	Solid Waste Management Unit
SWPPP	Stormwater Pollution Prevention Plan
TBEP	Tampa Bay Estuary Program
US	United States
USACE	United States Army Corps of Engineers
USAF	United States Air Force
USC	United States Code
USCENTCOM	United States Central Command
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
USSOCOM	United States Special Operations Command
UST	underground storage tank

1.0 PURPOSE OF AND NEED FOR PROPOSED ACTION

This Environmental Assessment (EA) identifies, describes, and evaluates potential environmental impacts associated with the restoration and stabilization of the eastern shoreline along Bayshore Boulevard at MacDill Air Force Base (AFB), Florida (Figure 1-1).

1.1 PURPOSE OF THE PROPOSED ACTION

The purpose of the Proposed Action is to restore, stabilize, and enhance the eastern shoreline of MacDill AFB by reclaiming land that has eroded due to storm events and by employing a combination of stabilization methods presented in this EA. Installing a limestone revetment and planting vegetation would help to prevent erosion, thus preventing further damage to base infrastructure (i.e., sewer lines, communication utilities, and the jogging trail); potential future damage to operational facilities located along the shoreline (i.e., the east coast thermal image radar system and the Security Forces Marine Patrol Office); and potential future damage to sections of Bayshore Boulevard that are located adjacent to the shoreline. The dune vegetation would provide a stabilization benefit while improving the area aesthetically. Additionally, constructing recreational facilities such as boardwalks, picnic pavilions, beach access points, and walking paths along the shoreline and in the areas that will be reclaimed under the Proposed Action is consistent with the MacDill AFB *General Plan* (United States Air Force (USAF), 2002) and would increase the quality of life for families living on base.

1.2 NEED FOR THE PROPOSED ACTION

Restoration and stabilization of the MacDill AFB eastern shoreline is necessary to repair damage caused by recent storms and to prevent further erosion to the shoreline which would adversely impact the infrastructure necessary to support the base mission. In the 1980s, mangroves were planted along the eastern shoreline as part of a shoreline restoration and stabilization project. In 2002, the mangroves were identified as a force protection issue because they obscured a clear line of sight into the bay from the base. A trimming and alteration permit was secured from the State of Florida, and the mangroves were trimmed to the land surface in 2003, leaving the root system in place.

A series of tropical storms during the 2004 hurricane season caused significant damage to the eastern shoreline along MacDill AFB. The wind, waves, and storm surge associated with these storms resulted in extensive erosion along the eastern shoreline. In addition to the damage caused by the hurricanes, erosion of the shoreline continues to occur as a result of waves generated by increasing ship traffic in Tampa and Hillsborough Bays.

Government assets threatened by the severe erosion of the eastern shoreline include the east coast thermal image radar system, the Security Forces Marine Patrol office, sections of Bayshore Boulevard, existing utility lines, and the jogging trail. At the locations along the shoreline where existing utilities (sanitary sewer, communications lines, stormwater outfalls) have been exposed or infrastructure (radar site, jogging trail) is threatened, the Proposed Action would include reclamation of lost land to protect those assets.

The eastern shoreline of MacDill AFB must be stabilized to protect existing government assets. The activities included under the Proposed Action will provide shoreline restoration and stabilization while satisfying the base's need to maintain a clear line of sight from the shoreline into bay waters. The need for this EA was originally outlined on Air Force (AF) Form 813, Request for Environmental Impact Analysis, a copy of which is included in Appendix A.

1.3 OBJECTIVES OF THE PROPOSED ACTION

The objectives of the Proposed Action are the stabilization of the eastern shoreline to prevent further erosion, the reclamation of shoreline eroded by recent storm activity, and the installation of native vegetation that aids in stabilization but does not adversely affect force protection.

The Proposed Action would construct a limestone boulder revetment along the eastern shoreline to prevent further shoreline erosion. The revetment would cover all of the eastern shoreline of MacDill AFB from the Bayshore Gate to the golf course, with the exception of the area of sandy beach located adjacent to the General's Officers Quarters. Reclamation of the land in the most severely eroded areas would be completed by placing limestone boulders five to six feet seaward of the existing shoreline and securing a geotextile fabric to the back of the limestone boulders. The area behind the limestone revetment would then be backfilled with clean fill. The filled area behind the revetment would be planted with sod and/or dense native vegetation to stabilize the soil. The dense vegetative plantings would add aesthetic value and increase erosion control and

would also help to restore the natural hydrology of the project area. The Proposed Action would also include the installation of walking trails, boardwalks, beach access points, and picnic pavilions. The objective of these recreational features would be the enhancement of the quality of life of personnel assigned to MacDill AFB, which in turn would potentially improve the morale and productivity of personnel.

1.4 SCOPE OF THE ENVIRONMENTAL REVIEW

This EA examines the potential for impacts to the environment resulting from the restoration and stabilization of the eastern shoreline at MacDill AFB, Florida (Figure 1-1). This environmental analysis has been conducted in accordance with the National Environmental Policy Act (NEPA) of 1969 [Title 42, United States Code, Sections 4321-4347 (42 USC 4321-4347)]; the President's Council on Environmental Quality (CEQ) regulations for implementing NEPA [Title 40, Code of Federal Regulations Parts 1500-1508 (40 CFR 1500-1508)]; and the Air Force directive for adherence to NEPA implemented in 32 CFR 989, *The Environmental Impact Analysis Process* (EIAP).

The Coastal Zone Management Act (CZMA) (16 USC 1451-1464), as amended, requires federal agencies carrying out activities subject to the Act to provide a "consistency determination" to the relevant state agency. The Air Force's consistency determination for the Proposed Action is contained in the Consistency Statement provided in Appendix B. This EA will be submitted to the Florida State Clearinghouse for a multi-agency review. The Florida Department of Community Affairs, with input from state and county agencies, will determine if the Proposed Action is consistent with the Florida Coastal Management Program. This EA will also be made available for public review.

1.5 ENVIRONMENTAL PERMIT REQUIREMENTS

Based on a review of the relevant federal, state, and local environmental regulations, several environmental permits may be required for the proposed project. The following sections provide a discussion of potentially required permits.

1.5.1 Environmental Resource Permit

The Proposed Action would construct a limestone boulder revetment along the eastern shoreline of MacDill AFB to prevent further erosion along the shoreline of Hillsborough Bay. Therefore, an individual Environmental Resources Permit issued by the Southwest Florida Water Management District (SWFWMD) will be required under Chapter 40D-4 Rules of the Southwest Florida Water Management District Individual Environmental Resource Permits. The Environmental Resource Permit Program regulates the construction, alteration, maintenance, removal, modification, and operation of all activities in uplands, wetlands, and other surface waters that will alter, divert, impede, or otherwise change the flow of surface waters. The program is designed to ensure that such activities do not degrade water quality or cause flooding (SWFWMD, Chapter 40D-4). In conjunction with the SWFWMD Environmental Resources Permit application process, the United States Army Corps of Engineers (USACE) will be provided a copy of the permit application because the project would involve limited filling of wetlands to reclaim shoreline in certain areas (SWFWMD, Chapter 40D-4.101(5)).

1.5.2 US Army Corps of Engineers 404 Permit

Under the Clean Water Act (CWA) of 1977 (33 USC 1344), the USACE is the agency authorized to grant permits for impacts to the nation's waters. The Proposed Action would include construction of a limestone boulder revetment, limited filling to reclaim shoreline in certain areas, and planting dune vegetation along the shoreline. Therefore, a CWA Section 404 nationwide permit from the USACE would be required (Federal Register, January 2002). Since the proposed shoreline stabilization work would occur within coastal wetlands, the Proposed Action would likely require an individual 404 permit issued by the Jacksonville District Corps of Engineers (Jacksonville District COE, July 2003).

1.5.3 Tampa Port Authority Permit

In accordance with Chapter 95-488, Laws of Florida, a Tampa Bay Marine Construction Permit is required to dredge, fill, build, or permanently moor any structure on submerged lands within the Port District. A permit will not be issued unless the Proposed Action will not violate any statute pertaining to environmental regulations, zoning laws, ordinances, other restrictions, or the adopted comprehensive plans of local governments. Additionally, no permit will be issued unless

the proposed project will not harmfully obstruct the natural flow of waters, hinder navigation, erode channels or beaches, create stagnant water areas, damage adjoining lands, adversely effect the rights of riparian owners in the area, interfere with the recreational use of waters, adversely effect the public safety, adversely effect the quality of air and water, or adversely effect the protection and propagation of balanced indigenous biological communities, including, but not limited to, wetland and aquatic habitats, nursery or feeding grounds, and shellfish beds.

A minor marine construction permit is needed for projects meeting the following criteria:

- Docks less than 2500 square feet structural area and less than 300 feet long;
- Dredge/fill less than 1000 cubic yards (cy);
- Maintenance dredging less than 10,000 cy;
- Seawalls less than 400 feet long.

A standard marine construction permit is required for projects exceeding the above thresholds or for projects that may be expected to have significant environmental or hydrologic impact. Since the proposed project involves the reclamation of approximately 10,000 square feet of submerged lands, a standard permit will be required.

1.5.4 Stormwater Discharge Permit for Construction Activities

It is anticipated that the Proposed Action would disturb approximately 120 acres of land. Therefore, the Proposed Action is defined as a large (greater than five acres) construction activity under the State of Florida Generic Permit for Stormwater Discharge from Large and Small Construction Activities (FDEP, May 2003). In order to obtain coverage under the Generic Stormwater Permit, a notice of intent (NOI) should be filed prior to commencement of construction activities. As part of the permit requirements, a Stormwater Pollution Prevention Plan (SWPPP) should be developed and implemented for the proposed activities (FDEP, May 2003).

1.5.5 Stormwater Discharge Associated with Industrial Activity and Phase II Municipal Storm Sewer Systems

MacDill AFB is currently authorized to discharge stormwater to the waters of the state under the State of Florida Multi-Sector Generic Permit for Stormwater Discharge Associated with Industrial Activity and the State of Florida Generic Permit for Discharge of Stormwater from Phase II Municipal Separate Storm Sewer Systems (FDEP, May 2003). As part of the permit requirements, MacDill AFB maintains a SWPPP as stated in Florida Administrative Code (FAC) Chapter 62-621 (FDEP, February 2000).

2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

This section provides a description of the Proposed Action and alternatives to the Proposed Action. The project area is the length of eastern shoreline of MacDill AFB originating at the Bayshore Gate and extending to just south of the Golf Course Clubhouse (Figure 2-1).

The Proposed Action includes the installation of a limestone boulder revetment along the eastern shoreline of MacDill AFB between the Bayshore Gate and the Golf Course Clubhouse (including the reclamation of approximately 10,000 square feet of land seaward of the shoreline that eroded during storms); the planting of dune vegetation behind the revetment along the shoreline; and the construction of boardwalks, picnic pavilions, beach access points, and walking paths.

Five alternatives to the Proposed Action were considered as part of this EA, including the Reef Ball Shoreline Stabilization Alternative, the Beach Nourishment Alternative, the Geotube Wave Energy Barrier Alternative, the Construct Seawall Alternative, and the No Action Alternative; however, only the Proposed Action and the No Action Alternatives were carried through the entire evaluation for reasons discussed in Section 2.2.1.

2.1 DETAILED DESCRIPTION OF THE PROPOSED ACTION

2.1.1 Background

Land on the southern tip of the Interbay Peninsula, south of Tampa, was selected for an Army airbase in 1939. The formal dedication of the airbase occurred in 1941, and the property became MacDill AFB in 1947.

Mangroves were planted along the eastern shoreline of the base in the 1980s as part of a coastal zone restoration and stabilization project. Although mangrove coverage was sparse in many areas, the trees survived until 2002, when they became a force protection issue because they obscured the line of sight into Hillsborough Bay. In January 2004, MacDill AFB received permission from FDEP to cut the mangroves to the ground, but to leave the root structures in place to avoid erosion of the shoreline. The base is allowed to trim the mangroves as they grow back to maintain a clear line of sight into the bay.

A series of tropical storm events during the 2004 hurricane season caused significant damage to the eastern shoreline along the base. The wind, waves, and storm surge associated with these storms resulted in extensive erosion along the eastern shoreline. In addition to the damage caused by the hurricanes, erosion continues to occur along the shoreline due to increasing wave action from ship traffic in Tampa and Hillsborough Bays.

2.1.2 Proposed Action

The Proposed Action includes installing a limestone boulder rip-rap on the shoreline from the Bayshore Gate to the Golf Course Clubhouse; backfilling selected areas five to six feet seaward from the shoreline to reclaim lost shoreline and protect infrastructure; placing sod and/or dense vegetative plantings behind the revetment to stabilize the soil; and constructing walking trails, boardwalks, beach access points, and picnic pavilions.

The limestone boulder rip-rap would be placed along the eastern shoreline from Bayshore Gate to just south of the Golf Course Clubhouse (hereafter referred to as “the project area”). The existing concrete rubble rip-rap that was placed along the shoreline years ago would be removed and stockpiled. Once the old concrete rubble is removed, a geotextile fabric would be placed over the existing soil and sediment of the shoreline bank to keep it in place. Any existing mangrove root systems would be left in place and would be covered by the fabric. The old concrete rubble would be placed in front of and against the fabric using a large track hoe. Large to medium-sized limestone boulders would then be placed in front of and against the old concrete rubble, effectively hiding it from view. The limestone boulders would also be moved into place using a large track hoe. The large limestone boulders would serve to dissipate wave energy, hide the old concrete rubble, and secure the geotextile fabric in place.

At some locations along the shoreline, particularly where existing utilities have been exposed (such as sanitary sewer and communication lines) or where MacDill AFB infrastructure is threatened (including the east coast thermal image radar system, the Security Forces Marine Patrol office, sections of Bayshore Boulevard, and the jogging trail), the Proposed Action would include reclamation of lost land to protect those assets. Reclamation of the land in these areas would be completed by placing limestone boulders five to six feet seaward of the existing shoreline, securing a geotextile fabric to the back of the limestone boulders, and then backfilling

the area behind the revetment with clean fill. The filled area would be planted with sod and/or dense low-lying vegetative plantings to stabilize the soil. The plants would also increase the aesthetic value of the area. The existing grass/weed cover along the coastline provides little to no stabilization benefit and offers very little erosion control. The plants used would be Florida native species typically found in coastal settings such as sea oats, marsh cord grass, sand cord grass, beach sunflower, muhli grass, and similar species. All of the plant species selected for installation would be low growing grasses and groundcovers that would not inhibit the line of sight from the shoreline.

Recreational facilities, including walking trails, boardwalks, beach access points, and picnic pavilions, would be constructed under the Proposed Action. These features would be installed in selected areas along the shoreline if funding becomes available. Walking trails and boardwalks would be located along the eastern shoreline, while the beach access points and picnic pavilions would be located in the southern section of the project area, near the already designated recreational facilities on base.

2.2 DESCRIPTION OF ALTERNATIVE ACTIONS

The EIAP process requires the Air Force to analyze reasonable alternatives to the Proposed Action and the No Action Alternative. Reasonable alternatives are those that “meet the underlying purpose and need for the Proposed Action and that would cause a reasonable person to inquire further before choosing a particular course of action” (32 CFR 989). Alternatives may be eliminated from detailed analysis based on operational, technical, or environmental standards that are applicable to the project.

Alternative methods for stabilizing the eastern shoreline of MacDill AFB were considered as part of the EIAP. However, no alternatives were retained for evaluation in this EA due to the experimental nature of the alternative methods and the lack of evidence demonstrating the success of these methods.

2.2.1 Alternatives Eliminated from Further Study

Four additional alternatives to the Proposed Action were initially considered but determined to be impractical based on a number of considerations including timelines, success potential, and

environmental concerns. Each of the additional alternatives considered as part of this EIAP are described below.

Alternative #1: Reef Ball Shoreline Stabilization Alternative – This alternative would construct an offshore oyster reef along the entire eastern shoreline from the Bayshore Gate to the southeastern tip of MacDill AFB. The oyster reef would be created through the installation of a line of Reef Balls four rows deep. The largest Reef Balls available, called Pallet Balls, would be placed base to base forming two rows approximately 300 feet offshore. Pallet balls are roughly four feet tall and four feet in diameter and weigh about 1,600 pounds. A single row of Bay Balls would be installed on either side of the double row of Pallet Balls. Bay Balls are roughly three feet tall and three feet in diameter, and weigh approximately 1,000 pounds. Both the Bay Balls and the Pallet Balls would be transported to the site by barge and set into place using a crane or winch system. Once installed, the Reef Balls would essentially form a long linear mound parallel to the shoreline in the shallow offshore water. Stabilizing the shoreline with an off-shore wave energy break can be effective; however it does not offer the same ‘immediate’ protection that a revetment offers. The off-shore wave break (reef) approach to stabilization relies partially on the off-shore reduction of wave energy by the reef itself and partially on the establishment of marsh grasses and other vegetation behind the reef to further dissipate wave energy before it reaches the shoreline. This approach results in a ‘soft’ shoreline that is still subject to erosion, particularly until dense vegetation is established behind the reef. Establishment of dense vegetative cover behind the reef can take a year or more depending on site conditions. During the ‘establishment’ period, the shoreline often still experiences erosion. This has been demonstrated at a smaller scale Reef Ball shoreline stabilization project at the south end of the base where the establishment of marsh vegetation has been slow and shoreline erosion is still occurring. Although the Reef Ball shoreline stabilization alternative would likely provide successful stabilization of the shoreline over the long-term and would surely provide greater ecologic value, the technique has not yet been proven at other locations nor does it offer immediate protection of the shoreline. The erosion along MacDill’s shoreline is critical and immediate stabilization of the shoreline is required to protect base infrastructure (sewer pipes, communications cables, radar station, jogging trail). The use of an unproven, longer range approach to shoreline stabilization was not in the best interest of MacDill AFB and would not provide the immediate protection of infrastructure

and resources required for the project. Consequently, this alternative was not considered viable and was not retained for further evaluation in the EA.

Alternative #2: Beach Nourishment Alternative – This alternative would use dredge spoils from channel dredging in Tampa and Hillsborough Bays to build-up the shoreline. Dredge material would be pumped onto a transport barge and mobilized to the MacDill AFB shoreline. The sand would then be pumped off the barge and onto the shoreline. This alternative was not considered practicable because it is currently unknown when dredge spoil material would be available to support this project. Furthermore, this alternative would not stabilize the shoreline, rather it would provide a source of sediment that could be eroded. Erosion of the buffer sediments would eliminate erosion of the original shoreline and provide a buffer between the shoreline and base infrastructure. A final deterrent to utilizing the beach nourishment approach was the assertion by the FDEP that beach nourishment projects, although permissible along the Gulf of Mexico and Atlantic coastline, are very difficult to permit within interior water bodies such as Tampa or Hillsborough Bay. The FDEP's position on beach nourishment for the MacDill shoreline stabilization project was presented by the FDEP during the project pre-application meeting on December 15, 2004 and is summarized briefly in the meeting minutes included in the 'Agency Coordination Letter and Comments' appendix (Appendix D).

Alternative #3: Construct Geotube Wave Energy Barrier – This alternative would make beneficial use of channel dredge material by creating a long linear mound along the entire eastern side of MacDill AFB. The mound is created using a geotube. A geotube is a cylindrical section of geotextile fabric that can be filled with sediment during a hydraulic dredging operation. When filled, the geotube creates a contained, long, linear mound of sediment. Placed in an offshore location, the geotube would reduce the energy of waves before they hit the shoreline. This alternative was considered impracticable for several reasons. First, the availability of dredge material from the bay is uncertain at this time, which could greatly impact the timeline for this project. Second, the geotube alternative would not provide the 'immediate' stabilization and protection of the shoreline that the Proposed Action would because it does not create a 'hard' shoreline. Finally, the long-term stability and durability of geotubes is questionable. Geotubes have been demonstrated to often roll over, break down, tear, and rip with time, leading to

extensive future maintenance or replacement actions to keep the shoreline stabilization system operational.

Alternative #4: Construct Seawall – This alternative would construct a hard, vertical seawall along the eastern shoreline of MacDill AFB from the Bayshore Gate to the Golf Course Clubhouse. This alternative was eliminated from further consideration due to the cost of implementation and well-documented negative environmental impacts that seawalls have on coastal systems.

2.2.2 Description of the No Action Alternative

Under the No Action Alternative, there would be no installation of a limestone boulder revetment, no planting of sod and/or dense vegetative plants, and no construction of recreational facilities such as walking trails, boardwalks, beach access points, and picnic pavilions. If this alternative were implemented, the shoreline would continue to erode because of storm events, and daily ship traffic and government assets would continue to be impacted. The No Action Alternative represents baseline conditions that can be compared to conditions that would exist under the Proposed Action.

2.2.3 Comparison of Environmental Effects of the Proposed Action and Alternatives

The purpose of this section is to summarize and compare the environmental impacts of each alternative, thereby defining the issues and providing a clear basis for choice among the alternatives by the decision-maker. The environmental resources potentially affected by the alternatives are described in Chapter 3, Affected Environment. The consequences for each of these environmental resources from the implementation of each alternative are described in Chapter 4, Environmental Consequences. The present section discusses and provides a tabular matrix (Table 2-1) that summarizes the conclusions reached in Chapter 4.

In Chapter 4, impacts on each environmental component are evaluated to determine whether the impact would be beneficial or adverse. For adverse impacts, the level of impact on the resource is estimated (e.g., negligible, low, moderate, high) and considered in conjunction with the context (e.g., local versus regional, short-term versus long-term) and intensity (based on ten criteria provided in the CEQ Regulations) of the effect in determining whether the impact is significant.

The conclusions of the evaluation are summarized in Table 2-1. As shown in the table, no potentially significant adverse impacts were identified for the Proposed Action. Three potentially significant adverse impacts were identified for the No Action Alternative.

