

**FINAL**

**ENVIRONMENTAL ASSESSMENT**

**FOR THE**

**920TH RESCUE WING BEDDOWN**

**PATRICK AIR FORCE BASE, FLORIDA**

**October 2005**



**United States Department of the Air Force**  
**920th Rescue Wing (920th RQW)**  
**Patrick Air Force Base, Florida 32925-3323**

# Report Documentation Page

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**FINDING OF NO SIGNIFICANT IMPACT (FONSI) FOR THE  
ENVIRONMENTAL ASSESSMENT FOR THE 920<sup>th</sup> RESCUE WING BEDDOWN  
PATRICK AIR FORCE BASE, FLORIDA**

**Proposed Action**

The Proposed Action is the Beddown and the development of the 920<sup>th</sup> RQW Complex at PAFB, Florida. Facilities would be constructed, renovated, and/or demolished to centralize the 920<sup>th</sup> RQW into a Complex at Patrick AFB. The proposed 920<sup>th</sup> Rescue Wing Complex will be located along Rescue Road in the River Industrial Area of PAFB. The *920<sup>th</sup> Rescue Wing's Complex Plan*, dated March 2004, was developed from the Area Development Plan 3 (ADP 3) conceived as part of the *Patrick Air Force Base General Plan, dated March 2004*. ADP 3 area is located just south of the Main Base Area, and includes the Rescue Road corridor as well as a portion of Taxiway "J" and its associated operations.

Training operations conducted by the 920<sup>th</sup> RWQ have already been analyzed in the *Environmental Assessment for Search and Rescue Training, HH-60 and HC-130, 920<sup>th</sup> Rescue Group, 301<sup>st</sup> and 39<sup>th</sup> Rescue Squadrons, PAFB, Florida, October 2003 (920<sup>th</sup> Training EA)* with public comment period and FONSI signed on December 11, 2003.

In compliance with the National Environmental Policy Act of 1969 (NEPA) (42 United States Code § 4321 et seq.), the United States Air Force (USAF) prepared an Environmental Assessment (EA) for 920<sup>th</sup> Rescue Wing Beddown. The EA conforms to the Council on Environmental Quality and the U.S. Air Force regulations for implementing NEPA (40 Code of Federal Regulations (CFR) §§ 1500-1508, and 32 CFR 989, respectively). The EA is incorporated by reference.

**Alternatives Considered**

The alternative Beddown scenario considered was to distribute the 920<sup>th</sup> RQW operations to other areas around the Base, utilizing existing facilities or buildings in other areas. This alternative was eliminated from further evaluation because it would conflict with the PAFB General Plan and space utilization strategies to centralize the 920<sup>th</sup> Complex and allow for cohesion with existing Patrick AFB infrastructure.

The No Action Alternative would maintain the 920<sup>th</sup> RQW operations as they currently exist at PAFB. Therefore, all of the proposed renovations and new construction projects for the Beddown of the 920<sup>th</sup> RQW, outlined in the 920<sup>th</sup> RQW Complex Plan, would not be implemented, thus impacting the mission readiness and productive operations of the 920<sup>th</sup> RQW. The existing shops are undersized and spread out in several areas, wasting resources and reducing efficiency. Current facilities are not designed for current uses and do not accommodate assigned personnel and required equipment. Personnel must travel between numerous facilities to accomplish required tasks. Therefore, the No Action Alternative was not considered viable.

**Environmental Effects**

The EA evaluated the environmental impacts of the proposed Beddown and development of the 920<sup>th</sup> RQW Complex at PAFB, Florida. The potential environmental effects associated with the use, maintenance, and construction of facilities were assessed for the following environmental resource areas: air quality, water quality, geology and soils, noise and



airspace compatible use, biological resources, infrastructure and utilities, land use, socioeconomic, environmental justice, cultural resources, hazardous materials and waste, and safety and occupational health. Cumulative effects of the proposed action and other reasonably foreseeable actions will not be significant. Since PAFB is located in an area of attainment for the National Ambient Air Quality Standards, a conformity determination under the Clean Air Act is not required. No adverse effects have been identified for cultural resources per the State Historic Preservation Office (SHPO) with consultation under Section 106 of the *National Historic Preservation Act*.

The Proposed Action will be conducted in accordance with all applicable federal, state, and local legislation and regulations. Each proposed project design within the proposed 920<sup>th</sup> RQW Complex will be analyzed separately by the PAFB EPF (45th SW CES/CEV, Environmental Flight) to determine environmental impacts, Federal and State permitting requirements and potential consequences, which could result in further environmental evaluation and permitting. In addition, Executive Orders 11990 and 11988 require that wetlands and floodplains be avoided unless there is no practicable alternative. Any proposed project or activity in or adjacent to wetlands or floodplains will be evaluated separately, a Finding of No Practicable Alternative will be addressed and mitigation requirements will be met, if applicable.

**Conclusion**

Implementation of the Proposed Action would support the current and future mission requirements for the 920<sup>th</sup> RQW at PAFB and would result in no significant direct, indirect, or cumulative impacts on the quality of the natural or human environment. The operational mission of 920<sup>th</sup> RQW will be maintained and projects will be implemented and funded when found to have no significant impacts to the environment or human health. Environmental programs will be actively integrated with other planning and operational support processes. This Proposed Action will provide efficient, environmentally sensitive, operational support at Patrick AFB and meet the 920<sup>th</sup> RQW's mission. Best Construction Management Practices will be implemented to reduce or eliminate environmental impacts. Because no significant impacts to human health or to the environment will result from Beddown of the 920<sup>th</sup> RQW, an Environmental Impact Statement is not required and will not be prepared.

The Proposed Action is currently deemed consistent with the Florida Coastal Management Program and the Air Force will ensure that the Proposed Action continues to be consistent to the maximum extent possible.

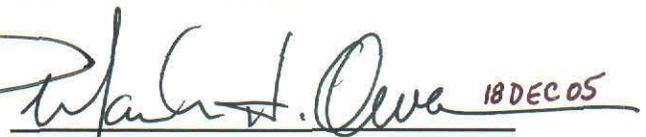
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Commander

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**Prepared for:**

**United States Department of the Air Force**  
**920th Rescue Wing (920th RQW)**  
**Patrick Air Force Base, Florida 32925**

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## ACRONYMS AND ABBREVIATIONS

µg	Microgram
45th CES	45th Civil Engineer Squadron
45th SW	45th Space Wing

### A

AAQS	Ambient Air Quality Standards
ACHP	Advisory Council on Historic Preservation
ACM	Asbestos Containing Material
ADP	Area Development Plan
AEI	Air Emissions Inventory
AF	Air Force
AFB	Air Force Base
AFETR	Air Force Eastern Test Range
AFI	Air Force Instruction
AFS	AIR Force Station
AFSPC	Air Force Space Command
AFTAC	Air Force Technical Applications Center
AICUZ	Air Installation Compatible Use Zone
AMC	Air Mobility Command
AMSL	Above Mean Sea Level
AOC	Areas of Concern
APIMS	Air Program Information Management System
APZ	Accident Potential Zone
APZ1	Accidental Potential Zone 1
APZ2	Accidental Potential Zone 2
ARG	Army Readiness Group
ARPA	Archeological Resources Protection Act
AST	Aboveground Storage Tanks
ATM	Asynchronous Transfer Mode
AVGAS	Aviation Gasoline

### B

BACT	Best Available Control Technique
BASH	Bird/Aircraft Strike Hazard
bls	Below Land Surface
BX	Base Exchange



**C**

CA	California
CAA	Clean Air Act
CATEX	Categorical Exclusion
CCAFS	Cape Canaveral Air Force Station
CE	Civil Engineering
CEQ	Council on Environmental Quality
CES	Civil Engineering Squadron
CEV	Civil Environmental Flight
CFR	Code of Federal Regulations
CIP	Capital Improvements Program
CO	Carbon Monoxide
CRMP	Cultural Resources Management Plan
CWA	Clean Water Act
CY	Calendar Year
CZ	Clear Zone
CZMA	Coastal Zone Management Act

**D**

dB	Decibel
dB(A)	Decibel A – A Weightless Logarithmic Scale
DD	Defense Department
DEOMI	Defense Equal Opportunity Management Institute
DLA	Defense Logistics Agency
DNL	Day-Night Average Noise Level
DoD	Department of Defense
DOS	DOS
DRMO	Defense Reutilization and Marketing Office

**E**

EA	Environmental Assessment
EIAP	Environmental Impact Analysis Process
EIS	Environmental Impact Statement
EO	Executive Order
EPA	Environmental Protection Agency
EPF	Environmental Planning Function
ER	Eastern Range
ERP	Environmental Resources Permit
ESA	Endangered Species Act
ESMC	Eastern Space and Missile Center



ESPA	Endangered Species Protection Act
ETR	Eastern Test Range
<b>F</b>	
FAAQS	Florida Ambient Air Quality Standards
FAC	Florida Administrative Code
FB	Facilities Board
FDEP	Florida Department of Environmental Protection
FEMA	Federal Emergency Planning Agency
FETSA	Florida Endangered and Threatened Species Act
FIRM	Flood Insurance Rate Map
FLANG	Florida Air National Guard
FNAI	Florida Natural Area Inventory
FONPA	Finding of No Practical Alternative
FONSI	Finding of No Significant Impact
FP&L	Florida Power and Light
FWCC	Florida Fish and Wildlife Commission
FWS	U. S. Fish and Wildlife Service
FY	Fiscal Year
<b>G</b>	
gpcd	Gallons Per Capita Per Day
GPD	Gallons Per Day
<b>H</b>	
HAPC	Habitat Area of Particular Concern
HAPS	Hazardous Air Pollutants
HF	High Frequency
HVAC	Heating Ventilation and Air Conditioning
<b>I</b>	
IAP	Initial Accumulation Points
IRL	Indian River Lagoon
INRMP	Integrated Natural Resource Management Plan
IRP	Installation Restoration Program
<b>J</b>	
JDMTA	Jonathan Dickinson Missile Tracking Annex



**K**

Kg	Kilogram
KSC	Kennedy Space Center
kV	Kilovolt
kVA	Kilovolt-Amperes
KW	Kilowatts

**L**

LOX	Liquid Oxygen
-----	---------------

**M**

m <sup>3</sup>	Meters Cubed
MAJCOM	Major Command
MBTA	Migratory Bird Treaty Act
MBTU	Million British Thermal Units
MC	Minor Construction
MFH	Military Family Housing
MGD	Millions of Gallons Per Day
MHW	Mean High Water
MILCON	Military Construction
mW	Mega Watt

**N**

NAAQS	National Ambient Air Quality Standards
NAF	NAF
NASA	National Aeronautics and Space Administration
NCO	Non Commissioned Officer
NDI	Nondestructive Inspection
NEPA	National Environmental Policy Act
NESHAPS	National Emission Standards for Hazardous Air Pollutants
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NO <sub>2</sub>	Nitrogen Dioxide
NPDES	National Pollutant Discharge Elimination System
NRHP	National Registry of Historical Places
NRMP	Natural Resources Management Plan



**O**

ODS	Ozone Depleting Substances
OPLAN	Operations Plan
OSHA	Occupation Safety and Health Administration
O <sub>3</sub>	Ozone