It is the conclusion of this EA that implementation of the Proposed Action would not result in a significant adverse effect on the environment. Therefore, preparation of a Finding of No Significant Impact (FONSI)/Finding of No Practicable Alternative (FONPA) is appropriate for this action, and preparation of an Environmental Impact Statement (EIS) is not required.

Table 2.1 Summary of Potential Environmental Consequences

<i>Resources</i>	<i>Proposed Action</i>	<i>No Action Alternative</i>
Air Quality	○	○
Noise	○	○
Wastes, Hazardous Materials, and Stored Fuel	○	○
Physical Environment	+	-
Land Use	+	○
Transportation	+	-
Safety and Occupational Health	○	○
Socioeconomics	+	○
Environmental Justice	○	○
Biological Environment	○	○
Cultural Resources	○	○
Infrastructure	+	-

Consequences:

- + = Beneficial.
- = No net change or not discernible.
- = Adverse and potentially significant.

3.0 AFFECTED ENVIRONMENT

This section describes the characteristics of the existing natural and man-made environment that could potentially be affected by the Proposed Action or the No Action Alternative. This section establishes the basis for assessing impacts of the alternatives on the affected environment provided in Section 4.0.

3.1 AIR QUALITY

The Clean Air Act (CAA), as amended in 1977 and 1990, provides the basis for regulating air pollution to the atmosphere. The United States Environmental Protection Agency (USEPA) has set air quality standards for six criteria pollutants: carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), sulfur oxides (SO_x), lead (Pb), and particulate matter with an aerodynamic diameter less than or equal to 10 micrometers (PM₁₀) and 2.5 micrometers (PM_{2.5}). These standards are the cornerstone of the CAA. Although not directly enforceable, they are the benchmark for the establishment of emission limitations for the pollutants USEPA determines may endanger public health or welfare.

The Environmental Protection Commission of Hillsborough County (EPCHC) is responsible for issuing and enforcing the CAA Title V Air Operation Permit (Permit No. 0570141-001-AV issued October 21, 1999) (USAF, 1999). The 1998 air emission inventory at MacDill AFB found the installation is a major source of nitrogen oxides with potential emissions of 184 tons per year.

The USEPA tracks compliance with the air quality standards through designation of a particular region as attainment or non-attainment. MacDill AFB is located in Hillsborough County within the West Central Florida Intrastate Air Quality Control Region (AQCR). Hillsborough County currently meets the USEPA air quality standards for all criteria pollutants (60 CFR 62748, December 7, 1995). The county was formerly non-attainment for ozone, but is currently in maintenance for attainment for ozone.

3.2 NOISE

The meaning of noise for this analysis is undesirable sound that interferes with speech communication and hearing or is otherwise annoying (unwanted sound). In June 1980, the Federal Interagency Committee on Urban Noise published guidelines (FICUN, 1980) relating day-night average sound level (DNL) values to compatible land uses. Most federal agencies have identified 65 decibels (dB) DNL as a criterion that protects those most affected by noise and that can often be achieved on a practical basis. The primary source of noise at MacDill AFB is aircraft operations. The Air Installation Compatible Use Zone (AICUZ) Study for MacDill AFB (USAF, 1996) plotted the DNL from 65 to 80 dB for a typical busy day. The DNL contours reflect aircraft operations. The DNL 65 dB contour covers the main runway and extends about one mile southwest over Tampa Bay and about 1.5 miles northeast over Hillsborough Bay. A second, smaller DNL 65 dB contour is centered near the southeastern end of the inactive runway (taxiway).

At its closest point, construction activities for the project would be conducted approximately 1,300 feet south and outside of the 65 dB noise contour of the main runway.

3.3 WASTES, HAZARDOUS MATERIALS, AND STORED FUEL

Hazardous wastes generated at MacDill AFB include solvents, fuels, lubricants, stripping materials, used oils, waste paint-related materials, and other miscellaneous wastes. The responsibility for managing hazardous waste lies with the generating organization and 6th Civil Engineering Squadron (CES)/Environmental Management (CEV). Wastes come from approximately 50 locations throughout the base and are managed at satellite accumulation points base-wide.

Approximately 105 operations base-wide use hazardous materials. Hazardous materials on-base include various organic solvents, chlorine, freon, paints, thinners, oils, lubricants, compressed gases, pesticides, herbicides, nitrates, and chromates. A detailed tracking and accounting system is in place to identify potentially hazardous materials and to ensure that base organizations are approved to use specific hazardous materials.

The base receives jet fuel (JP-8) at the Defense Fuel Supply Point (DFSP) by pipeline from Port Tampa. JP-8 storage capacity at DFSP and MacDill AFB is over 7.5 million gallons. Diesel, gasoline, and heating oil are stored throughout MacDill AFB in small to medium-sized underground storage tanks (USTs) and aboveground storage tanks (ASTs) ranging in size from 50 to 12,000 gallons.

Three inactive Environmental Restoration Program (ERP) sites (Site 52, Area of Concern (AOC) 80, and Solid Waste Management Unit (SWMU) 83) and one active ERP site (SS061) are located within the boundaries of the project area. Figure 3-1 shows the locations of these ERP Sites. ERP Site Summaries are included in Appendix C of this assessment.

Site 52 (ST052) is located in the southern section of the project area, just south of the Base Hospital. The site formerly contained a 2,000-gallon UST that held fuel oil to heat the hospital dormitory. Fuel was pumped to the dormitory mechanical room via underground piping. The UST was used from 1959 until 1991, when the heating system was converted to natural gas and the UST was removed. Semi-annual long-term monitoring (LTM) of the groundwater has been conducted at Site 52 since 1998, and further soil and groundwater investigation has been recommended.

AOC 80 is a former skeet range located in the northeastern portion of MacDill AFB in the northern section of the project area and on a peninsula that extends into Hillsborough Bay. The site consists of a grassy area and a paved parking lot adjacent to two small buildings. No investigations have been conducted at AOC 80.

SWMU 83 (SS083) is located in the northern section of the project area in the northeast corner of the base, near the former Junior Non-Commissioned Officer (NCO) Housing Site. A portion of an inactive wastewater conveyance line was unearthed in 1999 during construction of the housing project. The line was suspected to be part of a 1940s era water discharge conduit that originated at the former Base Flightline Fueling System in the vicinity of Building 554. In 2000, approximately 28,000 tons of soils were excavated from this site. A Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) was completed in 2005, and a Statement of Basis is currently underway, recommending No Further Action.

SWMU 61 is a chlorinated solvent groundwater plume approximately 30 acres in size that lies adjacent to the northern section of the project area. Approximately 1000 feet of shoreline exist within the boundaries of SWMU 61. The status of SWMU 61 is Remedial Action – Construction.

ERP site classifications and potential contaminants of concern are provided in Appendix C (ERP Site Summaries) of this EA.

According to the ERP Site Program Manager, construction within ERP site boundaries is permissible, provided that the applicable health and safety procedures are followed and that a site-specific health and safety plan has been approved prior to beginning construction activities (Matty, February 2005).

There also exists one area of contaminated soils along the shoreline that is not yet designated as an ERP site. Low concentrations of polycyclic aromatic hydrocarbons (PAHs) have been detected in the surface and subsurface soils along the shoreline in the central section of the project area.

3.4 PHYSICAL ENVIRONMENT

3.4.1 Water Quality

The Tampa Bay Estuary Program (TBEP) was founded in 1991 to facilitate the development of a comprehensive plan to restore and protect Tampa Bay. One of the initiatives of TBEP is the baywide monitoring program. The water quality of the Tampa Bay area is monitored on a regular basis by four main local agencies: the EPCHC, Pinellas County, Manatee County, and the City of Tampa (Squires, May 2003). EPCHC began monthly sampling of Tampa Bay in 1972 and has complete records of most of the 52 stations located in the Old Tampa Bay, Hillsborough Bay, Middle Tampa Bay, and Lower Tampa Bay segments dating back to 1974 (Janicki et al., March 2001). A Microsoft Access database, currently available online at the TBEP website (http://www.tbep.tech.org/html/wq_jun9.html), contains the water quality data collected by the local agencies.

There are currently ten EPCHC water quality monitoring stations within Hillsborough Bay. Of these, Station 7 is located approximately 1.25 miles due east of the Bayshore Gate and is the closest station to the project area (TBEP, 2005). In order to obtain and document the existing water quality conditions in the project area, the database was queried for the results of the following water quality parameters from Station 7: dissolved oxygen (DO), pH, salinity, and turbidity. These parameters were sampled monthly beginning in January 1974 through December 2003. For DO, pH, and salinity, data was available for three depths of the water column (surface, mid-depth, and bottom). Turbidity was sampled only at mid-depth. For the parameters sampled from three depths, results were combined to obtain overall minimum, maximum, and average values. For turbidity, minimum, maximum, and average values also were determined. These results are shown below:

Parameter	Minimum	Maximum	Average
DO (mg/L)	0.3	14.4	6.3
pH	3.8	9.1	8.0
Salinity	5.7	33	24.6
Turbidity (NTU)	1	59	7.4

mg/L – milligrams per liter

NTU – Nephelometric turbidity unit

From: Squires (May 2003), Janicki et al. (March 2001).

3.4.2 Stormwater

Stormwater on MacDill AFB from impervious surfaces is directed to drains and ditches that connect directly to Hillsborough Bay. Surface water flows at the base are primarily from stormwater runoff. Most of the base drains toward the southern tip of the Interbay Peninsula; however, the easternmost section of the base drains toward Hillsborough Bay. Several stormwater outfalls exist along the eastern shoreline of MacDill AFB. Six large stormwater outfalls terminate in the project area and are exposed in areas along the shoreline that have been severely eroded.

The USEPA issued a National Pollutant Discharge Elimination System (NPDES) multi-sector stormwater general permit to MacDill AFB in July 2003. This permit authorizes the discharge of stormwater associated with industrial activity. In accordance with 40 CFR 112, the base has developed a Spill Prevention Control and Countermeasures (SPCC) Plan and a Facility Response

Plan, given the location of the base adjacent to navigable waters and shorelines as well as the amount of fuel storage capacity existing on-site.

3.4.3 Floodplains and Wetlands

According to information (Flood Insurance Rate Maps dated 1982 to 1991) provided by the Federal Emergency Management Agency (FEMA), 80 percent of MacDill AFB is within the 100-year floodplain. The maps indicate that all the residential, industrial, and institutional (medical and education) land uses on the base are within the 100-year floodplain, along with most of the commercial and aviation support areas. The majority of the land that is above the floodplain is designated for airfield operations. The extent of the floodplain is an important consideration for MacDill AFB because Executive Order (EO) 11988 (May, 1977), Floodplain Management, regulates the uses of these areas. The objective of this presidential order is to avoid, to the extent possible, the long- and short-term adverse impacts associated with occupancy and modification of floodplains. Activities under the Proposed Action are located within the 100-year coastal floodplain within a Zone A special flood hazard area (Figure 3-2).

Additionally, all of the shoreline included in the Proposed Action and Hillsborough Bay is classified as wetlands. Wetlands are defined as areas where water covers the soil or is present either at or near the surface of the soil all year or for varying periods of time during the year, including during the growing season. Water saturation (hydrology) largely determines how the soil develops and the types of plant and animal communities living in and on the soil. Wetlands may support both aquatic and terrestrial species. In accordance with EO 11990 (May, 1977), the base is required to avoid, to the extent possible, the long- and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative.

3.4.4 Shoreline

Most of the eastern coast of MacDill AFB is developed with buildings, pavement, or maintained grass. The actual shoreline consists principally of an embankment covered by concrete rubble rip-rap. The shoreline also includes isolated areas of sandy beach (i.e., near the Davis Park Beach Area, the Residential Promenade/Overlook, and south of the Community Shoreline Park). The

shoreline along the northern section of the project area is currently secured with concrete rip-rap. The central section of the project area is undergoing severe erosion in some areas and is loosely covered with concrete rubble. The shoreline along the southern section of the project area is intermittently covered with loose concrete rubble and with small, isolated patches of sand beach. The tidal range in the project area is approximately 2.5 feet. At high tide, the water of the bay contacts the existing concrete rip-rap, while at low tide, as much as 600 feet of tidal flats are exposed. No sand dunes exist along the shoreline, and the transition from the shoreline to the water is frequently steep and severely eroded. The drop from land to sand surface ranges from approximately 0.5 feet to 2 feet in the most severely eroded areas of the shoreline. The Security Forces Marine Patrol Office is located in the central section of the project area. A channel exists offshore from the Marine Patrol Office to allow boats to access Hillsborough Bay at low tide. The biological environment along the eastern shoreline is described in Section 3.9 of this report.

3.5 LAND USE

Land use categories at MacDill AFB include runway/taxiways, aircraft operations/maintenance, industrial, community commercial, community service, administrative, medical, accompanied housing, unaccompanied housing, outdoor recreation, water, and open space. The shoreline that would be affected by the Proposed Action is currently designated as open land use. Several land use categories are located adjacent to the project area, including administrative, community commercial, accompanied housing, and outdoor recreation in the northern section and medical, open space, outdoor recreation, and industrial in the southern section (USAF, 2002).

3.6 TRANSPORTATION

MacDill AFB is served by five operating gates at Dale Mabry Highway, Bayshore Boulevard, MacDill Avenue, Manhattan Avenue, and Interbay Boulevard. The Dale Mabry, Bayshore, and MacDill gates are used for government and personal vehicles (commuter traffic). The Manhattan gate is used as the large vehicle (contractor trucks, delivery vehicles, and recreational vehicles) entry point. Large vehicles are inspected, and their credentials and destinations are confirmed before entering the base. The Interbay gate is currently used for small contractor vehicle (light trucks and cars) entry and clearance, but will be used for large vehicle entry once construction of

the vehicle inspection and check-in stations are completed. At that time, the Manhattan gate will be permanently closed.

The transportation system on-base consists of arterials, collectors, and local streets that connect with the off-base network through the four gates. On-base arterial facilities include North and South Boundary Boulevards, Bayshore Boulevard, Marina Bay Drive, and Tampa Point Boulevard. The 1998 traffic study (USAF, 1998) determined that service levels for traffic on-base are generally acceptable.

Bayshore Boulevard borders the entire length of shoreline included in the Proposed Action. This main artery extends from the Bayshore Gate in the northeastern corner of the base to Golf Course Avenue, the southernmost section of the shoreline affected by the Proposed Action. Currently, sections of Bayshore Boulevard are at risk of being damaged as a result of severe shoreline erosion.

3.7 SAFETY AND OCCUPATIONAL HEALTH

Construction activities included under the Proposed Action would not involve any unique hazards, and all construction methods would comply with Occupational Safety and Health Administration (OSHA) requirements to ensure the protection of workers and the general public during construction.

3.8 SOCIOECONOMICS

The Economic Impact Region (EIR) for MacDill AFB is the geographic area within a 50-mile radius of the base subject to significant base-related economic impacts. According to the 2002 Economic Resource Impact Statement for MacDill AFB (USAF, 2003), the total economic impact of MacDill AFB on the EIR was \$5.59 billion with over 133,000 jobs supported. Retiree income provides an economic impact of \$2.13 billion. The direct impact on local income produced by base expenditures is \$1.2 billion.

3.9 ENVIRONMENTAL JUSTICE

Environmental justice must be considered for federal actions under the NEPA review process and in accordance with the Air Force EIAP (32 CFR 989.33). Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (EO 12898, February, 1994) requires that each federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high or adverse human health or environmental effects of its programs, policies, and activities on minority and low-income populations.

Environmental justice analysis focuses on residents living within the areas where there would be potentially adverse environmental impacts, which for the purposes of this EA are those areas bordering the site of the Proposed Action. No non-military residential communities are located adjacent to or in the vicinity of the Proposed Action. The Proposed Action would occur completely within the boundary of MacDill AFB and does not include any off-base construction. Only recreational fishing occurs offshore from the project area. Therefore, no minority and low-income populations exist that might be affected by implementation of the Proposed Action or the No Action Alternative.

3.10 BIOLOGICAL ENVIRONMENT

A description of the biological resources found at MacDill AFB is provided in the Integrated Natural Resources Management Plan (INRMP) (USAF, 2001). The biological environment within and adjacent to the project area is described below based on the ecological communities present and the potential occurrence of endangered, threatened, or special concern (ETSC) species.

3.10.1 Ecological Communities

Shoreline

Much of the eastern coast of MacDill AFB is developed with buildings, pavement, or maintained grass. The actual shoreline consists of concrete rubble rip-rap and isolated areas of beach (i.e., near the Davis Park Beach Area, the Residential Promenade/Overlook, and south of the

Community Shoreline Park). Shoreline vegetation in natural areas may consist of salt-tolerant species such as mangroves, wax myrtle, salt bush, Brazilian pepper, sea grape, and various grasses (USAF, 2001).

As noted in the INRMP, the continuing shoreline erosion due to the loss of vegetation along Bayshore Drive was addressed with mangrove plantings in 1988 to absorb the wave action and reduce soil loss. The mangroves were planted within the shoreline embankment and covered with rip-rap. These mangroves are not part of a natural tidal mangrove swamp. Only the root structures of these trees are currently present along the shoreline. The mangroves have been cut back along the shoreline to prevent obscuring a clear line of sight along the eastern shoreline and thus becoming a detriment to Base security.

Wading and shore birds are likely to use the shoreline habitat, primarily for foraging. Species likely to occur in the project area include the great egret, cattle egret, great blue heron, laughing gull, herring gull, and royal tern. MacDill AFB has very limited value as a breeding site for colonial coastal birds due to a lack of areas isolated from terrestrial predators, especially raccoons (USAF, 2001), and the project area does not provide suitable nesting habitat. However, several threatened and endangered avian species have been identified occasionally along MacDill's eastern shoreline, although the shoreline is not critical habitat for any of them. Shorebirds, such as the federally protected piping plover, have been identified foraging along the shoreline. State-listed species, such as the little blue heron, reddish egret, snowy egret, roseate spoonbill, American oystercatcher, brown pelican, white ibis, black skimmer, and least tern, have all been seen along the eastern shoreline of MacDill AFB. These birds are seen foraging or resting most frequently at low tide. Many of the mammalian species inhabiting MacDill AFB (e.g., raccoon, opossum, armadillo, and striped skunk) are adapted to urban environments (USAF, 2001). The raccoon is the mostly likely of these species to utilize the shoreline habitat.

Tidal Flat

The nearshore environment of Hillsborough Bay is a tidal flat, which is covered with approximately two to four feet of water at high tide. As described by the Florida Natural Areas Inventory (FNAI) and Florida Department of Natural Resources (FDNR) Guide to the Natural Communities of Florida (FNAI and FDNR, 1990), tidal flats (unconsolidated substrates) are

generally expansive open areas of subtidal or intertidal zones lacking dense populations of sessile plant and animal species. Tidal flat substrate composition includes marl, mud, sand, and/or shell (FNAI and FDNR, 1990). These types of communities typically support a large population of benthic organisms living on and within the substrate (e.g., tube worms, sand dollars, mollusks, isopods, amphipods, burrowing shrimp, and crabs), as well as a variety of transient planktonic and pelagic organisms. As a result, tidal flats are important feeding grounds for many shorebirds and bottom feeding fish, such as redfish, flounder, spot, and sheepshead (FNAI and FDNR, 1990).

Seagrass Beds

Seagrass beds, which occur in the shallow subtidal zones of clear coastal waters with moderate wave action (FNAI and FDNR, 1990), are present in the nearshore area of Hillsborough Bay adjacent to the project area. Seagrass beds are commonly submerged, but can be exposed for brief periods of time during extreme low tides (FNAI and FDNR, 1990). Seagrasses support attached epiphytic algae and invertebrates and serve as important food sources for manatees, sea turtles, and fish, including the spotted sea trout, spot, and redfish (FNAI and FDNR, 1990). Dense seagrasses also serve as shelter or nursery grounds for many invertebrates and fish, including marine snails, clams, scallops, polychaete worms, pink shrimp, blue crab, seahorses, snapper, mullet, and bonefish (FNAI and FDNR, 1990).

The City of Tampa, Department of Sanitary Sewers, Bay Study Group (BSG) monitors and maps the areal coverage of submerged aquatic vegetation in the bay. Coverage is categorized as patchy or continuous. Patchy coverage is defined as less than 25 percent coverage within a given area with none of the patches exceeding 2,000 square meters. Seagrass areas exceeding either or both of these parameters are defined as continuous (BSG, 2004). Most areas adjacent to the eastern shoreline of MacDill AFB have a patchy coverage of *Halodule wrightii* (shoal grass) (BSG, 2004). A continuous bed of *H. wrightii* is documented in the central section of the project area (Figure 2-1).

3.10.2 Endangered, Threatened, or Special Concern Species

Species listed and legally protected by federal or state agencies as ETSC species with the potential to occur on the eastern shoreline of MacDill AFB are shown in Table 3-1. The list of species identified was taken from Appendix E.5b of the INRMP (USAF, 2001) and cross-referenced with the current FNAI species-tracking list for the USGS Gibsonton Quadrangle Map, which includes the project area. Consideration was also given to habitat preferences, so species whose preferred habitats were not consistent with the natural communities present in the project area were not included in Table 3-1. Protected sea turtles (e.g., Atlantic loggerhead and Atlantic green turtle), which may be found in Florida waters, were not included on Table 3-1 because they are not known to use the beaches in the project area for nesting.