**P**

PAFB	Patrick Air Force Base
Pb	Lead
PCB	Poly Chlorinated Biphenyl
PM	Particulate Matter
PM <sub>10</sub>	Particulate Matter - 10 Microns
PM <sub>2.5</sub>	Particulate Matter - 2.5 Microns
POL	Petroleum, Oil and Lubricants
PPM	Parts Per Million
PSIG	Pounds Per Square Inch Gage
PTE	Potential to Emit
PVC	Poly Vinyl Chloride

**R**

RQ	920 <sup>th</sup> Rescue Group
RQW	920 <sup>th</sup> Rescue Group Wing
RV	Recreational Vehicle

**S**

SAFMC	South Atlantic Fishery Management Council
SAV	Submerged Aquatic Vegetation
sf	Square Feet
SF	Security Forces
SHPO	State Historic Preservation Office
SJRWMD	St. John's River Water Management District
SO <sub>2</sub>	Sulfur Dioxide
sp	Species
SR	State Road
SS	Subsection
SW	Space Wing
SWPPP	Storm Water Pollution Prevention Plan



**T**

T&E           Threatened and Endangered  
tpy            Tons Per Year

**U**

U.S.           United States  
UFC           Ultra High Frequency  
URTD         Upper Respiratory Tract Disease  
U.S.C.        United States Code  
USAF         United States Air Force  
USEPA        United State Environmental Protection Agency  
UST           Underground Storage Tank  
UHF           Ultra High Frequency

**V**

VAQ          Visiting Airmen Quarters  
VHF          Very High Frequency  
VOC          Volatile Organic Compounds  
VOQ          Visiting Officers Quarters



## **1.0 PURPOSE, NEED AND SCOPE FOR PROPOSED ACTION**

### **1.1 Introduction**

#### **1.1.1 Background**

Patrick Air Force Base (PAFB) is located on a barrier island on the central east coast of Florida, south of the city of Cocoa Beach (see Figure 1). The main base covers approximately 2002 acres and is bounded by the Atlantic Ocean on the east and the Banana River on the west (see Figure 2). There is little topographic relief across PAFB, with elevations from 0 to 13 feet above mean sea level (AMSL), and the highest elevation corresponding to sand dunes along the Atlantic Ocean (see Figure 1). From the dunes, the site gently slopes northwest toward the Banana River shoreline.

Currently the 45th Space Wing (SW) provides mission-ready forces for the 14th Air Force and the U.S. Strategic Command to safely execute and maintain space lift operations and operate, maintain and secure the Eastern Range. It supports ballistic missile test launches, aircraft tests and other ballistic munitions evaluations. It also supports civil space launch facilities and range instrumentation which provides for the nation's access to space and ballistic missile evaluation.

The 920th Rescue Group (RQ) moved to PAFB in January 1993 and became an official tenant of PAFB and mission partner to the 45<sup>th</sup> SW in November 1993. On April 1, 2003, the RQ became a Wing and now employs over 1350 individuals. The 920<sup>th</sup> RQW consist of the 39<sup>th</sup> Rescue Squadron (HC-130 Lockheed "Hercules" aircraft) and the 301<sup>st</sup> Rescue Squadron (HH-60G Sirkorsky "Pave Hawk" helicopters).

The 920<sup>th</sup> Rescue Wing (RQW) provides combat rescue, air support for manned space flight operations, and safety surveillance for sea security zones. It also provides humanitarian and disaster relief operations as directed. During wartime missions, the 920th RQW provides an air refueling capability to perform night, long



range, and low level operations in support of combat rescue. During peacetime missions, the 920th has the following missions:

- Support Air Combat Command and Special Operations Command by achieving and sustaining combat rescue capability.
- Support Air Force Space Command by clearing of down range locations prior to missile launch activity.
- Support NASA by providing contingency rescue capability for space shuttle launch activities.
- Support USAF and Department of Defense (DoD) with worldwide capability to search for, locate, and render emergency medical treatment to personnel in response to national search and rescue plans.
- Support International Civil Aviation Organization signatories by providing search and rescue capability to foreign governments at their request.
- To support US agencies by participating in humanitarian and disaster relief operations.

In addition, the 920th RQW's community involvement includes:

- Ft. Lauderdale's Air and Sea Show
- PAFB Air Show
- The Air Force Experience
- Support to Fort Jefferson National Park
- Youth Groups (CAP/Scouts/ROTC/AFA Cadets)
- Bosses Day
- Local Hospitals
- Civic Leaders Tours
- Bone Marrow Drive
- Civilian CSARS

### **1.1.2 PAFB General Plan and Environmental Assessment**

The Patrick Air Force Base General Plan (PAFB General Plan), dated March 2004, is the culmination of the installation's comprehensive planning process. It is a summary document that provides the 45th SW Commander and subordinate leaders



a framework for making effective programming, design, construction, and resource management decisions. The PAFB General Plan identifies the essential characteristics and capabilities of the base and assesses the potential for development, responding to AFSPC's commitment to preserve its assets and protect the environment. Furthermore, the PAFB General Plan is an essential component of the base development cycle, and it serves as the impetus for construction of required facilities. These facilities are used, maintained, and eventually demolished, potentially creating the need for replacement facilities.

The current PAFB General Plan presents and describes eight Area Development Plans (ADPs), including ADP 3, which focuses on development of a 920<sup>th</sup> RQW Complex/Campus. The *Environmental Assessment for the General Plan and Maintenance of Patrick Air Force Base, Florida, March 2004* (General Plan EA), was prepared as a companion document to the PAFB General Plan. The General Plan EA will be used as a tiering document as per 32 CFR 989.10 to “eliminate repetitive discussions and focus on the issues related to specific actions” of the 920<sup>th</sup> RQW Beddown at PAFB.

Specifically, the General Plan EA will be incorporated by reference within Section 3 of this 920<sup>th</sup> Beddown EA as this section, Affected Environment, is the environmental baseline description of the existing physical, social, and economic environment within and around PAFB.

## **1.2 Purpose and Need for Proposed Action**

The Proposed Action is the Beddown of the 920<sup>th</sup> RQW and development of the 920<sup>th</sup> RQW Complex at PAFB, Florida. The 920<sup>th</sup> RQW has been a tenant and mission partner with the 45<sup>th</sup> SW at PAFB since 1993. The 920<sup>th</sup> RQW currently employs over 1350 individuals and according to 920<sup>th</sup> personnel, there are no current plans to increase that number in the near future. In addition, the 920<sup>th</sup> RQW has 14 aircraft, which includes the HC-130 Lockheed “Hercules” aircraft and the HH-60G Sikorsky “Pave Hawk” helicopters according to 920<sup>th</sup> personnel, there are no



current plans to increase that number in the near future. In order to accommodate the Beddown, facilities will have to be constructed, renovated and/or demolished in order to centralize the 920<sup>th</sup> RQW in a Complex at PAFB. Training operations conducted by the 920<sup>th</sup> have already been analyzed in the *“Environmental Assessment for Search and Rescue Training, HH-60 and HC-130, 920<sup>th</sup> Rescue Group, 301<sup>st</sup> and 39<sup>th</sup> rescue Squadrons, PAFB, FL.”*, October 2003 (920<sup>th</sup> Training EA) with public comment period and FONSI signed on December 11, 2003.

Recent world events highlight the need for the well trained, well equipped combat rescue personnel for the US Air Force. In response, the 920th Rescue Group was upgraded to the 920th Rescue Wing in April 2003. The accompanying growth in personnel and equipment requires the consolidation of Wing functions into a cohesive Wing Complex. PAFB General Plan identifies a preferred location for the Complex adjacent to existing 920th RQW facilities along Rescue Road. The 920th RQW Complex Plan was initially conceived in the PAFB General Plan, dated March 2004. Presently 920th RQW personnel are spread around the Base and the existing 920th RQW shops are undersized and spread out in several areas, wasting resources and reducing efficiency. Current facilities area not designed for current uses and do not accommodate assigned personnel and required equipment. Personnel must travel between numerous faculties to accomplish required tasks. Specifically the 920th RQW Complex Plan was identified as Area Development Plan 3 and was developed to address these issues.

### **1.3 Scope of Analysis**

This environmental assessment for the Beddown of 920th RQW at PAFB, Florida (920<sup>th</sup> Beddown EA) will be developed in accordance with the National Environmental Policy Act (NEPA) and implementing regulations issued by the Council on Environmental Quality (Title 40 of the Code of Federal Regulations [CFR] Parts 1500-1508 and Air Force Instruction (AFI) 32-7061, *The Environmental Impact Analysis Process*, which implements the tasks and procedures for the Air Force Environmental Impact Analysis Process (EIAP).



The 920<sup>th</sup> Beddown EA identifies documents and evaluates the potential environmental effects of implementing the 920th RQW Complex Plan, dated March 2004. Section 2.0 describes the proposed actions and alternatives considered, including a no action alternative. Section 3.0 describes existing environmental conditions at PAFB and more specifically the identified area proposed for the 920th RQW Complex that could be affected by the proposed actions. Section 4.0 identifies potential environmental effects that could occur upon implementation of each of the alternatives evaluated. Section 5.0 presents findings and conclusions regarding the potential cumulative environmental effects of the proposed actions.

#### **1.4 Applicable Regulations and Compliance Procedures**

The 920<sup>th</sup> Beddown EA was developed in accordance with the National Environmental Policy Act of 1969 (NEPA) and implementing regulations issued by the Council on Environmental Quality (CEQ) (40 CFR 1500-1508). Furthermore, the U.S. Air Force Policy Directive 32-70, *Environmental Quality* commits to improving the environmental standards applicable to the present operations, planning future activities to minimize environmental impacts, managing the irreplaceable natural and cultural resources it holds in public trust in a responsible manner and eliminating pollution from its activities wherever possible.

Air Force Instruction 32-7061, *The Environmental Impact Analysis Process*, identifies responsibilities, general compliance requirements, and procedures to protect and preserve the quality of the environment. It implements the Air Force EIAP and provides procedures for environmental impact analysis both within the United States and abroad.

Applicable Federal, state, and local laws and regulations that pertain to actions within this 920<sup>th</sup> Beddown EA will be identified specifically during project design reviews. Table 1-1 provides a list of applicable Federal and State Laws, Executive Orders and Air Force Instructions which may be applicable in the environmental review process.



### **1.5 Agencies Involved In Environmental Analysis**

The Florida State Clearinghouse reviews Environmental Assessments for projects planned at PAFB pursuant to Gubernatorial Executive Order 95-359; the Coastal Zone Management Act; 16 U.S.C. SS 1451-1464, as amended; and the National Environmental Policy Act, 42 U.S.C. SS 4321, 4331-4335, and 4341-4347. The Florida State Clearinghouse sends copies of the draft environmental assessments to applicable regulatory agencies for review and passes the review comments to PAFB for resolution in the final environmental assessment. Additionally, separate copies are sent to applicable Federal agencies for review and comment.

### **1.6 Public Participation**

Public participation will take place at the completion of the EA process. There will be a 30-day comment period after the Notice of Availability of the Environment Assessment for the 920th Rescue Wing is published in the local newspaper.