MacDill AFB provides foraging habitat for the species listed on Table 3-1, and several of these species have been documented on the Base, including the American alligator, bald eagle, piping plover, least tern, snowy egret, black skimmer, and white ibis (USAF, 2001). Additionally, several state-listed special concern species, such as the gopher tortoise and burrowing owl, are known to reside on-base, although not in the vicinity of the Proposed Action. The manatee is known to occur in Tampa Bay; however, it has never been observed foraging on the sea grass adjacent to the project area. Dolphins have been observed foraging on the sea grass adjacent to the project area, and it would be feasible for manatee to forage on the sea grass beds off-shore from the project area. However, none of these ETSC species are known to reproduce in the project area, all are mobile and able to avoid the area during construction, and it has not been demonstrated that MacDill AFB is critical to their survival. The Base has not been shown to have resident populations of any threatened and endangered species, with the exception of one pair of nesting bald eagles, and none of MacDill AFB is designated as Critical Habitat for these species (USAF, 2001).

3.11 CULTURAL RESOURCES

Cultural resources include prehistoric and historic sites. These resources consist of districts, buildings, structures, and objects that are significant in American history, architecture, archaeology, engineering, or culture. Historic properties listed in or eligible for listing in the National Register of Historic Places (NRHP) are subject to protection or consideration by a

federal agency in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended.

Five archaeological sites have been found on MacDill AFB, one of which was located in the vicinity of the Proposed Action. The Sand Mound Site was located near the Golf Course Clubhouse, approximately 300 feet east of the southernmost section of shoreline that would be part of the Proposed Action. Investigations completed in 1952 and 1983 concluded that the site was not eligible for the National Register because no diagnostic artifacts were identified in the mound. The mound was destroyed later during construction of the golf course.

A total of 43 architectural properties on MacDill AFB, including two historic districts (Figure 3-1), have been determined to be eligible for NRHP listing (USAF, 2001). One of the Historic Districts is located adjacent to the central section of the project area. The district is comprised of some of the first buildings constructed at MacDill and includes the MacDill Staff Officer housing [Buildings 401 through 405 (Figure 3-1)].

3.12 INFRASTRUCTURE

All wastewater generated is treated at the base wastewater treatment plant. The plant is permitted to treat a volume of 1.2 million gallons per day (mgd). Currently, the plant operates at an average of approximately 0.6 mgd. All treated wastewater is currently reused on-base by reclamation, principally through spray application at the golf course located in the southeast area of the base.

4.0 ENVIRONMENTAL CONSEQUENCES

This section discusses the potential impacts the Proposed Action and the No Action Alternative may have on the affected environment. The effects of the Proposed Action are evaluated and presented in Sections 4.1 and 4.2. The environmental consequences of the No Action Alternative are summarized in Section 4.3.

4.1 PROPOSED ACTION

4.1.1 Air Quality

The Proposed Action would not substantially change existing operational emissions and, therefore, would not increase ambient concentrations of air pollutants in Hillsborough County. Installation of a limestone revetment and construction of boardwalks would have no impact on the ambient air quality at MacDill AFB. On-going recreational activities occurring along the shoreline as a result of the Proposed Action would also have no impact on the ambient air quality at MacDill AFB.

Construction activities performed in order to complete the activities included under the Proposed Action are expected to have an insignificant short-term effect on particulate matter in the air at localized construction areas during the removal of the existing concrete rubble and the installation of the limestone revetment due to the utilization of earthmoving equipment. Fugitive dust (suspended and PM₁₀ particulate matter) and construction vehicle exhaust emissions would be generated during construction. Dust generated by equipment and construction activities would fall rapidly within a short distance from the source. If required, areas of exposed soil could be sprayed with water daily to suppress dust.

In summary, the operational and construction air emission effects of the Proposed Action would be negligible and would not result in significant adverse impacts on air quality.

4.1.2 Noise

The closest noise sensitive receptors in the project area include the occupants of facilities located across from Bayshore Boulevard and approximately 200 feet west of the shoreline.

The Proposed Action is not anticipated to create additional operational noise that would impact adjacent land uses. The adjacent receptors would probably experience noise impacts from construction and/or construction-related vehicles. The magnitude of these impacts would be directly related to the proximity of the occupied facility to the construction site. In addition, the impacts vary according to the activity occurring on any particular day, and impacts would cease when construction is completed. Based on a cumulative average construction noise level of approximately 85 dB at 50 feet from the center of the project site (depending upon the current stage of the project), occupants of nearby buildings along Bayshore Boulevard would not be impacted.

4.1.3 Wastes, Hazardous Materials, and Stored Fuel

No hazardous wastes/materials, such as paint, adhesives, and solvents, are expected to be on-site during the construction work under the Proposed Action. All construction-related hazardous wastes/materials, including petroleum products, would be removed and disposed of according to base procedures and applicable state and federal regulations. Appreciable amounts of hazardous wastes are not anticipated to be generated by personnel during the construction activities performed under the Proposed Action or by individuals using the recreational facilities constructed as part of the Proposed Action.

Implementation of the Proposed Action creates the potential for encountering contaminated media known to be present in the location of the Proposed Action at ERP sites adjacent to the shoreline. Consequently, the construction contractor would be required to prepare a site-specific health and safety plan that meets the requirements of 29 CFR 1910.120(b)(4), and this plan must be reviewed and approved by the Bioenvironmental Engineering Flight and the ERP Manager. In addition, during excavation or soil removal activities, the construction contractor must use workers that have received 40-hour Hazardous Waste Operations and Emergency Response (HAZWOPER) training with an 8-hour annual refresher in accordance with 29 CFR 1910.120.

If contaminated media are encountered during construction work around the project area, the MacDill ERP Manager would be contacted to ensure that the material is managed in accordance with ERP guidelines.

In summary, the Proposed Action is not expected to have a significant impact on the management and disposal of hazardous material and waste.

4.1.4 Physical Environment

Potential impacts to the physical environment are listed below. Overall, the Proposed Action is expected to have a long-term beneficial impact to the physical environment located within the project area.

4.1.4.1 Water Quality

The removal of the existing concrete rubble rip-rap and the installation of the limestone revetment in the project area may cause a temporary increase in turbidity due to suspended sediment in the areas of the bay immediately offshore as a result of erosion during the stabilization efforts. As is typically required for projects permitted through the ERP process, floating turbidity barriers would be used to limit the extent of turbidity in the water.

Any such turbidity changes are not expected to exceed state water quality criteria and would not have significant adverse effects on water quality.

4.1.4.2 Stormwater

Under the Proposed Action, the utilities would be adequately buried, and the stormwater drainage would continue to drain to the Bay as intended. The stormwater retention areas along the shore would continue to collect surface water runoff from the parking lots and other impervious surfaces existing on-base, allowing it to infiltrate into the ground, recharging the groundwater in the surficial aquifer. Therefore, no significant impact to surface waters would result.

4.1.4.3 Floodplains and Wetlands

The shoreline stabilization activities included under the Proposed Action are located within approximately 120 acres of the 100-year floodplain and in an area classified as wetlands. Upon the completion of the Proposed Action, this area would be stabilized with the limestone revetment, vegetated, and designated as open space.

In accordance with EO 11988, *Floodplain Management* (May, 1977), the Air Force must demonstrate that there is no practicable alternative to carrying out the Proposed Action within the floodplain. EO 11990, *Protection of Wetlands* (May, 1977), also requires the Air Force to demonstrate that there is no practicable alternative to construction and that “the proposed action includes all practicable measures to minimize harm to wetlands which may result from such use.” Since the primary purpose of the Proposed Action is to stabilize and restore the shoreline, there is no practicable alternative to the proposed location or activities.

Because the Proposed Action occurs within the floodplain, coordination with FEMA, the State of Florida Emergency Management Agency, and the Hillsborough County Emergency Agency may be required. Additionally, the CZMA (16 USC 1451-1464), as amended, requires federal agencies carrying out activities subject to the Act to provide a “consistency determination” to the relevant state agency. The Air Force’s consistency determination for the Proposed Action is contained in the Consistency Statement provided in Appendix B. This EA will be submitted to the Florida State Clearinghouse for a multi-agency review. The Florida Department of Community Affairs, with input from state and county agencies, will determine if the Proposed Action is consistent with the Florida Coastal Management Program.

During the permitting process of the Proposed Action, regulatory agencies will determine whether or not the Air Force would be required to mitigate the short-term adverse impact to wetlands. The floodplain and wetlands-related permitting requirements for the Proposed Action are discussed in Section 1.5.

The Proposed Action includes the reclamation of limited areas of land located within the floodplain. Approximately five to six feet of land seaward from the shoreline would be reclaimed as part the Proposed Action, resulting in an increase of approximately 10,000 square feet of pervious surfaces within the floodplain. Reclamation would only occur in segments of the

shoreline within the project area where government assets are at risk of being damaged due to severe erosion caused by recent storm events. Thus, the Proposed Action would not create any impervious surfaces within the floodplain and would not contribute to any potential for flooding within the floodplain.

Under the Proposed Action, the existing concrete rubble rip-rap would be removed, the existing mangrove roots structures would be destroyed, and the new limestone revetment would be installed. This construction would have a temporary adverse impact on the wetlands located within the project area. However, as a part of the Proposed Action, native vegetative species would be planted along the shoreline behind the revetment, consequently restoring the ecological community of the wetlands. Therefore, the impacts to the wetlands as a result of the Proposed Action are not considered significant. In an effort to further minimize wetland impacts, the project design was modified so that the limestone revetment was moved 30 to 50 feet offshore in select location to preserve beach areas and to eliminate impacts to the stands of mature mangroves south of McClelland Avenue. Modifying the design as described above complied with the recommendation of the National Marine Fisheries Service documented in their August 10, 2005 letter to MacDill AFB (Appendix D).

4.1.4.4 Shoreline

Some soil erosion may occur during construction activities; however, implementation of a sediment and erosion control plan, including use of best management practices (BMPs) such as silt fencing and hay bales, would dramatically reduce erosion and avoid potential stormwater violations. Upon the completion of the Proposed Action, the shoreline would be covered with a limestone revetment, rip-rap, and Florida native vegetation appropriate for coastal settings. Public access points, boardwalks, and walking trails would also be constructed along the shoreline, thus increasing the aesthetic and recreational value of the shoreline. Thus, stabilization, prevention of erosion, and revegetation with native shoreline plants would have a beneficial effect on the shoreline.

4.1.5 Land Use

The current land use of the eastern shoreline of MacDill AFB is open space. The Proposed Action would involve construction of new recreational facilities along the eastern shoreline of MacDill AFB, including walking trails, boardwalks, beach access points, and picnic pavilions. Construction of these features would change the land use in those areas from open space to outdoor recreation; however, land use would remain open space for the majority of the shoreline included in the Proposed Action. These changes in land use are consistent with the future land use identified in the base *General Plan* (USAF, 2002). Therefore, the effect of the Proposed Action on land use at MacDill AFB would be beneficial; there would be no significant adverse impact.

4.1.6 Transportation

An increase in traffic along Bayshore Boulevard is expected during implementation of the Proposed Action due to the increase in construction-related activities. These negative impacts are considered to be minor and short-term. Upon completion, the Proposed Action would not result in a significant change in the number of vehicles driving along Bayshore Boulevard, as all recreational features constructed along the shoreline would be pedestrian accessible only and no parking areas would be constructed under the Proposed Action.

Currently, sections of Bayshore Boulevard are at risk of being damaged due to severe erosion. Upon the completion of the Proposed Action, these sections of Bayshore Boulevard will no longer be at risk. Therefore, implementation of the Proposed Action would have a beneficial impact on transportation at MacDill AFB.

4.1.7 Safety and Occupational Health

The proposed construction activities for the project would pose safety hazards to the workers similar to those associated with typical industrial construction projects, such as falls, slips, heat stress, and machinery injuries. Construction would not involve any unique hazards, and all construction methods would comply with OSHA requirements to ensure the protection of workers and the general public during construction.

The Proposed Action would involve construction activities within ERP site boundaries (SWMU 61, AOCs 83 and 80, and Site 52). However, appropriate measures have been included in the project to reduce contact with contaminated media and to protect workers from exposure. None of the constituents of concern at the site represent an immediate threat to life and health. Although construction activities associated with the Proposed Action would require construction workers to come into contact with the surface soil, the activities under the Proposed Action would not involve soil excavation and would, therefore, be permissible adjacent to or within ERP site boundaries. Construction workers would be required to don personal protective equipment (PPE) during construction activities and would not be exposed to contaminated soils in the project area. Consequently, no significant adverse impacts to safety and occupational health would occur with implementation of the Proposed Action.

4.1.8 Socioeconomics

The Proposed Action would cost approximately \$5 million to complete, based on a 2004 cost estimate. Economic activity associated with stabilization of the eastern shoreline would result in an increase of less than 1.0 percent in the nearly \$1.2 billion in annual expenditures MacDill AFB provides to the local economy, constituting a minor short-term beneficial effect. Utilization of the recreational facilities constructed under the Proposed Action would not provide an economic benefit to the MacDill AFB region; however, the quality of life is expected to increase for base personnel and their families using the facilities. Therefore, the Proposed Action would have a beneficial impact on socioeconomic resources.

4.1.9 Environmental Justice

The Proposed Action would not disproportionately affect minority or low-income populations, given that there are no minority or low-income populations located within or adjacent to the project area. Similarly, the shoreline stabilization effort would have no adverse environmental effects on any off-base populations. Accordingly, there would be no environmental justice issues associated with the Proposed Action.

4.1.10 Biological Environment

As part of the shoreline stabilization, native vegetation (e.g., sea oats, marsh cord grass, sand cord grass, beach sunflower, and muhli grass) would be planted behind the limestone revetment, which would have a beneficial impact on the biological environment along the shoreline.

Under the Proposed Action, when the existing concrete rubble rip-rap is removed and the new limestone revetment installed, the remaining mangrove root systems would be destroyed. In accordance with the mangrove-related permitting requirements described in Section 1.5, mitigation would be required for this mangrove alteration. MacDill AFB is considering undertaking a mitigation plan that restores mangrove habitat by flattening existing soil mounds (by hydroblasting) along previously dug mosquito control ditches located in the south western area of the base between the runway extension and Broad Creek. This action is intended to control exotic, invasive plants such as Brazilian pepper that colonize such areas and to restore the native hydrology of the wetlands. In conjunction, mitigation alternatives also may include planting additional mangroves on the southern portion of the shoreline to enhance an existing wetland or restoration and enhancement of existing wetlands along the eastern shoreline north of the wastewater treatment plant. This mitigation would offset the adverse impacts associated with the loss of mangroves in the project area, resulting in no net cumulative adverse impact to the mangrove community or shoreline of MacDill AFB.

Although implementation of the Proposed Action may have a short-term adverse impact on the shoreline habitat during construction, its long-term effects would be beneficial due to shoreline stabilization and revegetation.

MacDill AFB provides foraging habitat for ETSC species (Section 3.11); however, the habitat provided by the base is not critical to the survival of any of these species (USAF, 2001). The Base has not been shown to have resident populations of any threatened or endangered species with the exception of one pair of nesting bald eagles (USAF, 2001). The manatee is known to occur in the waters around MacDill AFB; however, it has never been seen in the nearshore water adjacent to the MacDill AFB shoreline. The majority of the proposed construction work would not be conducted in the water and would therefore not affect the manatee. Contractors completing construction activities in the water would be required to follow the State of Florida

standard manatee construction conditions (as is typically required for any type of construction work in the bay for which an ERP is secured). A copy of the standard manatee construction conditions will be presented in Appendix E of the final EA. The ETSC species potentially occurring in the project area do not reproduce there, and all of these species are mobile and able to avoid the area during construction activities. After construction, the foraging habitat available to these species in the project area is expected to be similar to current conditions. While implementation of the Proposed Action may cause avoidance of foraging along the eastern shoreline temporarily, the shoreline stabilization effort would have no significant adverse effect on ETSC species biological resources along the shoreline.

With mitigation efforts including the restoration of mangrove wetlands through hydro-blasting, enhancement of existing wetlands on the base by planting mangroves and the planting of native species behind the limestone revetment, the implementation of the Proposed Action would not have a significant adverse impact on the shoreline biological resources.

4.1.11 Cultural Resources

Only one cultural resource, the MacDill Field Staff Officer's Quarters Historic District, is located in the vicinity of the Proposed Action. The MacDill Field Staff Officer's Quarters Historic District would not be impacted as a result of the Proposed Action. If unanticipated cultural resources were to be encountered during construction activities under the Proposed Action, procedures for managing unidentified resources, as outlined in the Cultural Resources Management Plan, would be followed. Therefore, the Proposed Action would have no significant adverse impact on cultural resources.

4.1.12 Infrastructure

An increase in the generation of solid waste would occur during and subsequent to construction activities for the Proposed Action. The base has sufficient resources to manage the temporary increase in solid waste, and the local landfills have sufficient capacity to accept the additional solid waste. Consequently, the Proposed Action would not have a significant impact on infrastructure.

4.2 CUMULATIVE IMPACTS

Cumulative effects are impacts that result from the incremental consequences of an action when added to other past and reasonably foreseeable future actions regardless of the agency (federal or non-federal) or person undertaking such actions. The area that would be potentially impacted by the shoreline stabilization effort is the eastern shoreline and the adjacent offshore areas east of the base. Because the construction activities are relatively minor and there would be no ongoing operational impacts from the facilities and/or infrastructure being constructed as a result of the Proposed Action, the potential for significant cumulative impacts from the Proposed Action is small. Mitigation may be required to offset impacts to the existing mangrove root structures. If during the permitting process it is determined that mitigation is required, the mitigation likely would consist of planting additional mangroves within the existing mangrove estuary on the southern side of the base and restoring these areas through removal of the soil mounds created during construction of mosquito ditches. This mitigation would offset the impacts associated with the loss of mangroves in the project area, resulting in no net cumulative adverse impact to the mangrove community or shoreline of MacDill AFB.

As indicated in Table 2.1, the Proposed Action, when examined as a portion of the total proposed and/or ongoing construction projects on MacDill AFB, would result in a minor beneficial cumulative impact to the physical environment, land use, transportation, socioeconomics and infrastructure. The Proposed Action would have minimal cumulative impacts to air quality, noise, waste and hazardous materials management, safety and occupational health, biological environment, environmental justice, or cultural resources.

4.3 NO ACTION ALTERNATIVE

Under the No Action Alternative, there would be no significant adverse impacts to the air quality, noise, wastes and hazardous materials management, land use, safety and occupational health, socioeconomics, environmental justice, biological environment, and cultural resources at MacDill AFB. However, the No Action Alternative would have a long-term negative impact on the physical environment, infrastructure, and transportation at the base. The No Action Alternative would allow continued erosion of the shoreline. Consequently, there would be an increased risk of adverse effects on the existing communication lines, the stormwater outfalls, the east coast

thermal image radar system, the Security Forces Marine Patrol office, sections of Bayshore Boulevard, and the jogging trail.

5.0 CONCLUSIONS

Based upon the analyses presented in this EA, the Proposed Action would not have any significantly adverse impacts on existing environmental resources.

6.0 MANAGEMENT REQUIREMENTS

6.1 AIR QUALITY

Use reasonable precautions to control the emissions of unconfined particulate matter during construction activities in accordance with FAC Rule 62-296. Ensure that all hazardous materials used during construction comply with the MacDill AFB Hazardous Materials Management Program's requirements for low volatile organic compound content.

6.2 HAZARDOUS MATERIALS/WASTES

No appreciable hazardous materials or wastes are expected to be used or generated under the Proposed Action.

6.3 PHYSICAL ENVIRONMENT

Submit appropriate permit applications as described in Section 1.5. Ensure BMPs, such as silt screens and placement of hay bales, are employed during construction to prevent erosion, stormwater violations, and significant increases of sedimentation into the Bay during all construction activities.

6.4 SAFETY AND OCCUPATIONAL HEALTH

Ensure construction activities comply with OSHA standards or more stringent standards if applicable. Ensure that a site-specific health and safety plan is prepared prior to initiating work, and ensure that all workers involved in construction activities, such as removal/placement of rip-rap in this area, wear appropriate PPE and have 40-hour HAZWOPER training and the annual 8-hour refresher course.

6.5 BIOLOGICAL ENVIRONMENT

Ensure that any ground surface areas disturbed during construction are re-seeded or revegetated with native flora. Propose a mitigation plan to address damages to mangrove root systems within the project area.

7.0 PERSONS CONTACTED

Jason Kirkpatrick
6 CES/CEVN
2610 Pink Flamingo Avenue
MacDill AFB, FL 33621
Phone: (813) 828-0459
Fax: (813) 828-2212
e-mail: jason.kirkpatrick@macdill.af.mil

Bob Fisher
Military Construction Project Manager
6 CES/CECE
MacDill AFB, Florida 33621-5207
Phone: (813) 828-8685

Andy Coe
6 CES/CECD, MacDill AFB
GIS Coordinator/Assistant CADD
Supervisor
Chugach Management Services, Inc.
PO Box 6349
Tampa, FL 33608-0349
Phone: (813) 828-2455

Candace Graham, M.C.S.E
CADD Supervisor
Chugach Management Services, Inc.
PO Box 6349
Tampa, FL 33608-0349
Phone: (813) 828-2455

Tony Rodriguez
6 CES/CEPP
MacDill AFB, Florida 33621-5207

Anthony Gennarro and Tish Matty
MacDill Air Force Base
Environmental Restoration Program
7621 Hillsborough Loop Dr.
MacDill AFB, FL 33621-5207

Bryan Pridgen
U.S. Fish and Wildlife Service
9549 Koger Boulevard, Suite 111
St. Petersburg, FL 33702
Phone: (727) 570-5398

Laura Kammerer
Division of Historical Resources
Compliance Review Section
500 S. Bronough St.
Tallahassee, FL 32399-0250
Phone: (800) 847-7278

Jasmine Raffington
FL Coastal Management Program
Florida State Clearing House
2555 Shumard Oak Boulevard
Tallahassee, FL 32399-2100
Phone: (850) 414-6568

Rob Ritch
6 CEV/CEVH
Environmental Flight
Hazardous-Waste & Toxic Substances
Phone: (813) 828-3393

Michael Harrison
Water Program Manager
6 CES/CEV
MacDill, AFB Florida 33621-5207
Phone: (813) 828-0458

8.0 LIST OF PREPARERS

Mr. Jason Kirkpatrick
6 CES/CEVN
2610 Pink Flamingo Avenue
MacDill AFB, FL 33621
Phone: (813) 828-0459

Mr. Nathan Craig
Compliance Specialist
Earth Tech, Inc.
10 Patewood Drive, Suite 500
Greenville, SC 29615
Phone: (864) 234-8966

Mr. Steve Duda
Senior Biologist
Earth Tech, Inc.
10 Patewood Drive, Suite 500
Greenville, SC 29615
Phone: (864) 234-3595

Ms. Kathy Garvin
Environmental Scientist
Earth Tech, Inc.
10 Patewood Drive, Suite 500
Greenville, SC 29615
Phone: (864) 234-2285

Ms. Gretchen Jameson
Environmental Scientist
Earth Tech, Inc.
10 Patewood Drive, Suite 500
Greenville, SC 29615
Phone: (864) 234-3076

Mr. Steve Dillard
Senior Environmental Engineer
Earth Tech, Inc.
10 Patewood Drive, Suite 500
Greenville, SC 29615
Phone: (864) 234-3591

Mr. Dan Chappie
Ecologist
Earth Tech, Inc.
10 Patewood Drive, Suite 500
Greenville, SC 29615
Phone: (864) 234-3591

9.0 REFERENCES

- Advisory Council on Historic Preservation, 1986. 36 CFR Part 800: Protection of Historic Properties. U.S. Government Printing Office, Washington, D.C.
- American Weather Service (AWS), 1993. AWS Climatic Brief, Air Force Combat Climatology Center, Air Weather Service, Scott AFB, October 1993.
- City of Tampa Department of Sanitary Sewers Bay Study Group (BSG), 2004. Seagrass and *Caulerpa* Monitoring in Hillsborough Bay, Fifteenth Annual Report.
- EO 11988, May 1977. Executive Order 11988, Floodplain Management.
- EO 11990, May 1977. Executive Order 11990, Protection of Wetlands.
- EO 12898, February 1994. Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations.
- Federal Interagency Committee on Urban Noise (FICUN), 1980. Guidelines for Considering Noise in Land Use Planning and Control.
- Federal Register, January 2002. Nationwide Permits, Conditions, Further Information, and Definitions, Volume 67, Number 10.
- FDEP, February 2000. FAC Chapter 62-621, Generic Permits.
- FDEP, May 2003. State of Florida Department of Environmental Protection Generic Permit for Stormwater Discharge from Large and Small Construction Activities.
- Florida Natural Areas Inventory (FNAI) and Florida Department of Natural Resources, 1990. Guide to the Natural Communities of Florida.
- Jacksonville District COE, July 2003. Department of Army Jacksonville District Corps of Engineers Approach on Identifying Adjacent Wetlands and Isolated Waters.
- Matty, Tish, February 2005. Verbal correspondence, February 1, 2005.

- Janicki, A., R. Pribble, S. Janicki, and M. Winowitch, March 2001. An Analysis of Long-Term Trends in Tampa Bay Water Quality, Tampa Bay Estuary Program.
- Southwest Florida Water Management District (SWFWMD), March 1988. Chapter 40D-4. Rules of the Southwest Florida Water Management District Individual Environmental Resource Permits.
- Squires, A.P., May 2003. Monitoring Programs in Tampa Bay. In Baywide Environmental Monitoring Report, 1998-2001. J.R. Pribble, A.J. Janicki, and H. Greening, eds. Tampa Bay Estuary Program, Technical Publication #06-02.
- Tampa Bay Estuary Program (TBEP), 2005. Water Quality Map for Environmental Protection Commission of Hills. County, online: http://www.tbep.tech.org/html/wq_maps.html. Last updated March 2, 2005.
- USAF, 1996. Endangered Species Management Plan, MacDill Air Force Base, Florida.
- USAF, 1996. Biological Survey of MacDill Air Force Base – Final Report.
- USAF, 1996. Air Installation Compatible Use Zone (AICUZ) Study, MacDill AFB, Tampa.
- USAF, 1998. Entry Gate Development Study, MacDill Air Force Base, Florida.
- USAF, 1998. Delineation Study of the Waters of the United States Including the Landward Extent of Wetlands and Surface Waters MacDill Air Force Base, Tampa, Hillsborough County, Florida.
- USAF, 1999. Title V Permit No. 0570141-001-AV, MacDill Air Force Base, Florida.
- USAF, 2001. Integrated Cultural Resources Management Plan (ICRMP), 2001-2005, MacDill Air Force Base, Florida.
- USAF, 2001. Integrated Natural Resource Management Plan (INRMP), MacDill Air Force Base, Florida.
- USAF, 2002. MacDill AFB General Plan, MacDill Air Force Base, Florida.
- USAF, 2003. Economic Resource Impact Statement, MacDill Air Force Base, Florida.
- State of Florida, 1981. Florida Coastal Management Program.

FIGURES




Source: June 2004, MacDill Aerial Photo

0 1,500 3,000 6,000
Feet

EASTERN SHORELINE
STABILIZATION EA
MACDILL AIR FORCE BASE, FLORIDA

FIGURE 1-1
PROJECT LOCATION AND VICINITY MAP



Legend
 Proposed Project Area

0 300 600 1,200
 Feet

EASTERN SHORELINE
 STABILIZATION EA
 MACDILL AIR FORCE BASE, FLORIDA

FIGURE 2-1
 PROJECT AREA - EASTERN SHORELINE



EASTERN SHORELINE
 STABILIZATION EA
 MACDILL AIR FORCE BASE, FLORIDA

FIGURE 3-1
 ENVIRONMENTAL CONSTRAINTS IN VICINITY
 OF PROJECT AREA



Source: June 2004, MacDill Aerial Photo

EASTERN SHORELINE
STABILIZATION EA
MACDILL AIR FORCE BASE, FLORIDA

FIGURE 3-2
100-YEAR FLOODPLAIN MAP

APPENDIX A

AIR FORCE FORM 813

REQUEST FOR ENVIRONMENTAL IMPACT ANALYSIS

Report Control Symbol
ACB 27204-28

INSTRUCTIONS: Section I to be completed by Proponent. Sections II and III to be completed by Environmental Planning Function. Continue on separate sheets as necessary. Reference appropriate item number(s).

SECTION I - PROPONENT INFORMATION

1. TO (Environmental Planning Function) 6 CES/CEV 2610 Pink Flamingo Avenue MacDill AFB, Florida	2. FROM (Proponent Organization and functional address symbol) 6 CES/CEP 7621 Hillsborough Loop Drive MacDill AFB, Florida	7a. TELEPHONE NO. (813) 828-3577 DSN 968-3577
---	---	---

3. TITLE OF PROPOSED ACTION
 Restoration and Stabilization of Eastern Shoreline of MacDill AFB

4. PURPOSE AND NEED FOR ACTION (Narrowly discuss to be made and need date)
 (See attached)

5. DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES (DOPAA) (Provide sufficient details for evaluation of the total action)
 (See attached)

6. PROPONENT APPROVAL (Name and Grade) Mr. Michael Cooley, Civ	7a. SIGNATURE	7b. DATE 28 Sep 04
---	---------------	-----------------------

SECTION II - PRELIMINARY ENVIRONMENTAL SURVEY (Check appropriate box and describe potential environmental effects including cumulative effects) (+ = positive effect, (-) = effect - = adverse effect, Unmeasured effect)

	+	0	-	U
7. AIR INSTALLATION COMPATIBLE USE ZONE/LAND USE (Noise, accident potential, encroachment, etc.)		✓		
8. AIR QUALITY (Emissions, attainment status, state implementation plan, etc.)		✓		
9. WATER RESOURCES (Quality, quantity, source, etc.)				✓
10. SAFETY AND OCCUPATIONAL HEALTH (Radioisotope/biochemical exposure, explosives safety, security, etc.)		X		
11. HAZARDOUS MATERIAL/SWASTE (Unstable/explosive, solid waste, etc.)		✓		
12. BIOLOGICAL RESOURCES (Wetlands/duff/swamps, threatened or endangered species, etc.)				✓
13. CULTURAL RESOURCES (Native American burial sites, archaeological, historical, etc.)		✓		
14. GEOLOGY AND SOILS (Topography, minerals, geothermal, installation Restoration Program, seismicity, etc.)		✓		
15. SOCIOECONOMIC (Employment/population projections, school and local fiscal impacts, etc.)		✓		
16. OTHER (Potential impacts not addressed above)				

SECTION III - ENVIRONMENTAL ANALYSIS DETERMINATION

17.		PROPOSED ACTION QUALIFIES FOR CATEGORICAL EXCLUSION (CATEX) # _____; OR
	X	PROPOSED ACTION DOES NOT QUALIFY FOR A CATEX; FURTHER ENVIRONMENTAL ANALYSIS IS REQUIRED.

18. REMARKS
 MacDill AFB is located in a maintenance area for the following criteria pollutants: Ozone. Direct emissions from construction and indirect emissions from visiting traffic and/or follow-on operations, when totaled are less than the de minimus amounts in 40 CFR 93.153; therefore, a conformity determination is not required.

19. ENVIRONMENTAL PLANNING FUNCTION CERTIFICATION (Name and Grade) DONALD J. HALPIN, Colonel, USAF Vice Wing Commander, 6th AMW	19a. SIGNATURE 	19b. DATE 18 Oct 05
---	---	------------------------

4.0 PURPOSE AND NEED FOR ACTION:

4.1 **PURPOSE:** Installation of rip-rap along MacDill Air Force Base's entire eastern shoreline is required to stop the rapid erosion of the coastline. The rapid erosion of shoreline sediment has resulted in impacts to government assets.

4.2 **NEED FOR ACTION:** The wind, waves, and storm surge associated with a series of recent tropical storm events has resulted in a significant amount of erosion along MacDill's eastern shoreline. The erosion has resulted in damage to existing government assets such as the jogging trail. If the shoreline is not stabilized, the erosion could undermine operational facilities located along the shoreline including the east coast thermal image radar system and the Security Forces Marine Patrol office. Erosion of shoreline sediments could also undermine sections of Bayshore Avenue, one of MacDill's major thoroughfares, which is located very near the shoreline in a few areas.

5.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES:

5.1 Proposed Action: The Proposed Action would use a combination of methods to restore, stabilize and enhance the eastern shoreline of MacDill AFB between the Bayshore Gate and the Golf Course Club House. The primary stabilization approach involves construction of a limestone boulder revetment and planting dune vegetation along the shoreline. The proposed work may also include construction of boardwalks, picnic pavilions, beach access points and walking paths depending on the availability of funding.

5.1.1 **Stabilization:** The project will involve installation of limerock boulder rip-rap along the eastern shoreline from the Bayshore Gate to just south of the Golf Course Club House. This method offers demonstrated success at stabilizing coastal environments. Use of rip-rap for stabilization is commonly used and more widely accepted from an environmental permitting standpoint, particularly when compared to more aggressive stabilization techniques such as sea wall installation. Installation of the limestone boulder revetment would be completed in the following manner. The existing concrete rubble rip-rap, which was placed along the shoreline years ago, would be excavated and temporarily stockpiled in preparation for reuse. Once the old concrete rubble is removed, a geotextile fabric will be placed over the existing soil and sediment of the shoreline bank. The geotextile fabric will help hold the soil in place, keeping it from washing through the limestone boulders once the rip-rap is installed. Once the geotextile fabric is in place, the old concrete rubble would be placed in front of and against the fabric. A large track hoe would be used to place the concrete rubble in place. Once the stock-pile of concrete rubble is gone, large to medium sized limestone boulders would be placed in front of and against the old concrete rubble effectively hiding it from view. The limestone boulders would also be moved into place using a large trackhoe. The large limestone boulders will break-up wave energy before it hits the shoreline, hide the old concrete rubble rip-rap, and help hold the geotextile fabric in place.

5.1.2 **Restoration:** At some locations along the shoreline, particularly at locations where existing utilities (sanitary sewer, communications lines) have been exposed or infrastructure (radar site, jogging trail) is threatened, the project would include reclamation of lost land to protect those assets. Reclamation of the land in these areas will be completed by placing the limestone boulders seaward of the existing shoreline, securing a geotextile fabric to the back of

the limestone boulders and then backfilling the area behind the limestone revetment with clean fill. The filled area behind the revetment would be planted with sod and/or dense vegetative plantings to stabilize the soil.

5.1.3 Enhancement: The project area would provide additional stabilization benefit while increasing aesthetic value by installing dense vegetative plantings behind sections of the limestone revetment. The existing grass/weed cover along the coastline provides little to no stabilization benefit and offers very little erosion control. Along the entire eastern shoreline landward of the limestone revetment dense, low vegetative plantings would be installed, particularly in the areas near family housing, to add aesthetic value and increase erosion control. The plants used would be Florida native species typically found in coastal settings such as sea oats, marsh cord grass, sand cord grass, beach sunflower, muhli grass, and similar species. All of the plant species selected for installation would be low growing, grasses and groundcovers that would not inhibit line of sight from the shoreline.

5.1.4 Recreational Features: In addition to the proposed stabilization and enhancement aspects of the project, the proposed action also includes the installation of walking trails, boardwalks, beach access points, and picnic pavilions. These features would be installed in selected areas along the shoreline if funding is available.

5.1.5 Environmental Considerations: The proposed shoreline stabilization work would be completed within the 100-year coastal floodplain and within a coastal wetland zone. The project is not expected to impact the function of the floodplain, nor would it increase the risk of loss for government assets or impact human safety, health and welfare. Coastal wetlands; however, are habitat zones rich with wildlife ranging from benthic invertebrates to crustaceans and bivalves to shorebirds. Several threatened and endangered species have been identified occasionally along MacDill's eastern shoreline, although the shoreline is not critical habitat for any of them. Shorebirds, such as the federally protected piping plover, have been identified foraging along MacDill's shoreline. State-listed species, such as the little blue heron, reddish egret, snowy egret, roseate spoonbill, American oystercatcher, brown pelican, white ibis, black skimmer and least tern have all been spotted along the eastern shoreline of MacDill. These birds are often seen foraging or resting along the shoreline, most frequently during low tide. Although these species are typically present along the shoreline, the proposed shoreline stabilization project should not have a significant long term effect on the birds. These animals are highly mobile and would leave the area during construction activities. Upon completion of the construction work, it is anticipated that the birds would return to the coastal areas and continue to utilize these areas for feeding and resting. There are no Environmental Restoration Program (ERP) sites located along the shoreline; however there is one area of very limited soil contamination along the shoreline. This area has not yet been designated as a site, but some initial assessment work has been completed. The site contains low concentrations of polyaromatic hydrocarbons (PAHs) in the surface and subsurface soils along the shoreline. Since the excavation of soil is not anticipated as part of this project, the Proposed Action would not affect or be effected by this area of contaminated soil.

5.2 Reef Ball Only Shoreline Stabilization Alternative: This alternative would construct an offshore oyster reef along the entire eastern shoreline from the Bayshore Gate to the southeastern tip of MacDill AFB. The oyster reef would be created through the installation of lines of Reef Balls four rows deep. The largest Reef Balls available, called Pallet Balls, would be placed base

to base forming two rows approximately 300 feet offshore. Pallet balls are roughly four feet tall, four feet in diameter, and weigh about 1,600 pounds. On either side of the double row of Pallet Balls a single row of Bay Balls would be installed. Bay Balls are roughly three feet tall, three feet in diameter, and weight about 1,000 pounds. Both the Bay Balls and the Pallet Balls would be transported to the site by barge and set into place using a crane or winch system. Once installed the Reef Balls would essentially form a mound in the shallow offshore water (see attached Figure 2). The Reef Ball wave break would offer the same shoreline stabilization and ecological benefits as described in Section 5.1.4 and 5.1.5 of the Proposed Action.

5.3 No Action Alternative – This alternative would not complete any type of shoreline stabilization along MacDill’s eastern shoreline. The shoreline would continue to erode as a result of storm events and government assets would continue to be impacted.

5.4 Alternatives Considered But Eliminated for Study: Three alternatives to the proposed action were initially considered but determined to be impractical based on a number of considerations including timelines, success potential, and environmental concerns. Each of the additional alternatives considered as part of this Environmental Impact Analysis Process are described below.

5.4.1 Alternative #1: Beach Nourishment Alternative - This alternative would use dredge spoils from channel dredging in Tampa and Hillsborough Bay to build-up the shoreline. Dredge material would be pumped onto a transport barge and mobilized to the MacDill shoreline. The sand would be pumped off the barge and into the MacDill shoreline. This alternative was not considered practicable because it is currently unknown when dredge spoil material would be available to support this project. In addition, this alternative does not stabilize the shoreline, but instead provides sediment that can be eroded as a buffer to avoid impacts to land.

5.4.2 Alternative #2: Construct Geotube Wave Energy Barrier – This alternative makes beneficial use of channel dredge material by creating a long linear mound along the entire eastern side of MacDill AFB. The mound is created using a ‘geotube’. A geotube is a cylindrical section of geotextile fabric that can be filled with sediment during a hydraulic dredging operation. When filled the geotube creates a contained, long linear mound of sediment. Placed in an offshore location, the geotube would act similar to the oyster reefs described above, tripping waves before they hit the shoreline and reducing their energy. This alternative was considered impracticable for several reasons. First the availability of dredge material from the bay is uncertain at this time which could greatly impact the timeline for this project. Second, the geotube alternative provided the same stabilization results as the Proposed Action but did not provide the added ecological benefits that the oyster reef would. Finally, geotubes are not very durable and have been demonstrated to breakdown, tear, and rip with time which would lead to extensive future maintenance or replacement actions to keep the shoreline stabilization system operational.

5.4.2 Alternative #3: Construct Seawall – This alternative would construct a hard, vertical seawall along the eastern shoreline of MacDill AFB from the Bayshore Gate to the golf course club house. This alternative was eliminated from further consideration due to the cost of implementation and well-documented negative environmental impacts that seawalls have on coastal systems.

6.0 CATEGORICAL EXCLUSION: The Proposed Action does not qualify for categorical exclusion because it involves construction within a wetland area (coastal wetland along shoreline) where Threatened and Endangered species (shorebirds) have been observed. Appendix B to Code of Federal Regulations Part 989 identifies these circumstances as ones that require additional environmental analysis. An Environmental Assessment will be completed.

APPENDIX B

CONSISTENCY STATEMENT

APPENDIX B CONSISTENCY STATEMENT

This consistency statement will examine the potential environmental consequences of the Proposed Action and ascertain the extent to which the consequences of the Proposed Action are consistent with the objectives of Florida Coastal Management Program (CMP).

Of the Florida Statutory Authorities included in the CMP, impacts in the following areas are addressed in the EA: beach and shore preservation (Chapter 161), historic preservation (Chapter 267), economic development and tourism (Chapter 288), public transportation (Chapters 334 and 339), saltwater living resources (Chapter 370), living land and freshwater resource (Chapter 372), water resources (Chapter 373), environmental control (Chapter 403), and soil and water conservation (Chapter 582). This consistency statement discusses how the proposed options may meet the CMP objectives.

CONSISTENCY DETERMINATION

Chapter 161: Beach and Shore Preservation

The proposed action will not have any long-term adverse impacts on the beach and/or shoreline. Short-term impacts due to the increased sedimentation into the bay as a result of construction will be minimized by the development of a SWPPP and implementation of best management practices (BMPs) for erosion and sedimentation control.

Chapter 267: Historic Preservation

The Air Force and the Florida State Historic Preservation Officer have determined that the Proposed Action will have no effect on historic properties associated with the Base.

Chapter 288: Economic Development and Tourism

The EA presents the new employment impact and net income impact of the Proposed Action and alternative. The options would not have significant adverse effects on any key Florida industries or economic diversification efforts.

Chapter 370: Saltwater Living Resources

The EA addresses potential impacts to local water bodies. Water quality impacts from the Proposed Action and alternatives were considered. Results indicate that no significant impacts would result from the Proposed Action or alternatives.

Chapter 372: Living Land and Freshwater Resources

Threatened and endangered species, major plant communities, conservation of native habitat, and mitigation of potential impacts to the resources are addressed in the EA. The Proposed Action and alternatives would not result in permanent disturbance to native habitat and should not significantly impact threatened or endangered species.

Chapter 373: Water Resources

There would be no impacts to surface water or groundwater quality under the Proposed Action or alternatives as discussed in the EA.

Chapter 403: Environmental Control

The EA addresses the issues of conservation and protection of environmentally sensitive living resources; protection of groundwater and surface water quality and quantity; potable water supply; protection of air quality; minimization of adverse hydrogeologic impacts; protection of endangered or threatened species; solid, sanitary, and hazardous waste disposal; and protection of floodplains and wetlands. Where impacts to these resources could be identified, possible mitigation measures are suggested.

Implementation of mitigation will, for the most part, be the responsibility of MacDill AFB.

Chapter 582: Soil and Water Conservation

The EA addresses the potential of the Proposed Action and alternatives to disturb soil and presents possible measures to prevent or minimize soil erosion. Impacts to groundwater and surface water resources also are discussed in the EA.