**Table 1-1: Applicable Federal and State Laws, Executive Orders and Air Force Instruction for Environmental Review Process**

Law or Rule	Permit/Actions	Requirement	Agency or Organization
Air Force Instruction (AFI) 32-7040	Estimate air emissions	Tracking air emissions for PAFB for inclusion in the Air Emissions Inventory (AEI).	United States Air Force (USAF)
AFI 32-7041	Assess Proposed Action to minimize impacts to wetlands	Manage USAF lands with the goal of no net loss of wetlands.	United States Air Force (USAF)
Clean Air Act (CAA)	Title V Air Operating Permit	Comply with existing Title V Air Operating Permit.	US Environmental Protection Agency (EPA), Florida Department of Environmental Protection (FDEP)
Clean Water Act (CWA)	Section 401 water quality certification*	FDEP review of CWA Section 404 dredge and fill permit applications submitted to the USACE to certify that project will not cause or contribute to a violation of Florida water quality standards.	FDEP; USACE
CWA	Section 402 national pollutant discharge elimination system (NPDES) storm water construction permit	Obtain permit for the discharge of storm water for projects disturbing one (1) acre or more that has the potential to impact surface waters.	EPA; FDEP; St. John's River Water Management District (SJRWMD)
CWA	Section 404 dredge and fill permit*	Obtain permit from the USACE for any project activities resulting in the discharge of dredged or fill material into waters of the US, including wetlands.	USACE, in consultation with EPA; SJRWMD
Endangered Species Act (ESA)	Consultation with USFWS and Florida Fish and Wildlife Conservation Commission (FWCC) and if necessary, obtain incidental take permit	Conserve ecosystems that support T&E species. Section 7 requires federal agencies to insure that any action authorized, funded or carried out by them is not likely to jeopardize the continued existence of listed species or modify their critical habitat. Comply with existing T&E permits.	USFWS and FWCC
Executive Order (EO) 11990	Finding of No Practicable Alternative if wetlands would be impacted	Minimize the destruction, loss or degradation of wetlands, and preserve and enhance the natural and beneficial values of wetlands.	DoD
Federal Coastal Zone Management Act (CZMA) and Florida Coastal Management Act	Activities within the designated coastal zone (entire State of Florida)*	Federal agency activities must be consistent, to the maximum extent practicable, with approved State management programs.	FDEP



Law or Rule	Permit/Actions	Requirement	Agency or Organization
Florida Endangered Species Protection Act (ESPA)	Consultation with FWCC	Prohibits the intentional wounding or killing of any fish or wildlife species designated as "endangered", "threatened" or of "special concern" and intentional destruction of their nests.	FWCC
Florida Endangered and Threatened Species Act (FETSA)	Consider impacts to T&E species when planning and implementing projects	Establishes the conservation and wise management of T&E species as State policy.	FWCC
Florida Mangrove Trimming and Preservation Act	Mangrove removal, trimming or alteration permit	Prohibits removing, trimming, and altering mangroves without a permit. Treating mangroves with herbicides is prohibited. USAF under AFI 32-7041 promotes protection of state protected plants when practical.	FDEP
Marine Mammal Protection Act	Avoid impacts to Florida manatee populations	Establishes a federal responsibility to conserve marine mammals with management vested in the Department of Interior for sea otter, walrus, polar bear, dugong, and manatee.	USFWS
Migratory Bird Treaty Act (MBTA)	Consultation with USFWS as necessary and compliance with applicable permits	Prohibits destruction of the eggs or nest of migratory birds without a permit.	USFWS
National Ambient Air Quality Standards (NAAQS) and Florida Ambient Air Quality Standards (FAAQS)	Ambient air quality maintenance	Implement measures to protect health and safety, property and minimize nuisances such as impaired visibility.	USEPA; FDEP
National Historic Preservation Act (NHPA)	Consultation with Florida State Historic Preservation Office (SHPO)	Consult with SHPO regarding the potential affects to a site that is listed or eligible for listing in the National Register of Historic Places	SHPO

\*Florida has a comprehensive State regulatory program that regulates most (upland, wetland, and other surface water) alternations. An Environmental Resource Permit (ERP) serves as multi-purpose permit that covers mangrove impacts, alteration of uplands, Florida Coastal Zone Management and water quality certification requirements (if a CWA Section 404 permit is required for dredge and fill activities). The ERP Program is implemented jointly by FDEP and local water districts (SJRWMD).



Figure 1-1: Area Map



# 920TH RESCUE WING BEDDOWN ENVIRONMENTAL ASSESSMENT



## LEGEND

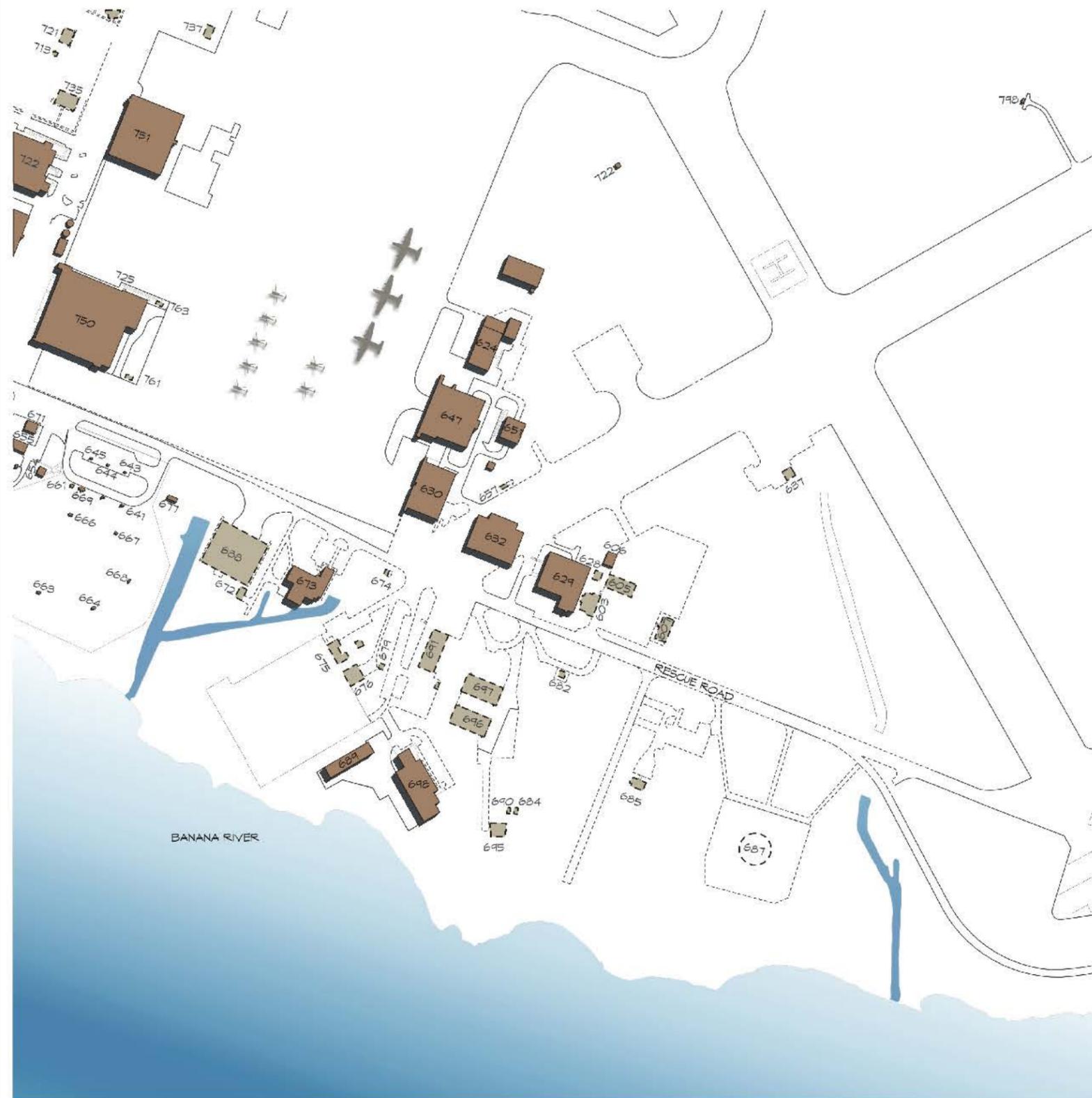
NOTE:  
SOURCE: U.S.G.S. 7.5 MINUTE TOPOGRAPHIC  
QUADRANGLES, TROPIC, AND COCOA BEACH  
FLORIDA, PHOTOREVISED 1988 AND 1978,  
RESPECTIVELY



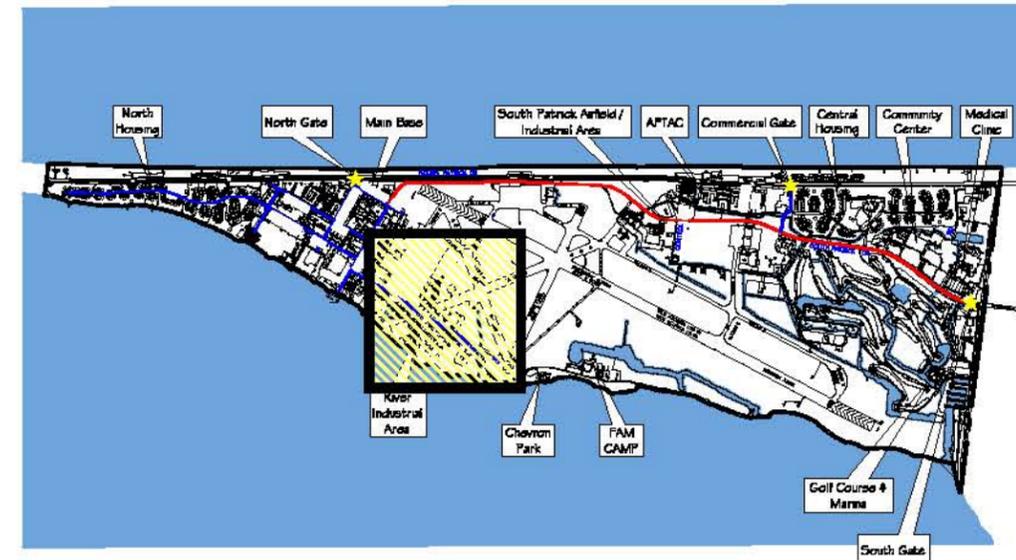
**Map 1-2**  
SITE LOCATION &  
TOPOGRAPHICAL MAP



# 920TH RESCUE WING BEDDOWN ENVIRONMENTAL ASSESSMENT



## LOCATION MAP



OBTAINED FROM PATRICK AFB GENERAL PLAN EA, MAY 2005

## LEGEND

Building No.	Office Symbol
603	Intel Office
605	Structural
606	H-60 Operations
607	SHP, WPN & RLSE SYS
624	Life Support
628	Storage
629	H-60 Operations
630	Isochronal Dock
632	Propulsion
647	Fuel Cell
651	Fuel Cell Storage
652	Engine Maintenance
672	Wash Rack
673	C-130
675	Headquarters
676	Headquarters
679	Shed Supply & Equip BSE
688	Wash Rack
689	Storage
691	Aerospace Ground Equipment (AGE)
696	Storage
697	Storage
698	920th RQW Operations
750	Hangar (Aircraft Maintenance)
751	Hangar (Aircraft Maintenance)



**Map 1-3**

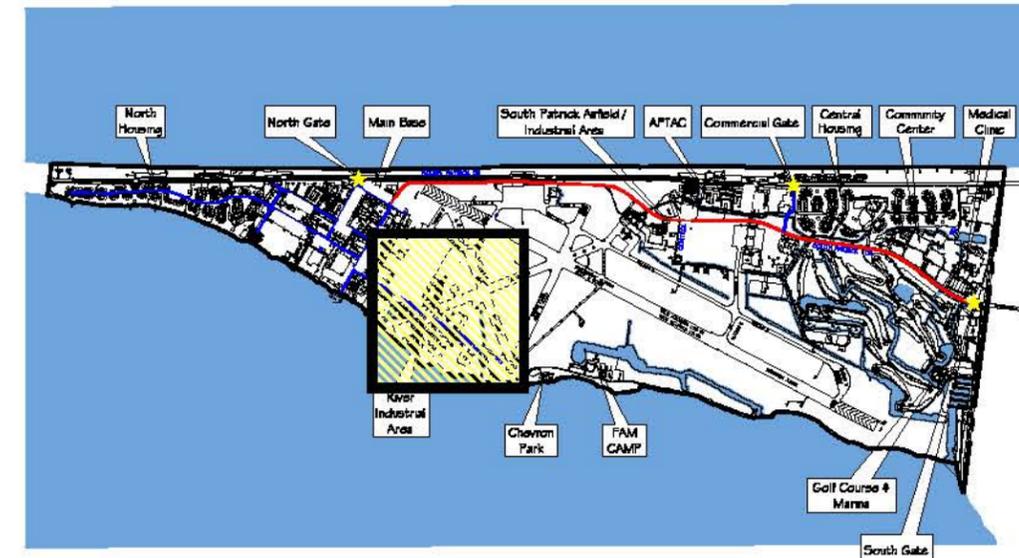
**EXISTING  
SITE PLAN**



# 920TH RESCUE WING BEDDOWN ENVIRONMENTAL ASSESSMENT



## LOCATION MAP



OBTAINED FROM PATRICK AFB GENERAL PLAN EA, MAY 2005

## LEGEND

### KEY COMPONENTS

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li><b>1 HEADQUARTERS</b></li> <li>1 920th HEADQUARTERS BUILDING</li> <li><b>ADMINISTRATIVE/OPERATIONS</b></li> <li>2 LOGISTICS READINESS SQUADRON (LRS) BUILDING</li> <li>3 SQUADRON OPERATION ADDITION (BLDG. 673)</li> <li><b>PJ COMPOUND</b></li> <li>4 PJ SQUADRON OPS BUILDING</li> <li>5 PJ FACILITY ADDITION (BLDG. 698)</li> <li><b>AIRFIELD RELATED FUNCTIONS</b></li> <li>6 MAINTENANCE WORKSHOP COMPLEX</li> <li>7 WEAPONS MAINTENANCE BUILDING AND MUNITIONS STORAGE</li> <li>8 LIQUID OXYGEN FACILITY (LOX)</li> </ul> | <ul style="list-style-type: none"> <li>9 AEROSPACE GROUND EQUIPMENT (AGE) BUILDING AND YARD</li> <li>10 ISO DOCK ADDITION (BLDG. 630)</li> <li>11 CORROSION CONTROL FACILITY (BUILDING 688)</li> <li>12 STORAGE BUILDING</li> <li>13 STORAGE ADDITION (BLDG. 606)</li> <li>14 LIFE SUPPORT (BUILDING 624)</li> <li>15 ENGINE SHOP (BUILDING 632)</li> <li>16 HANGER (BUILDING 751)</li> <li>17 HANGER (BUILDING 750)</li> </ul> |
|---|---|

## Map 1-4

PROPOSED  
920th RESCUE WING  
COMPLEX





## **2.0 DESCRIPTION OF PROPOSED ACTIONS AND ALTERNATIVES**

### **2.1 Proposed Action**

The Proposed Action is the Beddown of the 920<sup>th</sup> RQW and the development of the 920<sup>th</sup> RQW Complex at PAFB, Florida. Facilities would be constructed, renovated, and/or demolished to centralize the 920<sup>th</sup> RQW into a Complex at PAFB. Training operations conducted by the 920<sup>th</sup> RWQ have already been analyzed in the *Environmental Assessment for Search and Rescue Training, HH-60 and HC-130, 920<sup>th</sup> Rescue Group, 301<sup>st</sup> and 39<sup>th</sup> Rescue Squadrons, PAFB, Florida, October 2003 (920<sup>th</sup> Training EA)* with public comment period and FONSI signed on December 11, 2003.

The *920th Rescue Wing's Complex Plan*, dated March 2004, was developed from the Area Development Plan 3 (ADP 3) conceived as part of the *Patrick Air Force Base General Plan, dated March 2004*. ADP 3 area is located just south of the Main Base Area, and includes the Rescue Road corridor as well as a portion of Taxiway "J" and its associated operations. As one of the main industrial areas on-base, the River Industrial Area contains several storage and maintenance facilities. Among these are the Fuel Farm, several buildings housing the 920th Rescue Wing Maintenance functions, Squadron Operations and Aircraft Maintenance, and the CE Storage Compound. Sections 5.2.3.2 and 5.4.3.3 of the PAFB General Plan, present the planning issues and the recommendations for addressing those issues.

The 920th Rescue Wing Complex will be located along Rescue Road in the River Industrial Area of PAFB. The eastern edge of the site abuts the Banana River and future Multi-use Trail. The southern boundary of the site will be the future CE Complex and Fuels areas. The site will be bounded on the north by Redstone Road.

According to the 920th RQW Complex Plan, AF Form 813 and the DD 1391 Forms, there are nine new facilities proposed and nine additions or renovations to existing facilities, which are listed below.



### Proposed New Facilities:

1. The **920th Headquarters Building** will be approximately 42,100 square feet (SF) in size and will be a multi-story steel frame facility with concrete foundation and floor slab. Site work will include pavements, sidewalks, storm water drainage/retention system, landscaping and fencing. Appendix A contains a copy of Sections 1 through 7 of the *Air Force Reserve Command's Customer Concept Document for the 920<sup>th</sup> Rescue Wing Headquarters for FY 2006, SXHT 97-3008*, which provides the preliminary details of the proposed construction of the 920th Headquarters Building. **(DD Form 1391 completed)**
2. Buildings 675, 676 and 679, which is the existing 45<sup>th</sup> Space Wing's Petroleum, Oil and Lubricant (POL) yard will be demolished and relocated to accommodate the new 920<sup>th</sup> Rescue Wing's Headquarters facility. Appendix A contains a copy of Sections 1 through 7 of the *Air Force Reserve Command's Customer Concept Document for the 920<sup>th</sup> Rescue Wing Headquarters for FY 2006, SXHT 97-3008*, which provides the preliminary details of the proposed construction of the POL facility (Fuel Truck Facility). **(DD Form 1391 completed)**
3. The **Logistics Readiness Squadron (LRS) Building** of approximately 22,500 SF that will also house Security Forces with a weapons vault requirement.
4. **New Aerospace Ground Equipment (AGE) Building** of approximately 9000 SF for maintenance ground equipment with bathrooms and potable water required.
5. **Maintenance Workshop Complex**, is estimate to be 38,600 SF in size and will consist of the following:
  - Survival equipment shop,
  - Structural maintenance,
  - Corrosion control,
  - Machine/welding,
  - NDI shop,
  - Accessory flight maintenance section,
  - H-60 Phase Dock, and



- Associated administrative and mechanical areas.

The Maintenance Workshop Complex is estimated to be approximately 46,200 SF in size and will be concrete block and stucco building with a tile roof. **(DD Form 1391 completed)**

6. The **Weapons Maintenance Shop** is estimated to be approximately 8300 SF in size to house an approximately 5500 SF Weapons Shop and 2800 SF Munitions Shop. The building will be a concrete block on slab with tile roof. **(DD Form 1391 completed)**
7. Two Butler Buildings to store rolling stock (equipment only) for both maintenance and operations; water connection for fire protection.
8. Pararescue Facility of approximately 6,000 SF
9. The Concrete Building of approximately 400 SF for the storage of weapons carts.
10. Pre-constructed building for munitions of approximately 200 SF with potential for fire suppression requirement.

#### **Proposed Renovations:**

1. **Hanger 630** will get an approximately 8870 SF addition to completely enclose a C-130 aircraft, which will serve to allow aircraft maintenance during all types of weather conditions and will reduce corrosion problems caused by harsh salt air environment. **(DD Form 1391 completed)**
2. Hanger 750 will get a complete renovation, bathrooms, roof, carpet, HVAC, windows, water and sewer lines, lighting, plus a mezzanine built to increase office space.
3. Hanger 751 will get a new roof and paint inside.
4. The Northwest corner Building 313 will be renovated to include bathrooms, ceiling, lighting, carpet, paint, HVAC, etc.



5. Building 698 will get a 6,000 SF addition to accommodate the increase of Pararescue equipment.
6. Building 673 will get a 3,600 SF addition for administration.
7. **Corrosion Control Facility** (Building 688) is currently an aircraft wash rack, which was recently demolished by a hurricane. The new fully enclosed High-Bay Corrosion Control facility will be approximately 24,000 SF in size and will be a concrete block construction with a tile roof. **(DD Form 1391 completed)**
8. Building 624, Life Support, will get a 2,000 SF addition.
9. Building 632, engine shop, will be refurbished.

## **2.2 Alternatives Considered**

### **2.2.1 Other Locations Within PAFB**

The alternative Beddown scenario considered was to distribute the 920th RQW operations to other areas around the Base, utilizing existing facilities or building in other areas. One proposal called for utilizing more of Building 423 before the 920th moved into Building 559. Another proposal would have built the new corrosion control facility somewhere on the apron (Building 750) instead of on top of the wash rack (Building 688). These alternatives were eliminated from further evaluation because of conflicts with the PAFB General Plan and space utilization strategies to centralize the 920<sup>th</sup> Complex and allow for cohesion with existing PAFB infrastructure.

### **2.2.2 No-Action Alternative**

The no-action alternative would maintain the 920th RQW operations as they currently exist at PAFB. All of the proposed renovations and new construction projects for the Beddown of the 920<sup>th</sup> RQW, outlined in the 920<sup>th</sup> RQW Complex Plan, would not be implemented, therefore impacting the mission readiness and productive operations of the 920<sup>th</sup> RQW. The existing shops are undersized and spread out in several areas, wasting resources and reducing efficiency. Current



facilities area not designed for current uses and do not accommodate assigned personnel and required equipment. Personnel must travel between numerous facilities to accomplish required tasks.

Machine/welding shop is non-existent, which prevents filling authorized slots. Furthermore, this type of work must be sent to Homestead AFB for repair or the parts are sent to salvage. The current space will not allow for the most efficient and effective management of wing operations.