CONCLUSION

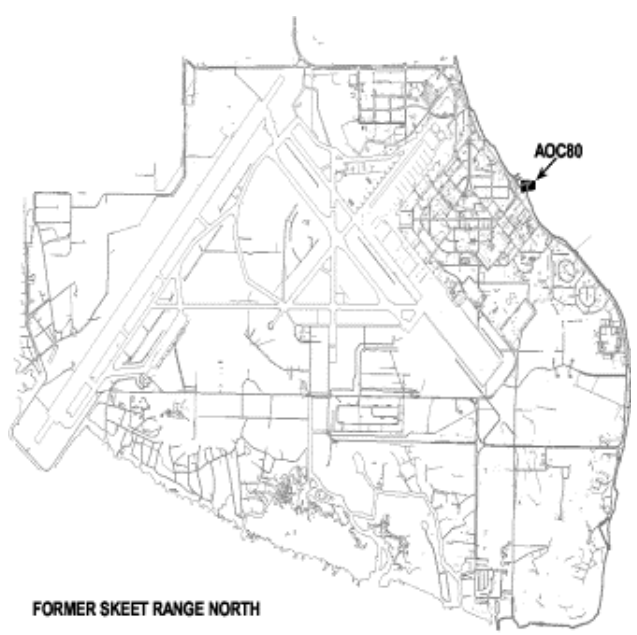
The Air Force finds that the conceptual Proposed Action and alternatives plans presented in the EA are consistent with Florida's CMP.

APPENDIX C

ERP SITE SUMMARIES

Site Summary for TG284

Environmental Restoration Program, MacDill AFB, FL

Site ID:	TG284	 <p style="text-align: center;">FORMER SKEET RANGE NORTH</p>
Site Name:	Former Skeet Recreation Area North	
Air Force ID:	MRA284	
Regulatory Program:	RCRA	
Air Force Program:	IRP	
Current Phase:	CS	
Site Status:	Munitions Response	
Relative Risk:	Not Evaluated	
Site Closure:		

TG284

Primary Contaminants of Potential Concern

Groundwater:	None Identified
Soils:	potential lead and other trace metals
Surface water:	None Identified
Sediments:	None Identified
Buildings/structures:	None Identified

Physical Setting

AOC 80, a former skeet range, is located on the northeastern shore of the base, and on a small peninsula that extends into Hillsborough Bay. The on-shore portion of the site is comprised of a grassy area and a paved parking area adjacent to two small rectangular buildings. The site can be reached from Bay Shore Drive, located south and west of the site (based on 1997 aerial photograph).

Narrative

AOC 80 is the former Skeet Range North. Dates of operation have not been ascertained. No investigations have been conducted to date.

Summary of Activities to Date

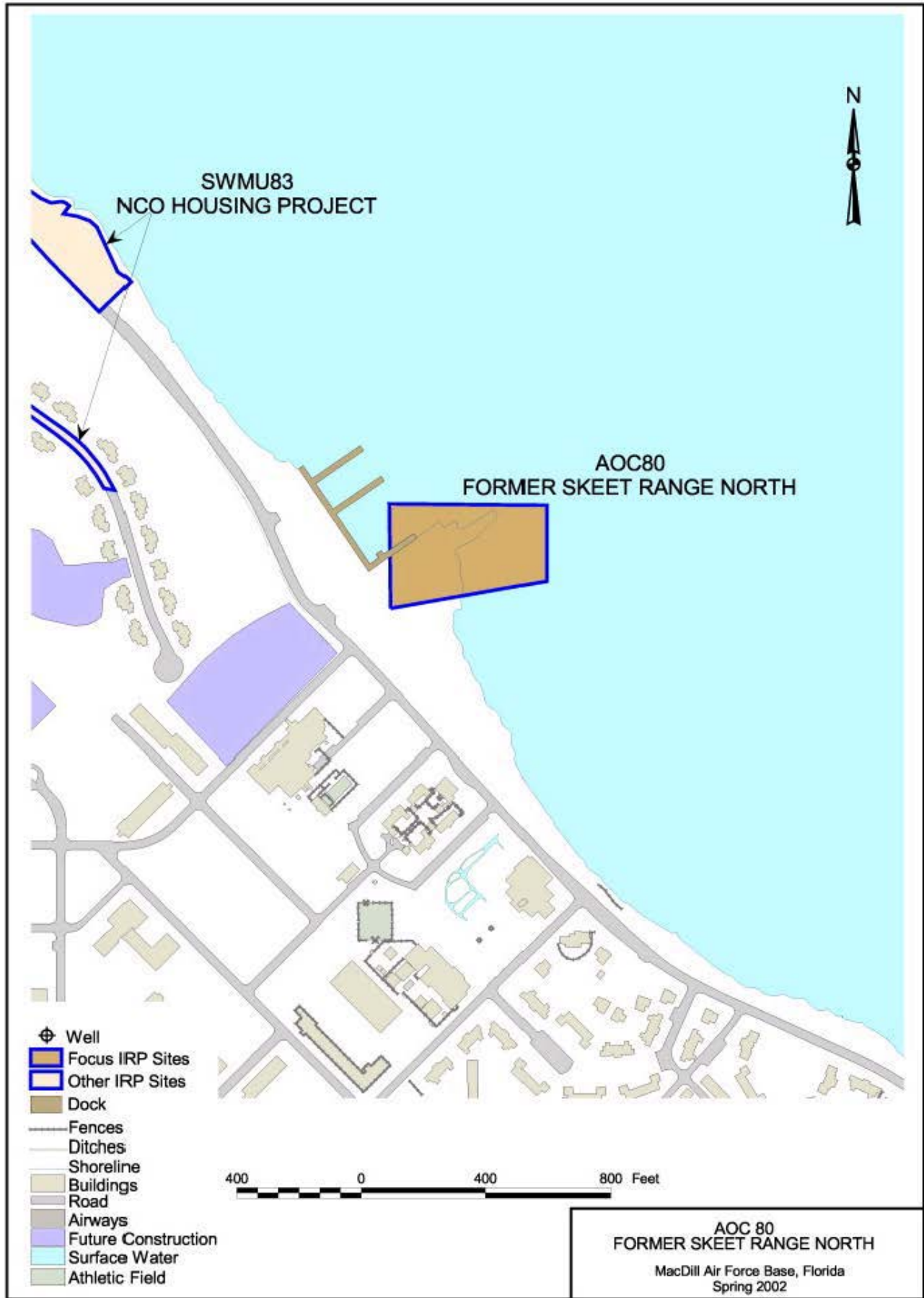
Started	Completed	Category	Activity or Milestone
----------------	------------------	-----------------	------------------------------

Government Contact

MacDill AFB
Remedial Project Manager
Installation Restoration Program
MacDill AFB, FL 33621
POC: Kenneth Domako
Phone: (813)828-0764
Fax: (813)828-0731
Email: kenneth.domako@macdill.af.mil

Contractor on Site

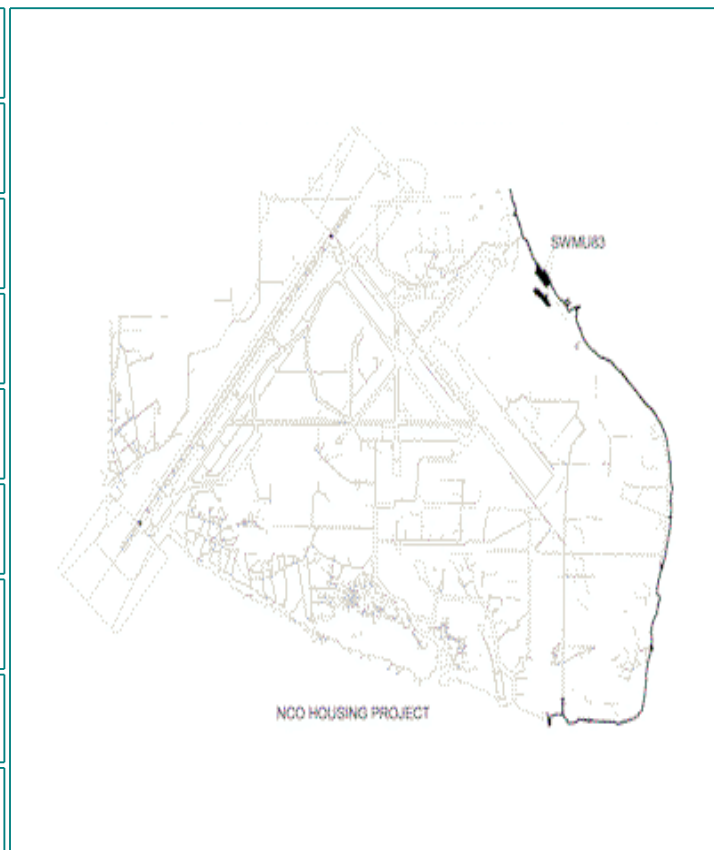
None



Site Summary for SWMU83

Environmental Restoration Program, MacDill AFB, FL

Site ID:	SWMU83
Site Name:	Jr. NCO Housing Project Site
Air Force ID:	SS083
Regulatory Program:	RCRA
Air Force Program:	IRP
Current Phase:	CMS
Site Status:	Corrective Measures Study
Relative Risk:	High
Site Closure:	9/30/2015 est.



SWMU83

Primary Contaminants of Potential Concern

Groundwater:	None Identified
Soils:	PAHs and pesticides
Surface water:	None Identified
Sediments:	None Identified
Buildings/structures:	None Identified

Physical Setting

SWMU 83 is the Jr. NCO Housing Project Site, which is located in the northeast corner of MAFB, on Bayshore Blvd. The site is relatively flat, and is comprised of grassy areas, two retention ponds, paved roads, and numerous housing units. The site is bordered on the northeast and east by Hillsborough Bay.

Narrative

In 1999, the box culvert portion of an inactive, buried suspected wastewater conveyance line was unearthed during the housing area construction. The unearthed line was suspected to be the old aqua system line, a 1940's era water discharge conduit that initiated at the Former Base Flightline Fueling System in the vicinity of Building 554.

Due to the approximate age of the conduit, no records of its installation are known to exist. Soils from this excavation were screened for evidence of petroleum constituents, and the stockpiled subsequently sampled and analyzed and determined to contain petroleum hydrocarbons. RCRA confirmatory sampling (CS) was later performed for soils around the entire housing area, and it was determined that soils at the site contained benzo(a) pyrene, pesticides, and arsenic exceeding the Florida SCTLs. Further soil characterization for waste disposal purposes was performed in late 1999 and early 2000. The CS results of 1999 did not indicate groundwater contamination in the housing area. In April 2000, soil excavation areas at this area were initiated. From April to June 2000 and again in August 2000, a total of approximately 28,000 tons of soils with constituents exceeding the SCTLs were excavated and stockpiled. Stockpiled soils were then transported to an off-site landfill disposal or off-site thermal or chemical treatment/disposal facilities. Construction of the base housing units was completed in Summer 2000, and the units were occupied shortly after that time.

Summary of Activities to Date

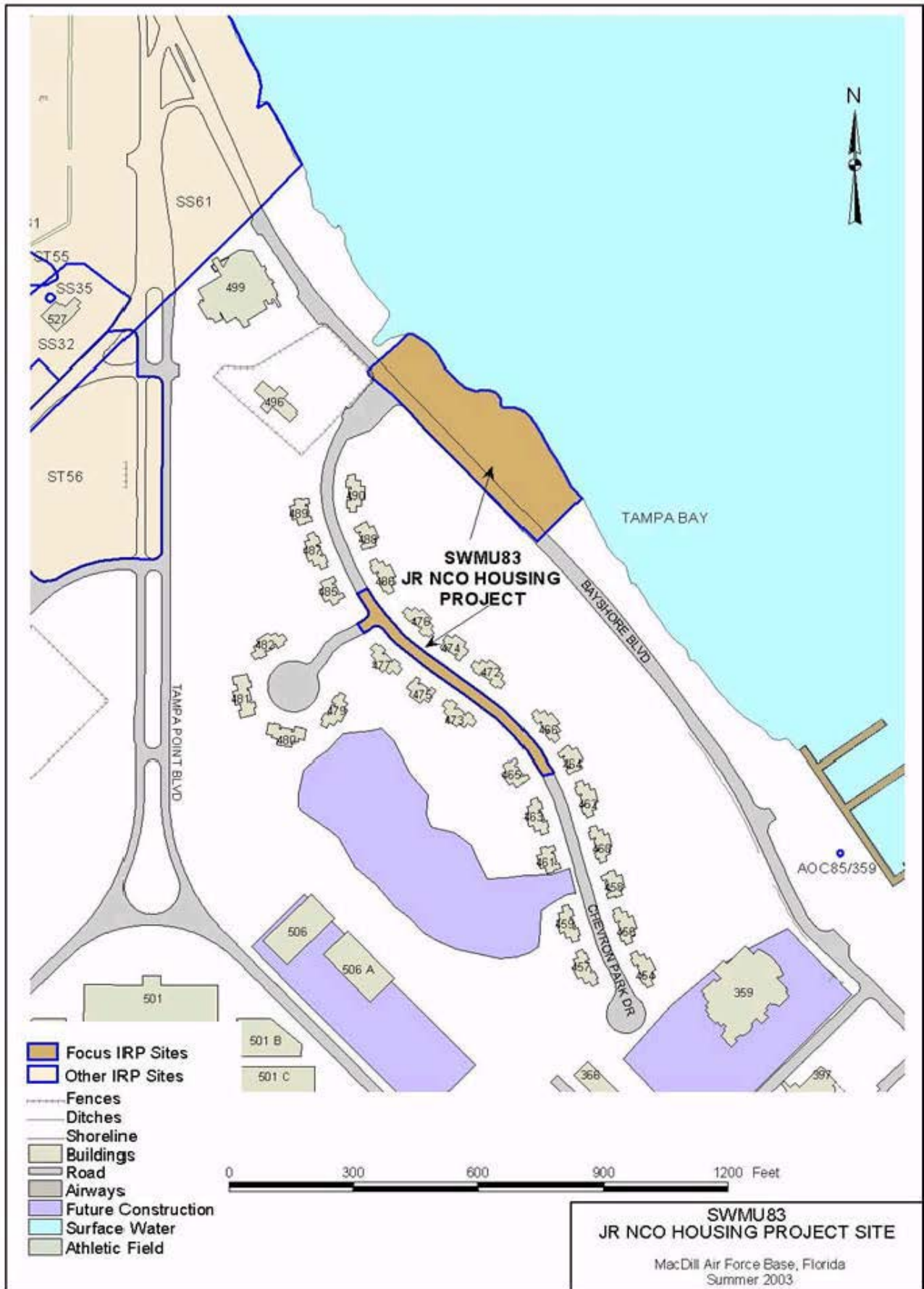
Started	Completed	Category	Activity or Milestone
10/1/1998	10/1/1998	Field Work	Soil Removal
10/1/1998	9/1/1999	Field Work	Confirmatory Sampling
12/1/1999	1/1/2000	Document Submittal	Soils Characterization
4/1/2000	8/1/2000	Field Work	Soil Removal
11/16/2000	11/16/2000	Document Submittal	Interim Measures Report
5/1/2001	5/30/2001	Field Work	Monitoring Well Installation
9/1/2001	10/16/2001	Document Submittal	Interim Measures Completion Report
10/31/2001	10/31/2001	Regulatory Correspondence	Interim Measures Report approved
11/19/2002	11/19/2002	Document Submittal	Interim Measures Work Plan
3/6/2003	3/11/2003	Document Submittal	Interim Measures Work Plan Addendum Revision 2.
3/10/2003	4/25/2003	Document Submittal	IM WP Addendum Tech Memo
3/14/2003	3/14/2003	Regulatory Correspondence	DEP Letter
6/17/2003	7/14/2003	Document Submittal	Interim Measures (IM) Report Addendum
7/22/2003	8/4/2003	Document Submittal	RCRA Facility Investigation Workplan

Government Contact

MacDill AFB
 6 CES/CEVR
 7621 Hillsborough Loop Drive (Bldg.30)
 MacDill AFB, FL 33621
 POC: Anthony Gennaro
 Phone: (813)828-0764
 Fax: (813)828-0731
 Email: anthony.gennaro@macdill.af.mil

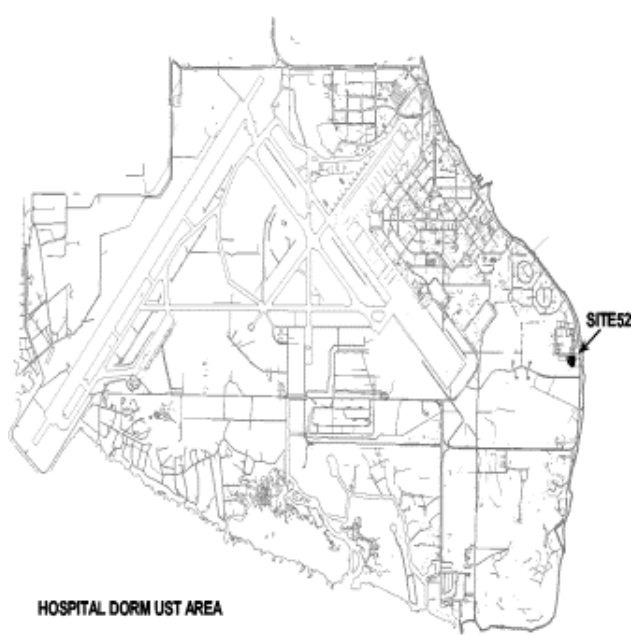
Contractor on Site

Earth Tech
 10 Patewood Drive
 Building VI, Suite 500
 Greenville, SC 29615
 POC: Dave Oliphant
 Phone: (864)234-3560
 Fax: (864)234-3069
 Email: dave_oliphant@earthtech.com



Site Summary for Site52

Environmental Restoration Program, MacDill AFB, FL

Site ID:	Site52	
Site Name:	Hospital Dorm UST Area	
Air Force ID:	ST052	
Regulatory Program:	Petroleum	
Air Force Program:	IRP	
Current Phase:	LTM	
Site Status:	Long-Term Monitoring	
Relative Risk:	No Risk	
Site Closure:	12/31/2007 est.	

Site52

Primary Contaminants of Potential Concern

Groundwater:	1,2-Dibromo-3-Chloropropane, Benzene, Cumine, Naphthalene, benzo(b)flouranthene, toluene
Soils:	Benzo(a)pyrene, dibenzo(a,h)anthracene, Pb, naphthalene, toluene
Surface water:	None Identified
Sediments:	None Identified
Buildings/structures:	None Identified

Physical Setting

Site 52 is located in the southeastern quadrant of the base. The site is located just south of the Base Hospital, near Hillsborough Bay. Site 52 consists of an area behind the hospital dorm. That area formerly contained one 2000-gallon UST with No. 2 fuel oil. The area is now grassed, and groundwater monitoring wells surround the area.

Narrative

Site 52 formerly contained one 2000-gallon UST with fuel oil to heat the dormitory. The tank reportedly was in service from 1959 until 1991. Fuel was pumped to the mechanical room of the dormitory via underground piping.

According to site records, approximately 750 gallons of fuel was discharged from the UST in December 1990. The UST was taken out of service in 1991 when the system was converted to natural gas. At the time of the UST removal, contaminated soils from the excavation were also removed, and the excavation was filled with clean backfill. Site investigation activities were conducted in 1993 and 1994. A Contamination Assessment Report and a Limited Scope Remedial Action (RA) Plan were developed in 1995. Approximately 218 cubic yards of excessively contaminated soils were excavated from the vicinity of the former UST area and transported for off-site disposal in April 1996. The excavation was backfilled with clean soil. A Remedial Action Report and Monitoring Only Plan was submitted to FDEP in September 1996. This report documented the results of soil excavation activities of April 1996 and the baseline groundwater sampling conducted on June 11, 1996. Quarterly long-term monitoring (LTM) was conducted in 1997 and semi-annual LTM has been performed since early 1998 to the present. In January 2002 the soil and groundwater in the area of MW02R were investigated due to the free product being observed in MW02R. A technical memorandum summarizing the investigation and results was submitted to the FDEP in March 2002 recommending further soil and groundwater investigation at Site 52.