The existing Weapons Maintenance Facility is approximately 2400 SF in size and is inadequate to meet mission requirements. Training and gun maintenance areas are too small for current needs. A single room is currently used for training, as an office and break room. Maintenance bays fits only 3 personnel at any one time. Wing helicopters are being modified for the GAU-18 50 caliber machine gun, which the current facility cannot support.

The current configuration of Hanger 630 will not allow aircraft maintenance in all types of weather. Therefore, scheduled maintenance will continue to be subject to work stoppage due to inclement weather. Corrosion problems and associated higher maintenance costs will continue to impact mission accomplishment and man-hours and resources will continue to be wasted because of weather related delays.

The 920th RQW currently possesses 14 aircraft which are subject to extreme corrosion problems because of salt-laden atmosphere. The wing also has over 100 pieces of Aerospace Ground Equipment which require ongoing corrosion control treatment. Other factors present on PAFB that accelerate corrosion include high humidity, solar radiation, condensation and contaminants including sand and dust. All these factors combine to cause conditions which lead to catastrophic failure of equipment. In addition, a recent hurricane demolished the outdoor aircraft wash rack. Therefore under the No action scenario, the 920<sup>th</sup> RQW would be forced to continue corrosion control operations in inadequate facilities and aircraft equipment



would continue to be subject to severe corrosion problems which affect the mission accomplishment.

The no-action alternative is not preferred because it would adversely impact 920<sup>th</sup> RWQ mission readiness and productive operations by not implementing centralized, future development necessary for effective pararescue training and administrative support.”



### **3.0 AFFECTED ENVIRONMENT**

#### **3.1 Introduction**

The description of the environmental setting also referred to, as baseline, existing, background or affected environment, is an integral part of an environmental assessment. There are two major purposes for describing the environmental setting of the proposed action in an impact study, namely (1) to assess existing environmental quality, as well as the environmental impacts of the alternatives being evaluated, including the no-action or no project alternative, and (2) to identify environmentally significant factors or geographical areas that could preclude the development of a given alternative or alternatives. Additional purposes of describing the setting include providing sufficient information so that decision makers and reviewers unfamiliar with the general location can develop an understanding of the project need, as well as the environmental characteristics of the study area, and to serve as a basis for establishing project need.

#### **3.2 Air Quality**

##### **3.2.1 Current Major Impacts**

PAFB is currently authorized to operate under the Florida Department of Environmental Protection (FDEP) Title V Air Permit No. 0090021, renewed September 18, 2002. The permit is valid for a five-year period and will expire on September 18, 2007.

Major sources of pollutants at PAFB include steam boilers, surface coating operations, and storage tanks. Other sources of pollutants at the base are considered insignificant activities. The base is currently classified as a major source of criteria pollutants since the facility-wide potential to emit (PTE) is greater than 100 tons per year (tpy). The PTE of hazardous air pollutants (HAPS) are less than 10 tpy for a single HAP and 25 tpy for total HAPS. PAFB is currently operating as a synthetic minor of HAP emissions under federally enforceable operating limitations.



As required under the Title V operating program, PAFB has submitted the annual statement of compliance reports certifying that the base is in compliance with all terms and conditions of the Title V permit. In addition, PAFB has paid appropriate annual emissions fees, submitted annual operating reports, and annual compliance statements.

The U.S. Environmental Protection Agency (EPA) under the following general regulations regulates the air quality at PAFB:

- Title 40 CFR 50 (National Ambient Air Quality Standards (NAAQS)),
- Title 40 CFR 51 (Implementation Plans),
- Title 40 CFR 61 and 63 (National Emission Standards for Hazardous Air Pollutants (NESHAPS)),
- Title 40 CFR 70 (Operating Permits), and
- Title 40 CFR 82 (Protection of Stratospheric Ozone).

PAFB is also regulated by the FDEP's Air Resource Management program under specific regulations of the Florida Administrative Code (FAC), Chapter 62. In general, the following regulations may apply to facility operations or modifications at the facility:

- FAC, Chapter 62-4 (Permits)
- FAC, Chapter 62-204 (Air Pollution Control – General Provisions)
- FAC, Chapter 62-210 (Stationary Sources – General Requirements)
- FAC, Chapter 62-212 (Stationary Sources – Preconstruction Review)
- FAC, Chapter 62-213 (Operation Permits for Major Sources of Air Pollution)
- FAC, Chapter 62-296 (Stationary Sources – Emissions Standards)
- FAC, Chapter 62-297 (Stationary Sources – Emissions Monitoring)

For any new stationary sources of air contaminants, modifications that may occur as part of the general plan would need to be evaluated to determine compliance with federal and state air quality regulations. Prior to the construction or installation of



any facility, which may reasonably be a source of air pollution, PAFB must apply for and receive a construction permit unless the proposed or modified equipment is exempt from permitting. Upon receipt of a construction permit, PAFB may be required to update the Title V Air Permit No. 0090021-003-AV to include the new sources of air emissions.

### **3.2.2 Ambient Air Quality Standards**

National and Florida Ambient Air Quality Standards can be found in Section 3 of the previously referenced PAFB GP EA.

### **3.2.3 Regional Air Quality**

The regional recent monitored air quality concentrations can be found in Section 3 of the previously referenced PAFB GP EA.

### **3.2.4 920th RQW Air Emission Sources**

Northrop Grumman Mission Systems completed an air emissions inventory (AEI) for PAFB during the months of June and July 2003. The inventory included a review of air emissions sources at PAFB and collection of all data needed to estimate the air emissions for each source. The PAFB CY2003 AEI was developed to be consistent with the Title V Air Operating Permit conditions and requirements as issued by the FDEP. Sources including permitted, insignificant/ exempt and significant but unregulated were included in this inventory, and all emission calculations were performed in the Air Program Information Management System (APIMS). Based on the 2003 AEI update, PAFB did not exceed the major source threshold limitations for any criteria pollutant except for VOC. The following subsections provide a summary of the emission sources from the 920<sup>th</sup> RQW.

#### **3.2.4.1 Abrasive Blasting Emission Summary**

The annual abrasive blasting emissions for particulate matter (PM) in Buildings 630 and 751 are as follows:



**Table 3-3 Annual Abrasive Blasting Emission Summary**

<b>Blast Unit</b>	<b>Actual Pounds</b>	<b>Actual Tons</b>	<b>Potential Pounds</b>	<b>Potential Tons</b>
630-1	0.2070	0.00010	0.4140	0.00021
751-1	0.0414	0.00002	0.0828	0.00004

The potential to emit for both units is negligible.

### **3.2.4.2 Degreaser Emission Summary**

The degreaser emissions for VOC emissions in Buildings 632, 676, and 691 are as follows:

**Table 3-4 Annual Degreaser Emission Summary**

<b>Unit Number</b>	<b>Pounds Emitted</b>	<b>Tons Emitted</b>
632 (1)	101.92	0.0510
676 (1)	354.2	0.1771
691 (1)	764.4	0.3822

The potential to emit for the units is minimal.

### **3.2.4.3 Non-Permitted Emission Summary**

The 920th RQW does not have any permitted boiler operations, but does have seven non-permitted boilers operations in Buildings 750, 629, 632, 672, 673, and 691. The following is a summary of those:



**Table 3.5 Non-Permitted Emission Summary**

Building Number	Equipment Make	Fuel Type	Rating	Operating Hours Actual	Operating Hours Potential
750-1	H.P. Smith	Natural Gas	0.34	1460	4380
750-2	H.P. Smith	Natural Gas	0.57	1460	4380
629	New Yorker	Diesel	0.40	1460	4380
632	Federal	Diesel	1.00	1460	4380
672	New Yorker	Diesel	0.79	1460	4380
673	New Yorker	Diesel	0.33	1460	4380
691	New Yorker	Diesel	0.40	1460	4380

Criteria and HAPs emissions from the non-permitted boiler operations with the 920<sup>th</sup> RQW operations are insignificant.

**3.2.4.4 Stationary Internal Combustion Emission Summary**

The 920<sup>th</sup> RQW has the following stationary internal combustion engines (generators):

**Table 3.6 Stationary Internal Combustion Emission Summary**

Location	Manufacturer	KW Rating	Run Time Hours	Fuel Type
659	Crusader	454	50	Gasoline
675	Gorban	4	8	Gasoline

Criteria and HAPs emissions from the non-permitted boiler operations with the 920<sup>th</sup> RQW operations are insignificant.

**3.2.4.5 Surface Coatings Emissions Summary**

The 920<sup>th</sup> RQW has one surface coatings operation which is located in Building 630. According to information provide by the 45<sup>th</sup> CES/CEV, the 12-month total paint use from January 1 to December 31, 2004 is shown in Table 3.7



**Table 3.7 Surface Coating Material Usage Summary**

<b>Coating Material</b>	<b>Amount Used (Gallons)</b>
03GN176 – MIL-C85285b-24052- Type I Poly Coat	0.0703125
03GN176CAT-MIL-C85285B-24052- Catalyst	0.0234375
17925 White Polyurethane Coating	0.125
24052 Green Polyurethane Coating	1.875
33461 Gloss Gray	0.125
36118 Dark Gray Polyurethane Coating	1.0859375
36173 Gray Polyurethane Coating	0.25
37038 Black Polyurethane	1.75
Isopropyl Alcohol or IPA	5.25
MIL-C-85285B-36118-Type I Poly Coat Catalyst	0.609375
MIL-C-85285B-36118-Type I Poly Coating	1.8125
MIL-C-85285B-37038-Black Poly Coating Catalyst	0.5
MIL-C-85285B-37038-Black Polyurethane Coating	1.625
MIL-P-23377-02 Y 040- Epoxy Primer Coat Kit	1.28125
MIL-P-23377G Epoxy Green Comp A	1.4375
MIL-P-23377G Epoxy Yellow Comp A	5.34375
MIL-P-23377G Epoxy Yellow Comp B	0.1875
Polyurethane 03GY321	0.25
Polyurethane Coating Parts 1 and 2 of 4 Parts	0.5
T-10 Thinner	3.375
Thinner-Aircraft Coating	7.0
<b>Total Usage for Booth 630 in 2004</b>	<b>34.4765625</b>

Criteria and HAPs emissions from the surface coatings operation in Building 630 of the 920<sup>th</sup> RQW operations are minimal. Total VOC emissions for 920<sup>th</sup> activities are approximately 229 pounds/year, while the total for PAFB is approximately 12,067 pounds/year.

**3.2.4.6 Fuel Stand Emission Summary**

The 920<sup>th</sup> RQW has one fuel stand operation located at Building 624. According to the 2003 AEI the fuel type at this operation is diesel fuel. The potential fuel load is 4,000,000 gallons/year, while the actual fuel load was 406,322 gallons/year. Criteria and HAPs emissions from the fuel stand operation at Building 630 are minimal.



### **3.2.4.7 Fuel Cell Maintenance Emission Summary**

Aircraft routinely require inspection and maintenance to their internal fuel bladder and external fuel tanks. PAFB personnel enter the aircraft fuel cell to perform these maintenance activities. Emissions from fuel cell maintenance are a result of the defueling of the aircraft prior to the maintenance activity. Some emissions may also occur if explosion suppression foam is present in the fuel cell and is allowed to air dry and vented to atmosphere. Criteria and HAPs emissions from the fuel cell maintenance operation at Building 647 are minimal.