Summary of Activities to Date

Started	Completed	Category	Activity or Milestone
1/1/1991	12/1/1991	Field Work	Free-product discovered
2/1/1995	2/1/1995	Document Submittal	CAR
4/1/1995	4/1/1995	Document Submittal	Monitoring proposed
6/1/1995	6/1/1995	Document Submittal	RAP
4/1/1996	4/1/1996	Field Work	Soil Removal
9/1/1996	9/1/1996	Document Submittal	RAP submitted
1/1/1997	10/1/1997	Field Work	Quarterly long term monitoring
1/1/1998	1/1/1998	Document Submittal	Annual Monitoring Report
1/1/1998	1/1/1999	Field Work	Semi-annual long term monitoring
1/1/1998	3/3/1999	Document Submittal	Annual monitoring Report
4/1/1998	1/1/1999	Field Work	Semi-annual long term monitoring
6/1/1998	4/1/2001	Field Work	Free-product recovery
1/1/1999	2/28/2001	Document Submittal	Annual monitoring report
2/28/2001	3/2/2002	Field Work	Semi-annual long term monitoring
1/17/2002	1/19/2002	Field Work	Soils assessment
1/19/2002	3/1/2002	Document Submittal	Technical Memorandum
3/2/2002	3/28/2002	Document Submittal	Technical Memorandum
11/1/2002	11/1/2002	Document Submittal	Site Investigation WP Tech Memo. Rev 0
1/10/2003	1/10/2003	Document Submittal	Site Assessment Work Plan Rev 1

Government Contact

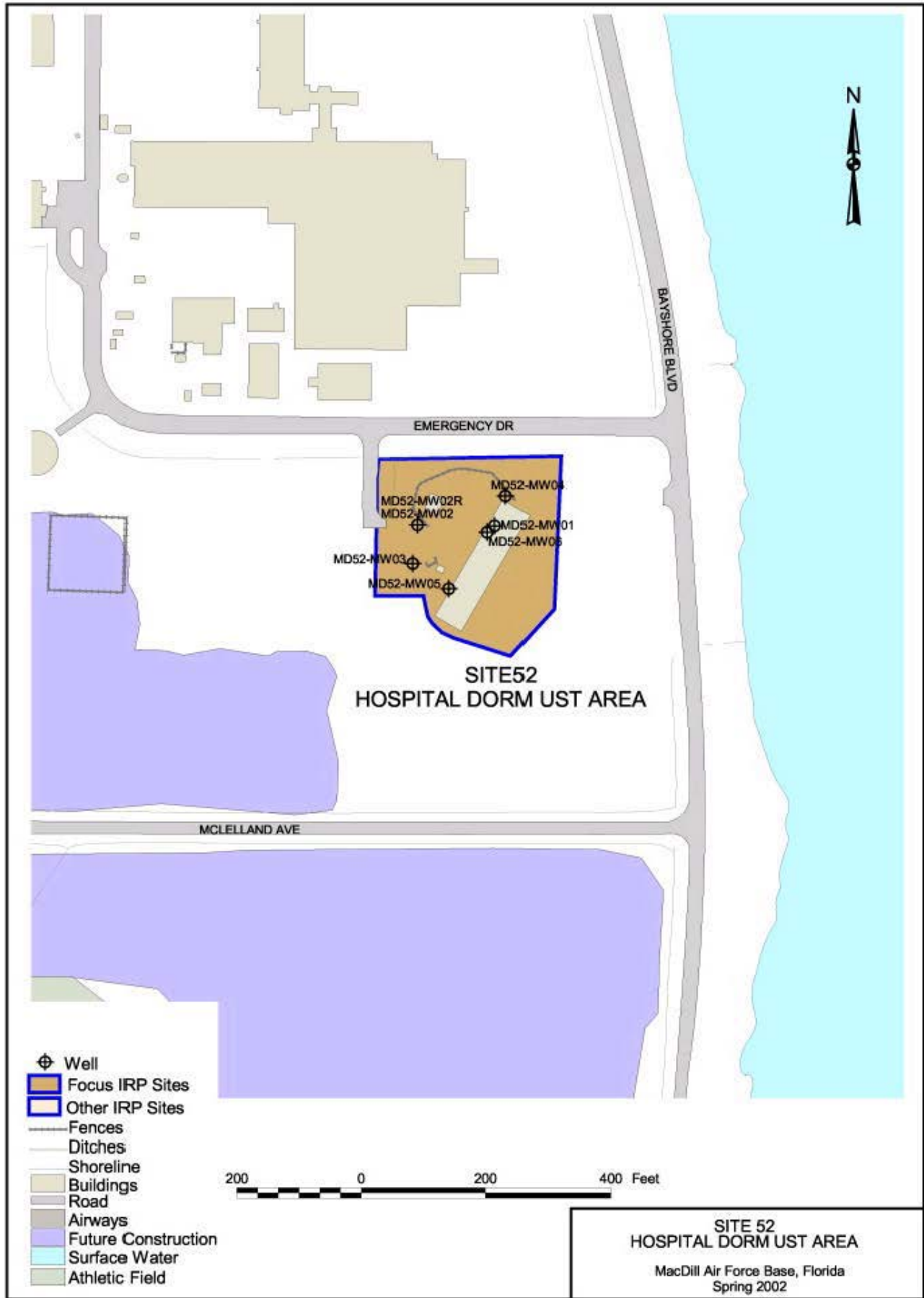
MacDill AFB
 Remedial Project Manager
 Installation Restoration Program
 MacDill AFB, FL 33621
 POC: Kenneth Domako
 Phone: (813)828-0764
 Fax: (813)828-0731

Contractor on Site

Earth Tech
 10 Patewood Drive
 Building VI, Suite 500
 Greenville, SC 29615
 POC: Dave Oliphant
 Phone: (864)234-3560
 Fax: (864)234-3069

Email: kenneth.domako@macdill.af.mil

Email: dave_oliphant@earthtech.com



- ⊕ Well
- Focus IRP Sites
- Other IRP Sites
- Fences
- Ditches
- Shoreline
- Buildings
- Road
- Airways
- Future Construction
- Surface Water
- Athletic Field

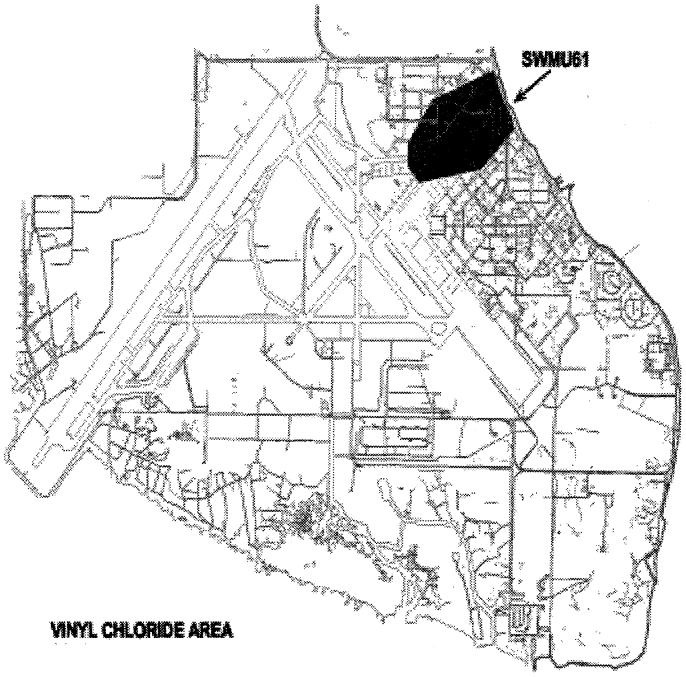
200 0 200 400 Feet

SITE 52
HOSPITAL DORM UST AREA
 MacDill Air Force Base, Florida
 Spring 2002

Site Summary for SWMU61

Environmental Restoration Program, MacDill AFB, FL

Email or Print this Site Summary

Site ID:	SWMU61	
Site Name:	Chlorinated Solvent Plume	
Air Force ID:	SS061	
Regulatory Program:	RCRA	
Air Force Program:	IRP	
Current Phase:	RA-C	
Site Status:	Remedial Action - Construction	
Relative Risk:	High	
Site Closure:	12/31/2021 est.	

SWMU61

Primary Contaminants of Potential Concern

Groundwater:	Chlorinated VOCs, arsenic, and petroleum
Soils:	None Identified
Surface water:	None Identified
Sediments:	None Identified
Buildings/structures:	None Identified

Physical Setting

SWMU 61 is located in the northeast portion of the Base along the north apron of the flightline. The site is about 30 acres in size. SWMU 61 is bounded on the west by Kingfisher Avenue, and on the east by the Hillsborough Bay. To the north, the site is bounded by North Boundary Boulevard, while the southern

extent is Florida Keys Avenue. The site includes an area which is approximately 14.25 million square feet.

Narrative

The initial presence of chlorinated solvents was mainly confirmed through previous investigations at Site 57 (Pumphouse 77) in 1993-1994, and at the AGE Building Vinyl Chloride area (SWMU 29) in 1993-1994. In January 1998, SWMU 29 was formally incorporated in SWMU 61 investigations. Chlorinated VOCs were also detected in groundwater at Site 57, North Apron, which is located south of PH 77. The primary site contaminants at SWMU 61 include trichloroethylene (TCE), 1,2-dichloroethene (1,2-DCE), vinyl chloride, and 1,2-dichloroethane (1,2-DCA). The source of the VOCs, including TCE and two of its degradation products, 1,2-DCE and vinyl chloride, has not yet been determined. A RCRA Facility Investigation (RFI) Report was finalized in 1999. A groundwater monitoring program was initiated to evaluate MNA as a potential remedy for groundwater. Groundwater flow and transport modeling is currently being conducted. A Corrective Measures Study (CMS) for SWMU 61 will be performed following completion of the groundwater modeling efforts in 2002.

Summary of Activities to Date

Started	Completed	Category	Activity or Milestone
10/1/1994	10/1/1994	Document Submittal	Draft Vinyl Chloride Investigation Report
6/1/1998	6/1/1998	Document Submittal	Draft RFI
12/1/1998	12/1/1998	Document Submittal	Groundwater monitoring plan
1/1/1999	1/1/2000	Document Submittal	Annual Monitoring Report
10/1/1999	10/1/1999	Document Submittal	RFI Report
10/1/1999	10/1/1999	Field Work	Risk Assessment
11/16/1999	11/16/1999	Regulatory Correspondence	EPA letter
4/28/2000	4/28/2000	Document Submittal	Annual Monitoring Report
4/28/2001	4/28/2001	Document Submittal	Annual Monitoring Report
2/7/2003	2/7/2003	Document Submittal	Treatability Study Work Plan Revision 1
2/26/2003	2/26/2003	Document Submittal	Final Comprehensive Groundwater Sampling Work Plan Revision 2
3/4/2003	3/4/2003	Document Submittal	Groundwater Flow Modeling Report
3/21/2003	3/24/2003	Document Submittal	Basewide Water Level Measurement Effort: Rev. 0
4/18/2003	4/18/2003	Regulatory Correspondence	EPA letter
4/18/2003	4/18/2003	Regulatory Correspondence	DEP Letter.
2/25/2004	2/25/2004	Document Submittal	Treatability Study Report Rev. 1

Government Contact

MacDill AFB
6 CES/CEQ
7621 Hillsborough Loop Drive (Bldg.30)
MacDill AFB, FL 33621

Contractor on Site

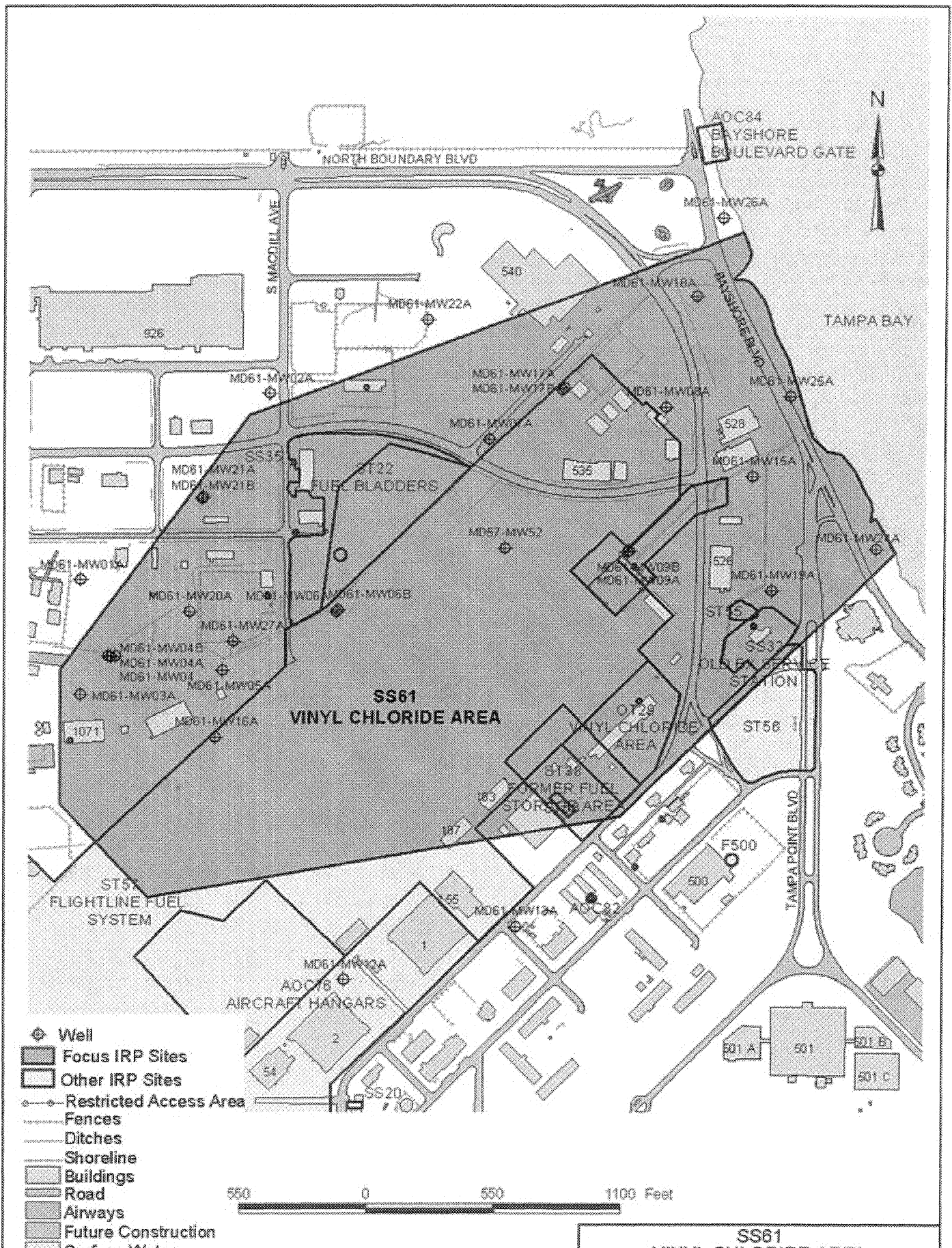
Earth Tech
7102 W. Boundary Road
MacDill AFB, FL 33621

POC: Richard Burnette
Phone: (813)828-4554
Fax: (813)828-0731
Email: richard.burnette@macdill.af.mil

MacDill AFB
Remedial Project Manager
Installation Restoration Program
MacDill AFB, FL 33621
POC: Kenneth Domako
Phone: (813)828-0764
Fax: (813)828-0731
Email: kenneth.domako@macdill.af.mil

POC: Ellen Eveland
Phone: (813)840-2700
Fax: (813)840-9113
Email: ellen_eveland@earthtech.com

Earth Tech
10 Patewood Drive
Building VI, Suite 500
Greenville , SC 29615
POC: Gregg Branham
Phone: (864)234-3583
Fax: (864)234-3069
Email: gregg_branham@earthtech.com



APPENDIX D

AGENCY COORDINATION LETTERS AND COMMENTS



DEPARTMENT OF THE AIR FORCE
6TH AIR MOBILITY WING (AMC)
MACDILL AIR FORCE BASE, FLORIDA


MEMORANDUM FOR US FISH AND WILDLIFE SERVICE
MR. BRYAN PRIDGEON
9549 KOGER BLVD, SUITE 111
ST. PETERSBURG, FLORIDA 33702

FROM: 6 CES/CD
7621 HILLSBOROUGH LOOP DRIVE
MACDILL AFB, FLORIDA 33621-5207

SUBJECT: US Fish and Wildlife Service Coordination on the Eastern Shoreline Stabilization and Restoration at MacDill Air Force Base (AFB)

1. The US Air Force intends to stabilize and restore the eastern shoreline of MacDill AFB. The project area is the length of the eastern shoreline of MacDill AFB originating at the Bayshore Gate and extending to just south of the Golf Course Clubhouse (Figure 1-1). The activities included under the Proposed Action have been categorized into two phases based on the immediate need to prevent further damage to the shoreline, the period of time required for permitting the activities and the availability of funding for the activities.
2. Phase I includes the installation of a limestone boulder revetment along the eastern shoreline of MacDill AFB between the Bayshore Gate and the Golf Course Clubhouse (including the reclamation of approximately 10,000 square feet of land currently seaward from currently eroded sections of the shoreline); the planting of dune vegetation behind the revetment along the shoreline, and the construction of boardwalks, picnic pavilions, beach access points, and walking paths.
3. Phase II includes the construction of three limestone jetties, two offshore limestone breakwaters, three fishing piers, and the extension of six stormwater outfalls in order to make them flush with the original shoreline. Phase I activities are planned to begin prior to the start of Phase II activities. Both Phase I and Phase II activities have been included under the Proposed Action and are being evaluated currently under the EIAP process (Figure 2-1).
4. A representative from the MacDill AFB Natural Resources staff surveyed the construction site to determine if any threatened or endangered species would be affected. The site has not been identified as critical habitat for any threatened or endangered species. Consequently, MacDill AFB believes that the Proposed Action would not adversely impact threatened or endangered species. If the US Fish and Wildlife Service agrees with this assessment, please document your concurrence by signing where indicated below. If you would like to inspect the proposed construction site, please contact the MacDill AFB Natural Resources staff.

5. If you have any questions or require additional information on the Proposed Action, please contact Mr. Jason Kirkpatrick at (813) 828-0459.


KENNETH E. DOMAKO, GS-13
Deputy Base Civil Engineer

Attachments:

1. Figure 1-1: Aerial Map showing Project Area
2. Figure 2-1: Proposed Action
3. Photograph 1: Eastern Shoreline Erosion
4. Photograph 2: Eastern Shoreline Erosion

1st Ind, US Fish & Wildlife Service

MEMORANDUM FOR 6 CES/CD

Date _____

The US Fish and Wildlife Service concurs with MacDill Air Force Base's finding that the Proposed Action, shoreline stabilization and restoration, would not adversely impact threatened or endangered species on MacDill Air Force Base.



FWS Log No. 05-2764

The proposed action is not likely to adversely affect resources protected by the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.) This finding fulfills the requirements of the Act.


for David L. Hankla
Field Supervisor

5/26/05
Date



Photograph 1

Eastern Shoreline Erosion. MacDill Air Force Base. Florida



Photograph 2

Eastern Shoreline Erosion, MacDill Air Force Base, Florida

(NOTE: Photographs show typical habitat along eastern shoreline.)

AMC--GLOBAL REACH FOR AMERICA



Source: June 2004, MacDill Aerial Photo



**EASTERN SHORELINE
STABILIZATION EA
MACDILL AIR FORCE BASE, FLORIDA**

**FIGURE 1-1
PROJECT LOCATION AND VICINITY MAP**



Legend

- Streamwaters
- Jetty
- Proposed Plans
- Proposed Project Area

0 300 600 1,200
Feet

EASTERN SHORELINE
STABILIZATION EA
MACDILL AIR FORCE BASE, FLORIDA

FIGURE 2-1
PROJECT AREA - EASTERN SHORELINE



Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701
(727) 824-5317; FAX 824-5300
<http://sero.nmfs.noaa.gov>

August 10, 2005 F/SER46:MS/dc

Mr. Jason Kirkpatrick
6 CES/CEVN
7621 Hillsborough Loop Drive
MacDill Air Force Base, Florida 33621-5207

Dear Mr. Kirkpatrick:

NOAA's National Marine Fisheries Service (NMFS), Habitat Conservation Division, has reviewed the Draft Environmental Assessment (EA) for Restoration and Stabilization of Eastern Shoreline, MacDill Air Force Base, Florida, and Finding of No Significant Impact and Finding of No Practicable Alternative, Project Number 84544, dated June 2005. The purpose of the proposed activity is to stabilize the eastern shoreline of MacDill Air Force Base through the placement of limestone riprap material in Hillsborough Bay, Hillsborough County, Florida.

NMFS staff conducted a site evaluation of the project area on June 23, 2005, and found the area proposed for riprap material to be comprised of intertidal unvegetated sand substrate, bordered by approximately 500 square feet of dense, mature mangrove wetlands which exist along the shoreline adjacent to the eastern terminus of McClelland Avenue. No submerged aquatic vegetation exists in the area proposed for riprap material placement. Information contained in the EA indicate that riprap material would be placed five to six feet waterward (i.e., east) of the existing shoreline, and backfilled with clean fill material.

Mangrove habitat identified in the project area provides nursery, foraging, and refuge habitat for commercially, recreationally, and ecologically important fish and shellfish. Species such as gulf menhaden, anchovy, killifish, snook, tarpon, seatrout, blue crab, striped mullet, and sheepshead are among the many species which utilize mangrove wetlands. In addition to their value as habitat for economically and ecologically important species, mangrove wetlands provide valuable water quality maintenance and shoreline stabilization functions.

NMFS has no objection to the proposed placement of riprap and fill material along the majority of the unvegetated intertidal project area's shoreline. However, we believe the project as proposed would hydrologically isolate this small, but important mangrove habitat thus adversely impacting the Tampa Bay estuary.

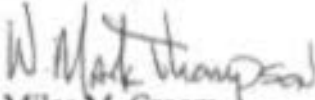


In consideration of the potential impacts to mangrove wetlands associated with the proposed shoreline stabilization activities, and to avoid impacts to related fishery resources in Tampa Bay, NMFS recommends that final action include the following:

1. Proposed riprap material shall be placed at least 50 linear feet waterward (i.e., east) of the dense strand of tidally influenced mangrove wetlands which exist east of McClelland Avenue.
2. The placement of fill material landward of the proposed riprap material adjacent to mangrove wetlands shall be deleted from project plans.

If you have questions with regard to our evaluation of the Draft EA, please contact Mark Sramek in our St. Petersburg, Florida, office. Mr. Sramek may be reached at the letterhead address or by calling (727) 824-5311.

Sincerely,

for 
Miles M. Croom
Assistant Regional Administrator
Habitat Conservation Division

cc:

F/SER4

F/SER46 - Sramek

F/SER - Keys

cc: (e-mail):

FDEP - Terry Cartwright

FWS - Linda Smith

EPA - Rhonda Evans

TBEP - Holly Greening



FWS Log No 05-2064

The proposed action is not likely to adversely affect resources protected by the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.) This finding fulfills the requirements of the Act.

June 17, 2005

U.S Fish and Wildlife Service
Attn: Brian Pridgen
9549 Koger Blvd.Suite 111
St. Petersburg, FL 33702

David L. Hankla
Field Supervisor

7/25/05
Date

Subject: Draft *Environmental Assessment for Restoration and Stabilization of Eastern Shoreline, MacDill Air Force Base, Florida* and *Finding of No Significant Impact* and *Finding of No Practicable Alternative* Project No. 84544

Dear Mr. Pridgen:

Earth Tech is pleased to submit this Draft *Environmental Assessment (EA) for Restoration and Stabilization of Eastern Shoreline, MacDill Air Force Base, Florida* and the associated *Finding of No Significant Impact (FONSI)* and *Finding of No Practicable Alternative (FONPA)* documents. This Draft EA and FONSI/FONPA are being submitted to you for your review.