## **3.3 Water Resources**

### **3.3.1 Surface Water and Ground Water**

The major surface waters in the area are the Atlantic Ocean, which bounds PAFB on the east and the Banana River, which bounds the base on the west (see Map 1-2). The water resources at PAFB include five man-made ponds totaling 31.3 acres. The base also contains 4.1 miles of drainage ditches and 40.2 acres of canals. Most of the drainage ditches contain water throughout the year because they intersect the shallow water table aquifer. Several canals are interconnected with the Banana River and are brackish, but don't have significant tidal influences because ocean inlets are far from PAFB. Maps 1-3, 1-4 and 3-1A show the shoreline and drainage canals in the area of the 920<sup>th</sup> RQW Complex.

The Florida Governor and Cabinet established the Banana River Aquatic Preserve June 3, 1970 by resolution. In 1975, the Florida Legislature established The Florida Aquatic Preserve Act as codified in Chapter 258, F.S. The Aquatic Preserves are administered under Chapter 18-20 and 18-21, Florida Administrative Code (FAC).

The PAFB General Plan EA and the 920<sup>th</sup> Training EA provide more specific information about the Banana River.



Refer to the next section, 3.4, as well as Section 3.7, Infrastructure, for physical baseline ground water information. PAFB has air conditioning supply and return wells, monitoring wells, and irrigation wells. Base potable water needs are provided by the Cocoa municipal water system. The City of Melbourne has an agreement with the base to provide water on a contingency basis.

### **3.4 Geology and Soils**

The unconsolidated surficial materials which underlie PAFB are the undifferentiated Pleistocene/Holocene deposits known as the Pamlico sands. These deposits are composed primarily of marine sands, which are sandy, well drained, and generally good for development; however, the stability of the soils near Banana River is suspect. This instability limits construction to less intensive forms of development and requires soil boring prior to beginning construction projects. There is high susceptibility to erosion along both shorelines (PAFB General Plan, 1996).

The bedrock underlying the base is considered to be all those units, which underlie the Pleistocene/Holocene deposits. The first such unit is encountered is the Anastasia Formation of Pleistocene age. This formation lies 10 feet below land surface (bls) and has a thickness of 20 feet. Its lithology is that of coquina and shell conglomerates, quartz sand and clay. Beneath the Anastasia is the Caloosahatchee Marl Formation. It is encountered at a depth of approximately 30 feet bls and is 50 feet thick. In the vicinity of the base, it is described as a gray to greenish-gray sandy shell marl with green clay and fine sand of Pliocene age. Underlying the Caloosahatchee Marl Formation is the Miocene age Tamiami Formation. However, the Caloosahatchee Marl Formation may locally overlie either the Tamiami or the deeper Hawthorn Group. The approximate thickness of the Tamiami Formation is 20 feet, and it is located 80 feet bls. It is composed predominantly of a white sandy limestone that is discontinuous in the region.

PAFB is underlain by both confined and unconfined aquifers. The hydrologic units (aquifers) underlying PAFB include the surficial water table aquifer; semi-artesian



and artesian aquifers within the Caloosahatchee Marl, Tamiami Limestone, and Hawthorn Group; and the artesian Floridian aquifer. The surficial water table aquifer underlying PAFB is the major hydrostratigraphic system that can be influenced by base operations. This system, consisting primarily of marine sands, shell fragments, and coquina limestone, extends approximately 50 feet bls. The water table is generally within five feet of the ground surface. The surficial groundwater flows primarily toward the Banana River. Low-levels of contaminants (e.g., VOC, petroleum hydrocarbons, and heavy metals) have been detected in surficial groundwater at the base and are listed as installation restoration program sites.

Specific Soils information is discussed in Section 3.4 of the PAFB General Plan EA.

Groundwater at PAFB occurs under unconfined (water table), semi-confined, and confined (artesian) conditions. The unconfined aquifer, composed of Holocene and Pleistocene age surficial deposits of marine sand, shell fragments, and sand conglomerate of the Anastasia Formation, is recharged by direct infiltration or rainfall. The generalized direction of groundwater flow in the surficial aquifer is westward, toward the Banana River. Localized flow in the surficial aquifer is from topographic highs (mounds, swells, dune ridges) toward surface water bodies (creeks, ponds, drainage canals).

### **3.5 Noise and Airspace Clear Zones**

#### **3.5.1 Introduction**

PAFB has two active runways. One is a Class B runway primarily intended for high performance and large heavy aircraft (as defined in *Table 3-3 UFC 3-260-01*) and is oriented 02/20. It is 9,022 feet long and 260 feet wide. The north overrun is 1,680 feet long and the south overrun is 1,000 feet long. The other runway is a Class A runway primarily intended for small light aircraft (as defined in *Table 3-3 UFC 3-260-01*) and is oriented 11/29. It is 4,000 feet long and 200 feet wide. The west overrun is 320 feet long. There is no overrun to the east. See Map 1-3 for a depiction of the 920<sup>th</sup> RQW Complex and PAFB.



The following units conduct flight operations at PAFB:

- 920th Rescue Group (RQW),
- U.S. Department of State – Aviation Division,
- National Aeronautics and Space Administration (NASA), and
- PAFB Aero Club.

### **3.5.2 Noise**

Noise is unwanted sound that interferes with normal activities or otherwise diminishes the quality of the environment; it may be intermittent or continuous, steady or impulsive. Noise may also involve a broad range of sound sources and frequencies and be generally nondescript, or it can have a specific, readily identifiable sound source. The decibel (dB) is the accepted standard unit for measuring the level of noise and is generally adjusted to the “A-weighted” logarithmic scale (dBA) to better correspond to the normal human response to different frequencies. Several metrics have been developed for multiple-noise event analysis. The one most commonly used is the ( $L_{dn}$ ) metric. This is the dBA level averaged over a 24-hour period, with an additional ten-dBA penalty added for noise events occurring between 10 p.m. and 7 a.m. (because noise at night is judged to be more annoying than noise during the day). The threshold noise level for compatible land uses is  $L_{dn}$  65 dBA. Areas outside (less than) of the 65-dBA  $L_{dn}$  contour are compatible with residential and other noise-sensitive land uses.

The goal of the Air Force Air Installation Compatible Use Zone (AICUZ) program is to promote compatible land development in areas subject to potential aircraft accidents and noise. As neighboring communities prepare and revise their land use development plans, recommendations from the latest AICUZ study should be considered, which would help avert off-base land use incompatibilities that may compromise an installation’s ability to accomplish its mission. Aircraft accident potential and noise should be major considerations in the land use planning.



The noise contours provided in this study were developed using data on aircraft operations collected at PAFB in 1999. The following list provides examples of the types of information collected:

- Types and number of aircraft,
- Average daily operations by runway and type of aircraft,
- Flight track information (where flown),
- Flight profile information (how flown),
- Aircraft maintenance engine run-ups, and
- Hours of operation.

After verification, these data were input into the Department of Defense NOISEMAP computer noise model to produce Day-Night Average Noise Level (DNL) in units of decibels (dB). The DNL is the average sound level generated by all aviation-related activities during an average day. The DNL noise metric includes a 10 dB penalty added to sound levels for operations between 10 p.m. and 7 a.m. This penalty applies due to the increased annoyance created by noise events occurring during these hours. No penalty is applied for weekend or holiday daytime operations. Contours indicating noise exposure in DNL dB levels, in increments of five dB from 65 dB to 80 dB, were generated and plotted on Map 3-1. The Clear Zones and Accident Potential Zones have also superimposed on the Map 3-1 for the 920<sup>th</sup> RQW Complex and PAFB.

A more detailed discussion of noise sources and constraints is contained in the PAFB AICUZ. In addition, noise data and information specific to the 920<sup>th</sup> RQW operations can be found in the 920<sup>th</sup> Training EA.

Construction noise would probably average between 70 to 90 decibels (a-scale) (dB(A)) at construction site with peaks exceeding 100 dB(A). These sound levels are typical of common construction equipment. Construction noise is not expected to have any significant impact on residential or public buildings. Impacts on



residences would be reduced by restricting operation of construction equipment to normal daylight working hours on weekdays.

### **3.5.3           Airspace Clear Zones**

*Unified Facilities Criteria 3-260-01, Airfield and Heliport Planning and Design (the supersedent to Air Force Manual 32-1123(1))*, limits location and heights of objects around the airfield to minimize hazards to airfield operations. Certain obstructions are permitted, if necessary to airfield operations. Others are allowed as pre-existing non-conforming features. Waivers may be granted by the MAJCOM. There are a total of 59 individual obstructions on PAFB, which are all waived. Map 3-2 illustrates locations of Airfield Obstructions in the area of the 920<sup>th</sup> RQW Complex and PAFB. Map 3-2 shows that the apron lights near Building 751 (32a-b) and the lights in the north parking apron (13) are identified as Airfield Obstructions in the area of the 920<sup>th</sup> RQW Complex.

The Clear Zones for Runway 02/20 are 3,000 by 3,000 feet at each end. For Runway 11/29 they are 1,000 feet wide and 3,000 feet long. These areas must generally be kept free of aboveground structures. Due to limited funding for these relocations, it would not be economically feasible to remove all facilities immediately. Therefore, a phased removal involves demolishing facilities along O'Malley Road first via Military Construction ("MILCON") projects, as this corridor roughly conforms to the previous 2000-foot Clear Zone boundary. Map 3-1 shows the APZ/Clear Zones in the area of the 920<sup>th</sup> RQW Complex and PAFB.

Table 3-8 summarizes airfield clearance criteria. On-base areas of concern are the Primary Surfaces, Transitional Surfaces, taxiways and aprons, and Clear Zones (See Map 3-1).



**Table 3-8 Airfield Clearance Criteria**

<b>Imaginary Surfaces (Class B Runway)</b>	<b>Clearance Requirements</b>
Primary	1,000 feet each side of the runway centerline
Transitional	From the outer edge of the Primary Surface - a 7:1 slope ratio to an elevation of 150 feet
Taxiway	200 feet from the taxiway centerline
Wingtip Clearance (Primary Peripheral Taxi lanes)	One half of the aircraft wingspan plus 30 feet (for aircraft with wingspans up 110 feet) or plus 50 feet (for aircraft with wingspans over 110 feet)
Clear Zone (CZ)	3,000 x 3,000 feet, centered on and extending from the end of the runway
Accident Potential Zone I (APZ I)	3,000 x 5,000 feet, extending from the CZ*
Accident Potential Zone II (APZ II)	3,000 x 7,000 feet, extending from APZ I*

Note:

\* DOD Instruction 4165.57, Air Installation Compatible Use Zones (AICUZ)

Source: UFC 3-260-01, Airfield and Heliport Planning Criteria

In addition, airspace operations, specific to the 920<sup>th</sup> RQW are discussed in the 920<sup>th</sup> Training EA.

### **3.6 Ecological Resources**

#### **3.6.1 Vegetation**

##### **3.6.1.1 Historic Vegetative Cover on PAFB**

The 1943 Indian River Land Cover Map (B. Duncan, Dynamac Corp., 1995) illustrates the area that became PAFB as primarily composed of scrub. The west shoreline was vegetated with flatwoods, disturbed estuarine wetlands, and salt marsh.