Telephone
864.234.3000
Facsimile
864.234.3069

We respectfully request that you provide us with any comments, edits, or changes to this Draft EA and FONSI/FONPA by August 17, 2005, at which time we will modify the EA and FONSI/FONPA based on any comments received to produce the Final. Please send any comments, edits, or changes you may have, along with a letter stating that you have reviewed the enclosed documents to:

Mr. Jason Kirkpatrick
6 CES/CEVN
7621 Hillsborough Loop Dr.
MacDill AFB, FL 33621-5207

If you have any questions or concerns about this submittal, please call Jason Kirkpatrick at (813) 828-0459.

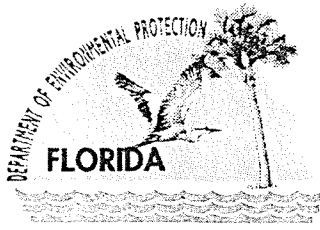
Best Regards,

Kathy Garvin

Enclosures

c: Jason Kirkpatrick, 6 CES/CEVN; Master File 84544





Jeb Bush
Governor

Department of Environmental Protection

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

Colleen M. Castille
Secretary

August 17, 2005

Mr. Jason W. Kirkpatrick
Conservation Program Manager
6 CES/CEVN
2610 Pink Flamingo Ave.
MacDill AFB, FL 33621

RE: Department of the Air Force – Draft Environmental Assessment for Restoration and Stabilization of Eastern Shoreline, MacDill Air Force Base – Hillsborough County, Florida.
SAI # FL200506231185C

Dear Mr. Kirkpatrick:

The Florida State Clearinghouse, pursuant to Presidential Executive Order 12372, Gubernatorial Executive Order 95-359, the Coastal Zone Management Act, 16 U.S.C. §§ 1451-1464, as amended, and the National Environmental Policy Act, 42 U.S.C. §§ 4321, 4331-4335, 4341-4347, as amended, has coordinated a review of the draft environmental assessment (EA).

The Florida Department of Environmental Protection (DEP) notes that Section 1.5.1 of the draft EA should be modified to describe the requirement to obtain a state Environmental Resource Permit (ERP). Construction of the proposed project will actually require issuance of an ERP from the DEP Southwest District office in Tampa, pursuant to Chapters 373 and 253, *Florida Statutes (F.S.)*. Though the Joint Coastal Permit (JCP) description is accurate, Chapter 161, *F.S.*, and the JCP program apply only to projects affecting Florida's natural sandy beaches facing the Gulf of Mexico, Atlantic Ocean, and Straits of Florida (not the shoreline of Tampa Bay). Please continue to coordinate with the DEP Southwest District office on the ERP application currently being processed by Environmental Resource Management Section staff.

Based on the information contained in the draft EA and comments provided by our reviewing agencies, the state has determined that, at this stage, the proposed activity is consistent with the Florida Coastal Management Program (FCMP). The applicant must, however, address the concerns identified by DEP staff prior to project implementation. The state's continued concurrence with the project will be based, in part, on the adequate resolution of issues identified during this and subsequent reviews. The state's final concurrence of the project's consistency with the FCMP will be determined during the environmental permitting stage.

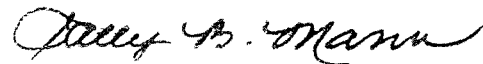
"More Protection, Less Process"

Printed on recycled paper.

Mr. Jason W. Kirkpatrick
August 17, 2005
Page 2 of 2

Thank you for the opportunity to review the proposed project. If you have any questions regarding this letter, please contact Ms. Lauren P. Milligan at (850) 245-2170.

Sincerely,



Sally B. Mann, Director
Office of Intergovernmental Programs

SBM/lm

Enclosures

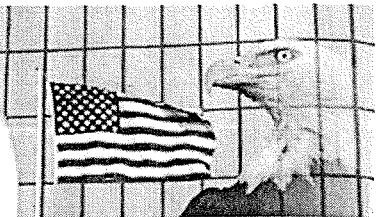
cc: Brenda Arnold, DEP, Southwest District
Kathy Garvin, Earth Tech



Florida

Department of Environmental Protection

"More Protection, Less Process"



Categories

[DEP Home](#) | [OIP Home](#) | [Contact DEP](#) | [Search](#) | [DEP Site Map](#)

Project Information	
Project:	FL200506231185C
Comments Due:	07/23/2005
Letter Due:	08/17/2005
Description:	DEPARTMENT OF THE AIR FORCE - DRAFT ENVIRONMENTAL ASSESSMENT FOR RESTORATION AND STABILIZATION OF EASTERN SHORELINE, MACDILL AIR FORCE BASE - HILLSBOROUGH COUNTY, FLORIDA.
Keywords:	USAF - RESTORATION/STABILIZATION OF EASTERN SHORELINE, MACDILL AFB - HILLSBOR.
CFDA #:	12.200
Agency Comments:	
TAMPA BAY RPC - TAMPA BAY REGIONAL PLANNING COUNCIL	
No Comment	
HILLSBOROUGH - HILLSBOROUGH COUNTY	
FISH and WILDLIFE COMMISSION - FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION	
NO COMMENT BY SCOTT SANDERS ON 8/17/05.	
STATE - FLORIDA DEPARTMENT OF STATE	
NO COMMENT	
ENVIRONMENTAL PROTECTION - FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION	
DEP notes that Section 1.5.1 of the draft EA should be modified to describe the requirement to obtain a state Environmental Resource Permit (ERP). Construction of the proposed project will actually require issuance of an ERP from the DEP Southwest District office in Tampa, pursuant to Chapters 373 and 253, F.S. Though the Joint Coastal Permit (JCP) description is accurate, Chapter 161, F.S., and the JCP program apply only to projects affecting Florida's natural sandy beaches facing the Gulf of Mexico, Atlantic Ocean, and Straits of Florida (not the shoreline of Tampa Bay). Please continue to coordinate with the DEP Southwest District office on the ERP application currently being processed by Environmental Resource Management Section staff.	
SOUTHWEST FLORIDA WMD - SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT	
No Comment	

For more information please contact the Clearinghouse Office at:

3900 COMMONWEALTH BOULEVARD MS-47
 TALLAHASSEE, FLORIDA 32399-3000
 TELEPHONE: (850) 245-2161
 FAX: (850) 245-2190

Visit the [Clearinghouse Home Page](#) to query other projects.

[Copyright and Disclaimer](#)
[Privacy Statement](#)

COUNTY: HILLSBOROUGH

Sch. USAF - MD
2005-6118

DATE: 6/23/2005

COMMENTS DUE DATE: 7/23/2005

CLEARANCE DUE DATE: 8/17/2005

SAI#: FL200506231185C

MESSAGE:

STATE AGENCIES	WATER MNGMNT. DISTRICTS	OPB POLICY UNIT	RPCS & LOC GOVS
ENVIRONMENTAL PROTECTION	SOUTHWEST FLORIDA WMD		
FISH and WILDLIFE COMMISSION			
X STATE			

The attached document requires a Coastal Zone Management Act/Florida Coastal Management Program consistency evaluation and is categorized as one of the following:

- Federal Assistance to State or Local Government (15 CFR 930, Subpart F). Agencies are required to evaluate the consistency of the activity.
- X Direct Federal Activity (15 CFR 930, Subpart C). Federal Agencies are required to furnish a consistency determination for the State's concurrence or objection.
- Outer Continental Shelf Exploration, Development or Production Activities (15 CFR 930, Subpart E). Operators are required to provide a consistency certification for state concurrence/objection.
- Federal Licensing or Permitting Activity (15 CFR 930, Subpart D). Such projects will only be evaluated for consistency when there is not an analogous state license or permit.

Project Description:

DEPARTMENT OF THE AIR FORCE - DRAFT ENVIRONMENTAL ASSESSMENT FOR RESTORATION AND STABILIZATION OF EASTERN SHORELINE, MACDILL AIR FORCE BASE - HILLSBOROUGH COUNTY, FLORIDA.

RECEIVED

JUL 18 2005

OIP / OLGA

To: Florida State Clearinghouse

AGENCY CONTACT AND COORDINATOR (SCH)
3900 COMMONWEALTH BOULEVARD MS-47
TALLAHASSEE, FLORIDA 32399-3000
TELEPHONE: (850) 245-2161
FAX: (850) 245-2190

EO. 12372/NEPA Federal Consistency

- | | |
|--|---|
| <input checked="" type="checkbox"/> No Comment | <input checked="" type="checkbox"/> No Comment/Consistent |
| <input type="checkbox"/> Comment Attached | <input type="checkbox"/> Consistent/Comments Attached |
| <input type="checkbox"/> Not Applicable | <input type="checkbox"/> Inconsistent/Comments Attached |
| | <input type="checkbox"/> Not Applicable |

From: Division of Historical Resources
Division/Bureau: Bureau of Historic Preservation

Reviewer: S. Edwards Laura L. Kammann, Deputy SNPO
Date: 6-29-05 7.1.05
NtpA / 56166

2005 JUN 28 A 10:17

RECEIVED
BUREAU OF
HISTORIC PRESERVATION



FLORIDA DEPARTMENT OF STATE
Glenda E. Hood
Secretary of State
DIVISION OF HISTORICAL RESOURCES

Mr. Jason Kirkpatrick
Department of the Air Force
6 CES/CEVN
7621 Hillsborough Loop Drive
MacDill AFB, Florida 33621-5207

June 21, 2005

RE: DHR Project File Number: 2005-6166
Received by DHR June 20, 2005
Draft Environmental Assessment for Restoration and Stabilization of Eastern Shoreline
Finding of No Significant Impact and Finding of No Practical Alternative
MacDill Air Force Base, Hillsborough County

Dear Mr. Kirkpatrick:

Our office received and reviewed the above referenced project in accordance with Section 106 of the *National Historic Preservation Act of 1966*, as amended and *36 CFR Part 800: Protection of Historic Properties* and the *National Environmental Policy Act of 1969*, as amended. The State Historic Preservation Officer is to advise Federal agencies as they identify historic properties (listed or eligible for listing in the *National Register of Historic Places*), assess effects upon them, and consider alternatives to avoid or minimize adverse effects.

We have reviewed Sections 3.11 and 4.1.11 both dealing with Cultural Resources of referenced draft environmental assessment. We note that if cultural resources are encountered during construction activities, procedures outlined in the Cultural Resources Management Plan would be followed. Therefore, it is the opinion of this office that the proposed undertaking will have no effect on historic properties.

If you have any questions concerning our comments, please contact Scott Edwards, Historic Preservationist, by electronic mail sedwards@dos.state.fl.us, or at 850-245-6333 or 800-847-7278.

Sincerely,

Lana A. Kammerer, Deputy SHPO

for Frederick P. Gaske, Director, and
State Historic Preservation Officer

XC: Kathleen Garvin, Earth Tech

500 S. Bronough Street • Tallahassee, FL 32399-0250 • <http://www.flheritage.com>

Director's Office
(850) 245-6300 • FAX: 245-6436

Archaeological Research
(850) 245-6444 • FAX: 245-6436

Historic Preservation
(850) 245-6333 • FAX: 245-6437

Historical Museums
(850) 245-6400 • FAX: 245-6433

Southeast Regional Office
(954) 467-4990 • FAX: 467-4991

Northeast Regional Office
(904) 825-5045 • FAX: 825-5044

Central Florida Regional Office
(813) 272-3843 • FAX: 272-2340



FLORIDA DEPARTMENT OF STATE
Glenda E. Hood
Secretary of State
DIVISION OF HISTORICAL RESOURCES

Mr. Kenneth E, Domako
Department of the Air Force
6 CES/CD
7621 Hillsborough Loop Drive
MacDill AFB, Florida 33621-5207

June 16, 2005

RE: DHR Project File Number: 2005-5170
Received by DHR May 26, 2005
Eastern Shoreline Stabilization and Restoration
MacDill AFB, Hillsborough County

Dear Mr. Domako:

Our office received and reviewed the above referenced project in accordance with Section 106 of the *National Historic Preservation Act of 1966*, as amended and *36 CFR Part 800: Protection of Historic Properties*. The State Historic Preservation Officer is to advise Federal agencies as they identify historic properties (listed or eligible for listing in the *National Register of Historic Places*), assess effects upon them, and consider alternatives to avoid or minimize adverse effects.

Based on the information provided, it is the opinion of this office that the proposed project will have no effect on historic properties.

If you have any questions concerning our comments, please contact Scott Edwards, Historic Preservationist, by electronic mail sedwards@dos.state.fl.us, or at 850-245-6333 or 800-847-7278.

Sincerely,

Laura A. Kammerer, Deputy SHPO

for Frederick P. Gaske, Director, and
State Historic Preservation Officer

500 S. Bronough Street • Tallahassee, FL 32399-0250 • <http://www.flheritage.com>

<input type="checkbox"/> Director's Office (850) 245-6300 • FAX: 245-6436	<input type="checkbox"/> Archaeological Research (850) 245-6444 • FAX: 245-6436	<input checked="" type="checkbox"/> Historic Preservation (850) 245-6333 • FAX: 245-6437	<input type="checkbox"/> Historical Museums (850) 245-6400 • FAX: 245-6433
<input type="checkbox"/> Southeast Regional Office (954) 467-4990 • FAX: 467-4991	<input type="checkbox"/> Northeast Regional Office (904) 825-5045 • FAX: 825-5044	<input type="checkbox"/> Central Florida Regional Office (813) 272-3843 • FAX: 272-2340	

Eidson, Donna

From: Kirkpatrick Jason W Contr 6 CES/CEVH [Jason.Kirkpatrick.CTR@macdill.af.mil]
Sent: Tuesday, May 24, 2005 6:42 AM
To: Garvin, Kathleen
Subject: FW: Shoreline Stabilization EA

Kathy, Base Safety office has no comments or changes on the referenced EA. Please insert this note in correspondence section.

Jason K

From: Jackson Jason R GS-12 6 AMW/SEG
Sent: Tuesday, May 24, 2005 6:39 AM
To: Kirkpatrick Jason W Contr 6 CES/CEVH
Subject: RE: Shoreline Stabilization EA

Jason,

I reviewed the shoreline stabilization EA and have no changes or comments.

//SIGNED//

JASON R. JACKSON
Ground/Weapons Safety Manager
6 AMW/SEG
DSN 968-3385

From: Kirkpatrick Jason W Contr 6 CES/CEVH
Sent: Wednesday, May 18, 2005 2:40 PM
To: Jones Robert A Civ 6 AMW/JA; Dixon Anne R 1st Lt 6 AMDS/SGPB; Green Diane M GS-09 6 AMW/PA; Jackson Jason R GS-12 6 AMW/SEG; Tyl Mark B Contr 6 CES/CECE
Subject: Shoreline Stabilization EA

Coordinating Organizations;

Hello all. I have the next NEPA document ready for review. I have attached a Word version of the Shoreline Stabilization EA for your review and comment. I also have a .pdf version of the document (24MB) but did not want to send do to the size. I will gladly bring you a hard copy of the report for your review, if you prefer, just let me know.

Could I please get your review and comments (negative replies are requested) on this document by June 3rd. You can mark-up the Word version with 'track changes' option or simply provide an e-mail reply with any comments.

Thanks again for your help with this. Be aware that I have three more coming your way over the next 30 days. Again, I'll gladly bring you a hard copy if you want it.

Jason K

Jason Kirkpatrick, 6 CES/CEVN
 Conservation Program Manager
 2610 Pink Flamingo Ave
 MacDill AFB FL 33621

(813) 828-0459 Phone
 (813) 828-2212 FAX

10/25/2005

PUBLIC NOTICE UNITED STATES AIR FORCE

MacDill Air Force Base (AFB) is inviting public review and comment on the Draft Finding of No Significant Impact (FONSI)/Finding of No Practical Alternative (FONPA) and the supporting Environmental Assessment (EA). The project is entitled Restoration and Stabilization of Eastern Shoreline. The proposed action calls for the restoration, stabilization and enhancement of the eastern shoreline of MacDill AFB by reclaiming land that has eroded due to storm events and by employing a combination of restoration and stabilization methods. Installing a limestone revetment and planting dune vegetation would help to prevent erosion, thus preventing further damage to base infrastructure, potential future damage to operational facilities located along the shoreline, and potential future damage to sections of Bayshore Boulevard that are located adjacent to the shoreline. The dune vegetation would provide a stabilization benefit while improving the area aesthetically. Additionally, constructing recreational facilities such as boardwalks, picnic pavilions, beach access points, and walking paths along the shoreline and in the areas that will be reclaimed under the Proposed Action would increase the quality of life for families living on base.

NOTICE OF AVAILABILITY

The document is part of the Air Force environmental impact analysis process to satisfy requirements under the National Environmental Protection Act (NEPA). The FONSI/FONPA and supporting EA draft is available for public review and comment beginning June 20, 2005 at the John F. Germany Library, located at 900 N. Ashley Drive, Tampa, FL 33606. The documents may be found in the Humanities Section of the Main Library. The comment period will close on August 2, 2005. Address written comments to the 6 AMW Public Affairs, 8209 Hangar Loop Drive, Suite 14, MacDill AFB, FL 33621-5502. The telephone number is (813) 828-2215.

9706

June 19, 2005

THE TAMPA TRIBUNE

Published Daily

Tampa, Hillsborough County, Florida

State of Florida }
County of Hillsborough } ss.

Before the undersigned authority personally appeared C. Pugh, who on oath says that she is the Advertising Supervisor of The Tampa Tribune, a daily newspaper published at Tampa in Hillsborough County, Florida; the attached copy of advertisement being a

LEGAL NOTICE

in the matter of

PUBLIC NOTICE UNITED STATES AIR FORCE

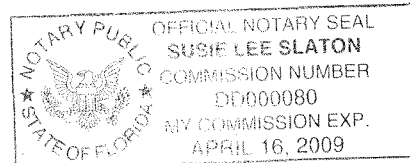
was published in said newspaper in the issues of

JUNE 19, 2005

Affiant further says that the said The Tampa Tribune is a newspaper published at Tampa in said Hillsborough Florida, and that the said newspaper has heretofore been continuously published in said Hillsborough County each day and has been entered as second class mail matter at the post office in Tampa, in said Hillsborough Florida for a period of one year next preceding the first publication of the attached copy of advertisement; and further says that she has neither paid nor promised any person, this advertisement for publication in the said r

Sworn to and subscribed by me, this 20 day
of JUNE, A.D. 20 05

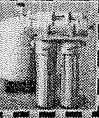
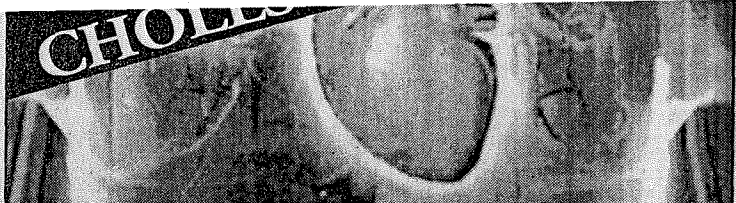
Personally Known or Produced Identification _____
Type of Identification Produced _____



SAVE \$995

REVERSE OSMOSIS
\$289

50 Gallon Per Day, Salt Free.
Reg. \$695 Lifetime Warranty.

CHOLESTEROL

You May Be At A Higher Risk For Heart Disease

For some patients, diet, exercise & treatment with Zocor™ may not be enough. If you have failed to adequately reduce your cholesterol levels & are taking Zocor™, you may be interested in participating in a research study to evaluate the effectiveness of an investigational combination of approved medications. Qualified participants will receive research medication, diet instructions & clinical tests at no cost. Health insurance is not needed to participate.



For more information, contact Meridien Research in Tampa at (813) 87-STUDY (813) 877-8839 for details

Meridien Research

SOUTH TAMPA MEDICAL CENTER • 508 S. HABANA AVE., SUITE 320 • TAMPA

Mildred V. Farmer, *MD Board Certified Internal Medicine

Zocor is a registered trademark of Merck & Co., Inc.

455244

Fibromyalgia Research Study

Do you experience aches and body pains, muscle stiffness, and extreme fatigue? If you are at least 18 years old and experience symptoms of fibromyalgia, you may qualify to participate in a clinical research study. Study benefits include investigational study medication, and study related exams (i.e. physical exams, lab tests) at no cost.

Compensation for time and travel.

Call to see if you qualify.
(813) 87-STUDY
(813) 877-8839

Meridien Research

SOUTH TAMPA MEDICAL CENTER • 508 S. HABANA AVE, SUITE 320 • TAMPA

Mildred V. Farmer, *MD Board-Certified Internal Medicine

455243

LEGAL ADVERTISEMENT

PUBLIC NOTICE UNITED STATES AIR FORCE

MacDill Air Force Base (AFB) is inviting public review and comment on the Draft Finding of No Significant Impact (FONSI)/Finding of No Practical Alternative (FONPA) and the supporting Environmental Assessment (EA). The project is entitled Restoration and Stabilization of Eastern Shoreline. The proposed action calls for the restoration, stabilization and enhancement of the eastern shoreline of MacDill AFB by reclaiming land that has eroded due to storm events and by employing a combination of restoration and stabilization methods. Installing a limestone revetment and planting dune vegetation would help to prevent erosion, thus preventing further damage to base infrastructure, potential future damage to operational facilities located along the shoreline, and potential future damage to sections of Bayshore Boulevard that are located adjacent to the shoreline. The dune vegetation would provide a stabilization benefit while improving the area aesthetically. Additionally, constructing recreational facilities such as boardwalks, picnic pavilions, beach access points, and walking paths along the shoreline and in the areas that will be reclaimed under the Proposed Action would increase the quality of life for families living on base.

NOTICE OF AVAILABILITY

The document is part of the Air Force environmental impact analysis process to satisfy requirements under the National Environmental Protection Act (NEPA). The FONSI/FONPA and supporting EA draft is available for public review and comment beginning June 20, 2005 at the John F. Germany Library, located at 900 N. Ashley Drive, Tampa, FL 33606. The documents may be found in the Humanities Section of the Main Library. The comment period will close on August 2, 2005. Address written comments to the 6 AMW Public Affairs, 8209 Hangar Loop Drive, Suite 14, MacDill AFB, FL 33621-5502. The telephone number is (813) 828-2215.

STORM TEAM 8



Steve **JERVE**
Chief Meteorologist

Hurricane Ready Tip
Know what to do with your trash and tree trimmings before, during and after a storm.

Cut or thin your branches at the start of the season. Don't take trash to the curb during a hurricane watch or warning, and be aware of when services will resume after the storm.

Go to TBO.com, Keyword: Hurricane or pick up your Hurricane Ready Guide at one of these convenient locations.

SUNTRUST Publix Radiant Food Stores Rally

452320

VERY, CALL 813-TRIBUNE.

9706

June 19, 2005

June 17, 2005

Florida State Clearing House
Attn: Ms. Cheri Trainor
2555 Shumard Oak Boulevard
Tallahassee, FL 32399-2100

Subject: Draft *Environmental Assessment for Restoration and Stabilization of Eastern Shoreline, MacDill Air Force Base, Florida* and *Finding of No Significant Impact* and *Finding of No Practicable Alternative* Project No. 84544

Dear Ms. Trainor:

Earth Tech is pleased to submit this Draft *Environmental Assessment (EA) for Restoration and Stabilization of Eastern Shoreline, MacDill Air Force Base, Florida* and the associated *Finding of No Significant Impact (FONSI)* and *Finding of No Practicable Alternative (FONPA)* documents. This Draft EA and FONSI/FONPA are being submitted to you for you to distribute and review.

Telephone

864.234.3000

Facsimile

864.234.3069

We respectfully request that you provide us with any comments, edits, or changes to this Draft EA and FONSI/FONPA by August 17, 2005, at which time we will modify the EA and FONSI/FONPA based on any comments received to produce the Final. Please send any comments, edits, or changes you may have, along with confirmation of the review to:

Mr. Jason Kirkpatrick
6 CES/CEVN
7621 Hillsborough Loop Dr.
MacDill AFB, FL 33621-5207

If you have any questions or concerns about this submittal, please call Jason Kirkpatrick at (813) 828-0459.

Best Regards,



Kathy Garvin

Enclosures

c: Jason Kirkpatrick, 6 CES/CEVN; Master File 84544



A Tyco Infrastructure Services Company

June 17, 2005

Mr. Art Bagley
University of Tampa
Merl Kelce Library
401 West Kennedy Boulevard
Tampa, FL 33602

Subject: Draft *Environmental Assessment for Restoration and Stabilization of Eastern Shoreline, MacDill Air Force Base, Florida* and *Finding of No Significant Impact* and *Finding of No Practicable Alternative* Project No. 84544

Dear Mr. Bagley:

Telephone

Earth Tech is pleased to submit this Draft *Environmental Assessment (EA) for Restoration and Stabilization of Eastern Shoreline, MacDill Air Force Base, Florida* and the associated *Finding of No Significant Impact (FONSI)* and *Finding of No Practicable Alternative (FONPA)* documents. This Draft EA and FONSI/FONPA are being submitted to you for you to make available for public review.

864.234.3000

Facsimile

864.234.3069

We respectfully request that you make the Draft EA and FONSI/FONPA available to the public during the time period of June 20, 2005 through August 2, 2005. Once the availability period is closed, we will consider all public comments received and include them in the Final EA and FONSI/FONPA documents. Please find attached a copy of the public notice and notice of availability that were published in the Tampa Tribune in order to notify the public of the availability of the documents.

If you have any questions or concerns about this submittal, please call me at (864) 234-3000 or Jason Kirkpatrick at (813) 828-0459.

Best Regards,



Kathy Garvin

Enclosures

c: Jason Kirkpatrick, 6 CES/CEVN; Master File 84544



A Tyco Infrastructure Services Company

June 17, 2005

Hillsborough County Public Library
Attn: Ms. Judy McAfee
900 North Ashley Drive
Tampa, FL 33602

Subject: Draft *Environmental Assessment for Restoration and Stabilization of Eastern Shoreline, MacDill Air Force Base, Florida* and *Finding of No Significant Impact* and *Finding of No Practicable Alternative* Project No. 84544

Dear Ms. McAfee:

Earth Tech is pleased to submit this Draft *Environmental Assessment (EA) for Restoration and Stabilization of Eastern Shoreline, MacDill Air Force Base, Florida* and the associated *Finding of No Significant Impact (FONSI)* and *Finding of No Practicable Alternative (FONPA)* documents. This Draft EA and FONSI/FONPA are being submitted to you for you to make available in the Humanities Section of the library for public review.

Telephone

864.234.3000

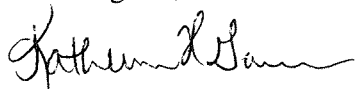
Facsimile

864.234.3069

We respectfully request that you make the Draft EA and FONSI/FONPA available to the public during the time period of June 20, 2005 through August 2, 2005. Once the availability period is closed, we will consider all public comments received and include them in the Final EA and FONSI/FONPA documents. Please find attached a copy of the public notice and notice of availability that were published in the Tampa Tribune in order to notify the public of the availability of the documents. The attached advertisement provides the address where comments can be submitted.

If you have any questions or concerns about this submittal, please call me at (864) 234-3000 or Jason Kirkpatrick at (813) 828-0459.

Best Regards,



Kathy Garvin

Enclosures

c: Jason Kirkpatrick, 6 CES/CEVN; Master File 84544



A Tyco Infrastructure Services Company

June 17, 2005

Ms. Laura Kammerer
Division of Historical Resources
Compliance Review Section
500 South Bronough Street
Tallahassee, FL 32399-0250

Subject: Draft *Environmental Assessment for Restoration and Stabilization of Eastern Shoreline, MacDill Air Force Base, Florida* and *Finding of No Significant Impact* and *Finding of No Practicable Alternative* Project No. 84544

Dear Ms. Kammerer:

Telephone

Earth Tech is pleased to submit this Draft *Environmental Assessment (EA) for Restoration and Stabilization of Eastern Shoreline, MacDill Air Force Base, Florida* and the associated *Finding of No Significant Impact (FONSI)* and *Finding of No Practicable Alternative (FONPA)* documents. This Draft EA and FONSI/FONPA are being submitted to you for your agency's compliance review.

864.234.3000

Facsimile

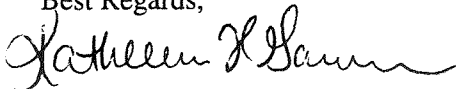
864.234.3069

We respectfully request that you provide us with any comments, edits, or changes to this Draft EA and FONSI/FONPA by August 17, 2005, at which time we will modify the EA and FONSI/FONPA based on any comments received to produce the Final. Please send any comments, edits, or changes you may have, along with a letter stating that you have reviewed the enclosed documents to:

Mr. Jason Kirkpatrick
6 CES/CEVN
7621 Hillsborough Loop Dr.
MacDill AFB, FL 33621-5207

If you have any questions or concerns about this submittal, please call Jason Kirkpatrick at (813) 828-0459.

Best Regards,



Kathy Garvin

Enclosures

c: Jason Kirkpatrick, 6 CES/CEVN; Master File 84544

E A R T H  T E C H

A Tyco Infrastructure Services Company

June 17, 2005

Mr. Steve West
Florida Department of Environmental Protection
Bureau of Beaches and Coastal Systems
3900 Commonwealth Blvd.
Tallahassee, FL 32399-3000

Subject: Draft *Environmental Assessment for Restoration and Stabilization of Eastern Shoreline, MacDill Air Force Base, Florida* and *Finding of No Significant Impact and Finding of No Practicable Alternative* Project No. 84544

Dear Mr. West:

Telephone

Earth Tech is pleased to submit this Draft *Environmental Assessment (EA) for Restoration and Stabilization of Eastern Shoreline, MacDill Air Force Base, Florida* and the associated *Finding of No Significant Impact (FONSI)* and *Finding of No Practicable Alternative (FONPA)* documents. This Draft EA and FONSI/FONPA are being submitted to you for your review.

864.234.3000

Facsimile

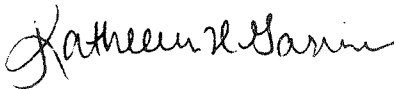
864.234.3069

We respectfully request that you provide us with any comments, edits, or changes to this Draft EA and FONSI/FONPA by August 17, 2005, at which time we will modify the EA and FONSI/FONPA based on any comments received to produce the Final. Please send any comments, edits, or changes you may have, along with a letter stating that you have reviewed the enclosed documents to:

Mr. Jason Kirkpatrick
6 CES/CEVN
7621 Hillsborough Loop Dr.
MacDill AFB, FL 33621-5207

If you have any questions or concerns about this submittal, please call Jason Kirkpatrick at (813) 828-0459.

Best Regards,



Kathy Garvin

Enclosures

c: Jason Kirkpatrick, 6 CES/CEVN; Master File 84544



A Tyco Infrastructure Services Company

June 17, 2005

Florida Coastal Management Program
Attn: Ms. Jasmine Ruffington
2555 Shumard Oak Blvd.
Tallahassee, FL 32399-2100

Subject: Draft *Environmental Assessment for Restoration and Stabilization of Eastern Shoreline, MacDill Air Force Base, Florida* and *Finding of No Significant Impact* and *Finding of No Practicable Alternative* Project No. 84544

Dear Ms. Ruffington:

Earth Tech is pleased to submit this Draft *Environmental Assessment (EA) for Restoration and Stabilization of Eastern Shoreline, MacDill Air Force Base, Florida* and the associated *Finding of No Significant Impact (FONSI)* and *Finding of No Practicable Alternative (FONPA)* documents. This Draft EA and FONSI/FONPA are being submitted to you for your coordinated review.

Telephone

864.234.3000

Facsimile


864.234.3069

We respectfully request that you provide us with any comments, edits, or changes to this Draft EA and FONSI/FONPA by August 17, 2005, at which time we will modify the EA and FONSI/FONPA based on any comments received to produce the Final. Please send any comments, edits, or changes you may have, along with a letter stating your consistency determination to:

Mr. Jason Kirkpatrick
6 CES/CEVN
7621 Hillsborough Loop Dr.
MacDill AFB, FL 33621-5207

If you have any questions or concerns about this submittal, please call Jason Kirkpatrick at (813) 828-0459.

Best Regards,



Kathy Garvin

Enclosures

c: Jason Kirkpatrick, 6 CES/CEVN; Master File 84544



A Tyco Infrastructure Services Company

June 17, 2005

National Marine Fisheries Service
Attn: Mr. David Dale
9721 Executive Center Drive North
St. Petersburg, FL 33702

Subject: Draft *Environmental Assessment for Restoration and Stabilization of Eastern Shoreline, MacDill Air Force Base, Florida* and *Finding of No Significant Impact* and *Finding of No Practicable Alternative* Project No. 84544

Dear Mr. Dale:

Earth Tech is pleased to submit this Draft *Environmental Assessment (EA) for Restoration and Stabilization of Eastern Shoreline, MacDill Air Force Base, Florida* and the associated *Finding of No Significant Impact (FONSI)* and *Finding of No Practicable Alternative (FONPA)* documents. This Draft EA and FONSI/FONPA are being submitted to you for your review.

Telephone

864.234.3000

Facsimile

864.234.3069

We request that you provide us with any comments, edits, or changes to this Draft EA and FONSI/FONPA by August 17, 2005, at which time we will modify the EA and FONSI/FONPA based on any comments received to produce the Final. Please send any comments, edits, or changes you may have, along with a letter stating that you have reviewed the enclosed documents to:

Mr. Jason Kirkpatrick
6 CES/CEVN
7621 Hillsborough Loop Dr.
MacDill AFB, FL 33621-5207

If you have any questions or concerns about this submittal, please call Jason Kirkpatrick at (813) 828-0459.

Best Regards,



Kathy Garvin

Enclosures

c: Jason Kirkpatrick, 6 CES/CEVN; Master File 84544



A Tyco Infrastructure Services Company

June 17, 2005

Lt. Col Yaktus
HQ AMC/CEVP
507 Symington Drive
Scott AFB, IL 62225-5022

Subject: Draft *Environmental Assessment for Restoration and Stabilization of Eastern Shoreline, MacDill Air Force Base, Florida* and *Finding of No Significant Impact* and *Finding of No Practicable Alternative* Project No. 84544

Dear Lt. Yaktus:

Earth Tech is pleased to submit this Draft *Environmental Assessment (EA) for Restoration and Stabilization of Eastern Shoreline, MacDill Air Force Base, Florida* and the associated *Finding of No Significant Impact (FONSI)* and *Finding of No Practicable Alternative (FONPA)* documents. This Draft EA and FONSI/FONPA are being submitted to you for your review.

Telephone

864.234.3000

Facsimile

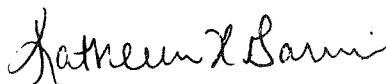
864.234.3069

We respectfully request that you provide us with any comments, edits, or changes to this Draft EA and FONSI/FONPA by August 17, 2005, at which time we will modify the EA and FONSI/FONPA based on any comments received to produce the Final. Please send any comments, edits, or changes you may have to:

Mr. Jason Kirkpatrick
6 CES/CEVN
7621 Hillsborough Loop Dr.
MacDill AFB, FL 33621-5207

If you have any questions or concerns about this submittal, please call Jason Kirkpatrick at (813) 828-0459.

Best Regards,



Kathy Garvin

Enclosures

c: Jason Kirkpatrick, 6 CES/CEVN; Master File 84544



A Tyco Infrastructure Services Company

June 17, 2005

U.S. Army Corps of Engineers
Mobile District
Attn: Ms. Dawn Shinsato
P.O. Box 6230
MacDill AFB, FL 33608-6230

Subject: Draft *Environmental Assessment for Restoration and Stabilization of Eastern Shoreline, MacDill Air Force Base, Florida* and *Finding of No Significant Impact* and *Finding of No Practicable Alternative* Project No. 84544

Dear Ms. Shinsato:

Telephone

Earth Tech is pleased to submit this Draft *Environmental Assessment (EA) for Restoration and Stabilization of Eastern Shoreline, MacDill Air Force Base, Florida* and the associated *Finding of No Significant Impact (FONSI)* and *Finding of No Practicable Alternative (FONPA)* documents. This Draft EA and FONSI/FONPA are being submitted to you for your review.

864.234.3000

Facsimile

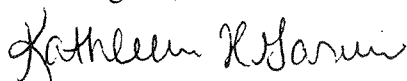
864.234.3069

We respectfully request that you provide us with any comments, edits, or changes to this Draft EA and FONSI/FONPA by August 17, 2005, at which time we will modify the EA and FONSI/FONPA based on any comments received to produce the Final. Please send any comments, edits, or changes you may have, along with a letter stating the conclusion of your review to:

Mr. Jason Kirkpatrick
6 CES/CEVN
7621 Hillsborough Loop Dr.
MacDill AFB, FL 33621-5207

If you have any questions or concerns about this submittal, please call Jason Kirkpatrick at (813) 828-0459.

Best Regards,



Kathy Garvin

Enclosures

c: Jason Kirkpatrick, 6 CES/CEVN; Master File 84544



A Tyco Infrastructure Services Company

June 17, 2005

U.S Fish and Wildlife Service
Attn: Brian Pridgen
9549 Koger Blvd.Suite 111
St. Petersburg, FL 33702

Subject: Draft *Environmental Assessment for Restoration and Stabilization of Eastern Shoreline, MacDill Air Force Base, Florida* and *Finding of No Significant Impact* and *Finding of No Practicable Alternative* Project No. 84544

Dear Mr. Pridgen:

Earth Tech is pleased to submit this Draft *Environmental Assessment (EA) for Restoration and Stabilization of Eastern Shoreline, MacDill Air Force Base, Florida* and the associated *Finding of No Significant Impact (FONSI)* and *Finding of No Practicable Alternative (FONPA)* documents. This Draft EA and FONSI/FONPA are being submitted to you for your review.

Telephone

864.234.3000

Facsimile

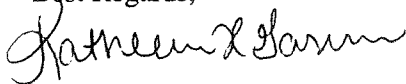
864.234.3069

We respectfully request that you provide us with any comments, edits, or changes to this Draft EA and FONSI/FONPA by August 17, 2005, at which time we will modify the EA and FONSI/FONPA based on any comments received to produce the Final. Please send any comments, edits, or changes you may have, along with a letter stating that you have reviewed the enclosed documents to:

Mr. Jason Kirkpatrick
6 CES/CEVN
7621 Hillsborough Loop Dr.
MacDill AFB, FL 33621-5207

If you have any questions or concerns about this submittal, please call Jason Kirkpatrick at (813) 828-0459.

Best Regards,



Kathy Garvin

Enclosures

c: Jason Kirkpatrick, 6 CES/CEVN; Master File 84544



A Tyco Infrastructure Services Company

PUBLIC NOTICE UNITED STATES AIR FORCE

MacDill Air Force Base (AFB) is inviting public review and comment on the Draft Finding of No Significant Impact (FONSI)/Finding of No Practical Alternative (FONPA) and the supporting Environmental Assessment (EA). The project is entitled Restoration and Stabilization of Eastern Shoreline. The proposed action calls for the restoration, stabilization and enhancement of the eastern shoreline of MacDill AFB by reclaiming land that has eroded due to storm events and by employing a combination of restoration and stabilization methods. Installing a limestone revetment and planting dune vegetation would help to prevent erosion, thus preventing further damage to base infrastructure, potential future damage to operational facilities located along the shoreline, and potential future damage to sections of Bayshore Boulevard that are located adjacent to the shoreline. The dune vegetation would provide a stabilization benefit while improving the area aesthetically. Additionally, constructing recreational facilities such as boardwalks, picnic pavilions, beach access points, and walking paths along the shoreline and in the areas that will be reclaimed under the Proposed Action would increase the quality of life for families living on base.

NOTICE OF AVAILABILITY

The document is part of the Air Force environmental impact analysis process to satisfy requirements under the National Environmental Protection Act (NEPA). The FONSI/FONPA and supporting EA draft is available for public review and comment beginning June 20, 2005 at the John F. Germany Library, located at 900 N. Ashley Drive, Tampa, FL 33606. The documents may be found in the Humanities Section of the Main Library. The comment period will close on August 2, 2005. Address written comments to the 6 AMW Public Affairs, 8209 Hangar Loop Drive, Suite 14, MacDill AFB, FL 33621-5502. The telephone number is (813) 828-2215.

APPENDIX E

STANDARD MANATEE CONSTRUCTION CONDITIONS

STANDARD MANATEE CONSTRUCTION CONDITIONS

1. The permittee shall instruct all personnel associated with the project of the potential presence of manatees and the need to avoid collisions with manatees. All construction personnel are responsible for observing water-related activities for the presence of manatee(s).
2. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing manatees, which are protected under the Marine Mammal Protection Act of 1972, the Endangered Species Act of 1973, and the Florida Manatee Sanctuary Act of 1978. The permittee and/or contractor may be held responsible for any manatee harmed, harassed, or killed as a result of construction activities.
3. Siltation barriers shall be installed and shall be made of material in which manatees cannot become entangled, shall be properly secured, and shall be monitored regularly to avoid manatee entrapment. Barriers shall not block manatee entry to or exit from essential habitat.
4. All vessels associated with the project shall operate at "no wake/idle" speeds at all times while in water where the draft of the vessel provides less than four feet clearance from the bottom and that vessels shall follow routes of deep water whenever possible.
5. If a manatee is sighted within 100 yards of the project area, all appropriate precautions shall be implemented by the permittee/contractor to ensure protection of the manatee. These precautions shall include the operation of all moving equipment no closer than 50 feet of a manatee. Operation of any equipment closer than 50 feet to a manatee shall necessitate immediate shutdown of that equipment. Activities will not resume until the manatee(s) has departed the project area of its own volition.
6. Any collision with and/or injury to a manatee shall be reported immediately to the "Manatee Hotline" at 1-888-404-FWCC (1-800-404-3922). Collision and/or injury should also be reported to the U.S. Fish and Wildlife Service in Jacksonville (1-904-232-2580) for north Florida or Vero Beach (1-561-562-3909) in south Florida.
7. Temporary signs concerning manatees shall be posted prior to and during construction/dredging activities. All signs are to be removed by the lessee/grantee upon completion of the project. A sign measuring at least 3 feet by 4 feet which reads Caution: Manatee Area will be posted in a location prominently visible to water related construction crews. A second sign should be posted if vessels are associated with the construction, and should be placed visible to the vessel operator. The second sign should be at least 8 1/2 inches by 11 inches, which reads:

Caution: Manatee Habitat. Idle speed is required if operating a vessel in the construction area. All equipment must be shutdown if a manatee comes within 50 feet of the operation. A collision with and/or injury to a manatee shall be reported immediately to the Florida Marine Patrol at 1-888-404-FWCC (1-800-404-3922) and the U.S. Fish and Wildlife Service at (1-904-232-2580) for north Florida or (1-561-562-3909) for South Florida.
8. 0 permanent manatee awareness sign(s) shall be installed and maintained at the docking facility. The sign shall be three feet by four feet, 125 gauge 61TS aluminum, covered with white, engineer grade, reflective sheeting; black, painted lettering; black screened design; and orange, engineer grade, reflective tape border. The 3 feet wide by 4 feet long sign shall conform to the Florida Uniform Waterway Marking System in accordance with F.S. 327.40-1. The installation of the sign shall be made in accordance with DEP specification for such signs.