##### **3.6.1.2 Current Native Vegetative Cover**

The dominant type of vegetation at PAFB is herbaceous, consisting of mainly regularly maintained grasses. Landscaped areas are interspersed with palms,



Indian hawthorn, hibiscus, oleander, century plants, etc. Exotic, invasive vegetation is found in several locations on PAFB but especially concentrated on the west side of the base on Installation Restoration Program (IRP) sites. Natural communities exist along the dune with coastal vegetation such as sea grapes, sea oats, beach sunflower, etc., and along the Banana River with marsh areas mixed with cordgrass, sea daisy, groundsel, mangrove, etc., and submerged seagrass. Wetland-type plants are also found intermittently along and within drainage canals. More information can be found in the PAFB General Plan EA and the 920<sup>th</sup> Training EA.

### **3.6.1.3 Threatened and Endangered Floral Species**

No Federally listed rare or endangered plant species occur at PAFB. The following plants listed by the State of Florida or the Florida Natural Areas Inventory (FNAI) as deserving of protection have been observed on base: spider lily (*Hymenocallis latifolia*), beach star (*Remirea maritime*), inkberry (*Scaevola plumieri*), and prickly pear cactus (*Opuntia stricta*).

### **3.6.2 Native Fauna on Base**

Various species of wildlife inhabit, utilize, or frequent PAFB. PAFB is located within a barrier island ecosystem that is defined as an important natural area supporting many plants, animals, and communities. Barrier islands along the Atlantic coast are especially important for nesting sea turtles, populations of small mammals, and as foraging and loafing habitat for a variety of resident and migratory shorebirds, wading birds, and songbirds. Tables 3-9, 3-10 and 3-11 provide lists of fauna observed at PAFB.



**Table 3-9 Birds Present on PAFB**

<b>Common Name</b>	<b>Scientific Name</b>
Pied-billed grebe	<i>Podilymbus podiceps</i>
American White pelican	<i>Pelecanus erythrorhynchos</i>
Double-crested cormorant	<i>Phalacrocorax auritus</i>
Anhinga	<i>Anhinga anhinga</i>
Great Blue Heron	<i>Ardea herodias</i>
Great egret	<i>Ardea albus</i>
Cattle egret	<i>Bubulcus ibis</i>
Green heron	<i>Butorides virescens</i>
Black-crowned night heron	<i>Nycticorax nycticorax</i>
Glossy ibis	<i>Plegadis falcinellus</i>
Mottled duck	<i>Anas fulvigula</i>
Mallard	<i>Anas platyrhynchos</i>
Blue-winged teal	<i>Anas discors</i>
Northern shoveler	<i>Anas clypeata</i>
American widgeon	<i>Anas americana</i>
Ring-necked duck	<i>Aythya collaris</i>
Lesser scaup	<i>Aythya affinis</i>
Common moorhen	<i>Gallinula chloropus</i>
American coot	<i>Fulica americana</i>
Black-bellied plover	<i>Pluvialis squatarola</i>
Semipalmated plover	<i>Charadrius semipalmatus</i>
Killdeer	<i>Charadrius vociferus</i>
Willet	<i>Catoptrophorus semipalmatus</i>
Spotted sandpiper	<i>Actitis macularia</i>
Whimbrel	<i>Numenius phaeopus</i>
Ruddy turnstone	<i>Arenaria interpres</i>
Sanderling	<i>Calidris alba</i>
Dunlin	<i>Calidris alpina</i>
Common snipe	<i>Gallinago gallinago</i>
Laughing gull	<i>Larus atricilla</i>
Bonaparte's gull	<i>Larus philadelphia</i>
Ring-billed gull	<i>Larus delawarensis</i>
Herring gull	<i>Larus argentatus</i>
Great black-backed gull	<i>Larus marinus</i>
Caspian tern	<i>Sterna caspia</i>
Royal tern	<i>Sterna maxima</i>
Sandwich tern	<i>Sterna sandvicensis</i>
Black tern	<i>Chlidonias niger</i>
Osprey	<i>Pandion haliaetus</i>
American redstart	<i>Setophaga ruticilla</i>
Magnolia warbler	<i>Dendroica magnolia</i>
Black-throated blue warbler	<i>Dendroica caerulescens</i>
Black-throated green warbler	<i>Dendroica virens</i>
Prairie warbler	<i>Dendroica discolor</i>
Yellow-rumped warbler	<i>Dendroica coronata</i>
Savannah sparrow	<i>Passerculus sandwichensis</i>



**Table 3-10 Mammals Present on PAFB**

<b>Common Name</b>	<b>Scientific Name</b>
Raccoon	<i>Procyon lotor</i>
Opossum	<i>Didelphis virginianus</i>
Rabbits	<i>Sylvilagus spp.</i>
House mouse	<i>Mus musculus</i>
Armadillo	<i>Dasyus novemcinctus</i>
Gray squirrel	<i>Sciurus carolinensis</i>

**Table 3-11 Amphibians and Reptiles Present on PAFB**

<b>Common Name</b>	<b>Scientific Name</b>
Alligator	<i>Alligator mississippiensis</i>
Green tree frog	<i>Hyla cinerea</i>
Brown anole	<i>Anolis sagrei</i>
Corn snake	<i>Elaphe guttata guttata</i>
Northern black racer	<i>Coluber constrictor</i>
Florida cooter	<i>Chrysemys floridana</i>
Florida softshell	<i>Trionyx ferox</i>
Snapping turtle	<i>Chelydra serpentina</i>

### **3.6.2.1 Threatened and Endangered Faunal Species**

A threatened and endangered species survey was completed for PAFB in April 1997 (Oddy et al. 1999). The objective of the project was to survey PAFB for threatened and endangered species to develop a more detailed and accurate database for reference during development of NEPA, ESA, and other regulatory documentation as well as provide information to guide wildlife and biotic resource management. The species lists are subject to change pending future species listings and delistings. There are no formally designated critical habitat areas located on PAFB, according to the Integrated Natural Resources Management Plan (INRMP), a PAFB component document that inventories natural resources and the procedures for managing and conserving them. Table 3-12 provides a current list of threatened and endangered species on PAFB. Descriptions of all threatened and endangered species listed below can be found in the INRMP, in Section 5.4.1; therefore, only information unique to PAFB would be discussed for each. Individual species are described in the PAFB General Plan EA and the 920<sup>th</sup> Training EA.



**Table 3-12 Threatened, Endangered and Other Protected Faunal Species, PAFB**

Common Name	Scientific Name	Status	
		Federal	State
<b>Amphibians and Reptiles</b>			
Kemp's Ridley Sea Turtle*	<i>Lepidochelys kempi</i>	E	E
American Alligator	<i>Alligator mississippiensis</i>	T (S/A)	SSC
Eastern Indigo Snake	<i>Drymarchon corais couperi</i>	T	T
Atlantic Loggerhead Turtle	<i>Caretta caretta</i>	T	T
Atlantic Green Turtle	<i>Chelonia mydas</i>	E	E
Leatherback Turtle	<i>Dermochelys coriacea</i>	E	E
Hawksbill Turtle *	<i>Eretmochelys imbricata</i>	E	E
Gopher Tortoise	<i>Gopherus polyphemus</i>		SSC
Atlantic Salt Marsh Snake*	<i>Nerodia clarkii taeniata</i>	T	T
<b>Birds</b>			
Roseate Spoonbill*	<i>Ajaia ajaja</i>		SSC
Piping Plover*	<i>Charadrius melodus</i>	T	T
Little Blue Heron	<i>Egretta caerulea</i>		SSC
Reddish Egret*	<i>Egretta rufescens</i>		SSC
Snowy Egret	<i>Egretta thula</i>		SSC
Tricolored Heron	<i>Egretta tricolor</i>		SSC
White Ibis	<i>Eudocimus albus</i>		SSC
Southeastern American Kestrel	<i>Falco sparverius paulus</i>		T
Arctic Peregrine Falcon	<i>Falco peregrinus tundris</i>		E
American Oystercatcher	<i>Haematopus palliatus</i>		SSC
Bald Eagle	<i>Haliaeetus leucocephalus</i>	T	T
Wood Stork	<i>Mycteria americana</i>	E	E
Brown Pelican	<i>Pelecanus occidentalis</i>		SSC
Black Skimmer	<i>Rynchops niger</i>		SSC
Least Tern	<i>Sterna antillarum</i>		T
Burrowing Owl	<i>Athene Cunicularia</i>		SSC
Roseate Tern	<i>Sterna dougallii</i>	T	T
Southeastern Snowy Plover	<i>Charadrius alexandrinus tenuirostris</i>		T
<b>Mammals</b>			
Manatee	<i>Trichechus manatus</i>	E	E
Right Whale *	<i>Balaena glacialis</i>	E	E
Sei Whale *	<i>Balaenoptera borealis</i>	E	E
Finback Whale *	<i>Balaenoptera physalus</i>	E	E
Humpback Whale *	<i>Megaptera novaeangliae</i>	E	E

Notes: SSC – Species of Special Concern

T – Threatened

E – Endangered

S/A – Similar in Appearance

\* Not observed on PAFB, but known to occur in the vicinity

Information obtained from Integrated Natural Resource Management Plan – 2001 and U.S. Fish and Wildlife Service Threatened and Endangered website (<http://endangered.fws.gov/wildlife.html#Species>).



### **3.6.3 Essential Fish Habitat**

Federally funded projects are required to address EFH requirements as mandated by the 1998 amendments to the Magnuson-Steven Fishery Conservation and Management Act. Essential Fish Habitat can generally be defined as waters and substrates necessary to fish for any or all stages of their life cycle. Estuarine emergent vegetated wetlands, tidal creeks, estuarine scrub/shrub, oyster reefs and shell banks, unconsolidated bottom (soft sediments), artificial reefs, coral reefs, and live/hard bottom habitats are also EFH for specific life stages of estuarine dependent and near shore managed species. Regional Fishery Management Officials are responsible for designating EFH in their management plans for all managed species. The South Atlantic Fishery Management Council (SAFMC) is the managing body for the PAFB vicinity. The SAFMC currently manages for postlarval and juvenile red drum (*Sciaenops ocellata*), white shrimp (*Litopenaeus setiferus*), pink shrimp (*Farfantepenaeus duorarum*), and brown shrimp (*Farfantepenaeus aztecus*) in the PAFB area. The SAFMC has also designated SAV as a Habitat Area of Particular Concern (HAPC) for postlarval/juvenile and subadult pink shrimp and postlarval/juvenile and subadult red drum in the PAFB area. HAPCs are subsets of EFH that are rare, particularly susceptible to human-induced degradation, have special ecological importance, or are located in an environmentally stressed area. Detailed information on the federally managed fish discussed above and their EFH is contained in the 1998 Amendment of the Fishery Management Plans for the South Atlantic (SAFMC 1998).

The Banana River area offshore of PAFB may also provide nursery and forage habitat for black drum (*Pogonias cromis*), Atlantic menhaden (*Brevoortia tyrannus*) and blue crab (*Callinectes sapidus*) that are prey for the SAFMC managed species of mackerels, snappers and groupers.

### **3.6.4 Wetlands**

Wetlands as defined in 40 CFR 230.3, 33 CFR 328.3 as well as subsection 373.019 (17), Florida Statute, means those areas that are inundated or saturated by surface



water or ground water at a frequency and a duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soils. Soils present in wetlands generally are classified as hydric or alluvial, or possess characteristics that are associated with reducing soil conditions. The prevalent vegetation in wetlands generally consists of facultative or obligate hydrophytic macrophytes that are typically adapted to areas having soil conditions described above. These species, due to morphological, physiological, or reproductive adaptations, have the ability to grow, reproduce or persist in aquatic environments or anaerobic soil conditions. Florida wetlands generally include swamps, marshes, bayheads, bogs, cypress domes and strands, sloughs, wet prairies, riverine swamps and marshes, hydric seepage slopes, tidal marshes, mangrove swamps and other similar areas. Florida wetlands generally do not include longleaf or slash pine flatwoods with an understory dominated by saw palmetto.

The base has a number of ponds and drainage ditches, primarily to the west of and in Central Housing, on the golf course, and near the runway. The ditches were created in 1958 for drainage and irrigation water.

Potential wetland areas have developed along the banks of these ponds and ditches, where there is suitable habitat for vegetation including water pennywort, duckweed (*Lemna* sp.), cattail, needlerush (*Juncus* sp.), and sedges.

Small areas of freshwater wetlands habitat occur around ponds and drainage canals, and minor brackish wetlands habitat has been noted by the U.S. Army Corps of Engineers along the Banana River shoreline, mostly around outlets of drainage canals. Brackish wetland plants include three species of mangrove, with red and black mangrove most abundant along the shoreline. Potential wetlands are projected on Map 3-1A for the area around the 920<sup>th</sup> RQW and PAFB.



### **3.6.5 Floodplains**

Floodplains are lowland, relatively flat areas adjoining inland and coastal waters that are subject to flooding. The 100-year floodplain is that area subject to a one percent or greater chance of flooding in any given year. According to the Federal Emergency Planning Administrations (FEMA) Flood Insurance Rate Map (FIRM), the 100-year floodplain extends seven feet above mean sea level (AMSL) on the ocean side and four feet above AMSL on the Banana River side. The 100-year floodplain is projected on Map 3-1A for the area around the 920<sup>th</sup> RQW and PAFB.

### **3.6.6 Coastal Zone Management**

The Florida Department of Natural Resources established the “Coastal Construction Setback Line” in an effort to control shoreline erosion. In Brevard County, this zone extends from the mean high water (MHW) level inland 75 feet, to include the natural coastal dunes. Some activities are allowed; however, no new construction projects are permitted within the Coastal Construction Setback Line. Map 3-1 shows the Coastal Setback Line. There is no Coastal Setback within the 920<sup>th</sup> RQW Complex. Although technically excluded from the provisions of this restriction, PAFB adheres to its tenets to the maximum extent possible, consistent with mission requirements.

## **3.7 Infrastructure**

### **3.7.1 Drinking Water System**

The City of Cocoa is contracted to supply up to 6,500,000 gallons per day to PAFB as well as Cape Canaveral Air Force Station and Kennedy Space Center. The city's water is delivered through a 16-inch water main entering PAFB at the intersection of the north boundary of the Base and State Road A1A, where it is further chlorinated and distributed throughout the base through 2, 12-inch metered service mains. New treatment facilities were installed to the Bldg 209 pump station in a 2001 project (New Pump House). A water quality monitoring system was also installed in 2002 to track chlorine, pH, ammonia, and pressure.



Minimum potable water usage at PAFB is approximately 1,000,000 gal/day, occurring in the winter months. Maximum usage at PAFB is about 3,648,000 gal/day, occurring during the summer months. These usage quantities are expected to decrease by 20%, when South Housing is privatized.

In addition to the water supplied by the City of Cocoa, the City of Melbourne agrees to furnish 1,000,000 gallons of water per day, as needed. PAFB would reciprocally provide the City of Melbourne with 1,000,000 gallons of water per day, as needed and as available. PAFB is tied into three separate City of Melbourne water mains: a 16-inch, a 12-inch, and a 10-inch tie-in.

Another source of water, although non-potable, is a deep-well system, which draws from the *Florida Aquifer system*. The water from the wells is corrosive in nature and has an excessive amount of chlorides and total dissolved solids, which exceed the Florida Water Drinking Standards. Well water is used only in commercial and some common areas where feasible. The capacity of active wells is approximately 760 million gallons per year.

One potable water pump station exists on the installation proper. The total domestic water capacity of elevated and ground level tanks is 600,000-gallons. Because the water towers currently operate at lower pressure than the distribution system, stored water is available as an emergency supply only. Recirculation systems were recently added Supply-CCAFS/PAFB 6,500 Usage-CCAFS 500 to 1,000 Usage-PAFB 1,000 to 3,800 Availability-CCAFS/PAFB (Best Case) 5,000 Availability-CCAFS/PAFB (Worst Case) 17,000 *Source: 45 CES, March 1999.*

The supply of domestic water from the City of Cocoa is more than adequate, at present. If more water is needed, arrangements with the City of Cocoa could be effected. If required, the City of Melbourne could also provide water.



For non-potable well water, PAFB does not currently have the necessary equipment to treat and filter water that can be drawn through the non-potable deep-well system. Therefore, this is not an acceptable alternative water source for human consumption at this time. The supply of non-potable re-use water from the City of Cocoa Beach is currently strained. The daily supply during summer months is currently 800,000 gallons per day (GPD), 3 days per week. The peak (drought) demand for this water, which is used to irrigate the Golf Course and some housing common landscape areas, exceeds one million GPD. Thus, the supply of re-use water for irrigation is less than adequate and potable water must be used to make-up the difference during times of drought. Therefore, conservation measures or alternative sources of water will have to be considered.

The majority of the potable water mains were installed and upgraded at various times between 1952 and 1958; exceptions are all new mains in the Central and North Housing Areas. The water pump stations are 40 years old, on average. Much of the newer piping is polyvinyl chloride (PVC), but some asbestos cement pipe or ductile-iron pipes remain (both are usually unaffected by corrosive soil conditions). Although the water mains are in relatively good condition, the 2-inch galvanized steel pipe, used as water service lines, is deteriorating because of corrosion. Considering the water distribution and pump system's age, a phased repair and replacement project is recommended. Therefore, a phased base-wide replacement of the water distribution system is planned as an out year project. Map 3-3 shows the Primary Water System in the area of the 920<sup>th</sup> RQW Complex.

### **3.7.2 Sanitary Sewer System**

The City of Cocoa Beach treats wastewater generated at PAFB. The base's wastewater is conveyed to the City of Cocoa Beach for treatment via lift station #650 through approximately 47 miles of underground sanitary sewer lines to the wastewater treatment plant of the City of Cocoa Beach, six miles away. The Water Reclamation Department of Cocoa Beach, in turn, provides treated wastewater to PAFB via a Reuse Water System for irrigation purposes.



The majority of the sanitary sewer lines are gravity lines, although force mains exist in some areas. The vitrified clay and PVC gravity sewer lines are reported to be in fair condition. The force mains are steel and PVC, and are reported to be in good condition. Service connections of cast iron material are showing degrees of deterioration from internal corrosion.

Adjacent to the new north lift station is a 140,000-gallon wet-well, designed to store wastewater prior to pumping to the City of Cocoa Beach for treatment. There is a standby tank, adjacent to the new south lift station, which gives the Base the capability to hold wastewater six hours (with appropriate water rationing and low-use restrictions in South Housing) in the event a force main becomes temporarily inoperable.

Wastewater generated on base includes domestic wastewater, and small quantities of typically deposited industrial waste, e.g. solvent mixtures. New sewer lines service the new North and Central Housing Areas. Map 3-4 depicts the general location of the sewer system in the area of the 920<sup>th</sup> RQW Complex. The base uses treated wastewater effluent, provided by the City of Cocoa Beach, for irrigation. The City constructed a 16-inch reuse water supply line to the north end of PAFB. From there, a 14-inch reuse main runs along the west side of the Base to the lake and furnishes irrigation water for the Golf Course, the Central and North Housing Areas, the Base Exchange, and the Hospital's landscaped areas. Projected availability of reuse water is a maximum of 500,000 GPD with an option, being considered, to supplement reuse water with ground water.

At full occupancy of the North and Central Housing Areas, estimated average daily flow of wastewater would be 360,000 to 400,000 gallons per day (GPD). By contract with the City of Cocoa Beach, the City has reserved a treatment capability of 2.0 MGD for PAFB. The contract would be annually reviewed for reserved peak flow adjustment, as necessary. Using the present reserved flow capacity of 2.0 million gallons per day (MGD) and average daily flow of 380,000 GPD is a residual capacity



of .820 MGD (1.2 MGD capacity – 380,000 GPD use). Allowing 100 gallons per capita per day (gpcd), equates to an expansion capability of 8,200 persons. However, this calculation does not consider treatment of industrial waste or the potential for inflow and infiltration, which could be high during wet weather periods, but which would be reduced with the privatization of the South Housing Area.

### **3.7.3 Storm Water Drainage System**

The storm drainage system for PAFB is a separate system; i.e., it is not combined with the flow of wastewater in the sanitary sewer system. The storm drainage system is “open” in part and “closed” in part. The open drainage system conveys storm runoff by overland flow (drainage ditches), gutters, channels, and swales, to a point of discharge (Banana River) or constraint (ponds and lakes). Map 3-5 shows the primary storm water drainage system in the area of the 920<sup>th</sup> RQW Complex.

The closed system, installed in 1949, consists of a network of catch basins, pipes (about 17.5 miles) and connections beneath the drainage area. Storm water flows to either the Banana River or the Atlantic, where it is discharged. Storm runoff also percolates into the sandy-type soil. Storm water discharges for PAFB are addressed under the General Permit for Multi-Sector Storm Water Discharge Associated with Industrial Activities regulated by EPA. PAFB regulates the storm water run-off under its Storm Water Pollution Prevention Plan (SWPPP).

### **3.7.4 Electric System**

Electrical service for PAFB is supplied by *Florida Power & Light* (FP&L) at a transmission lines connect to a North Substation and a South Substation, both owned by FP&L. The substations convert the incoming 138-kilovolt (kV) electricity to a nominal distribution voltage of 13.2 kV, and then route the power to government-owned switchgear located adjacent to the substations. Electricity is then distributed throughout the base via feeder lines from the substations: four from the North Substation, and six from the South Substation. Two of the North Substation feeders can be interconnected with two of the South Substation feeders via a tie switch. At



current load-levels, either substation can supply all loads when the feeders are tied. Other than these feeders, which would be fully loaded during interconnection, load shifting between the two substations is not possible.

Transformer capacity at the North Substation is 40,500 kilovolt-amperes (kVA), and the South Substation is 89,600 kVA. PAFB's historical peak load is well below either substation's capacity. The current (5 year historical) combined substation peak demand is 17,362 (7,537-kilowatt (kW) at the North Substation and 9,825 kW at the South Substation). The base level demand for the South Substation would decrease by 1,800 kW in April of 2004 when FP&L picks up Capehart (South) Housing loads.

Of the primary and secondary electrical distribution lines, approximately 2 percent are overhead, and the remainder is underground. The overhead distribution system, which includes poles, transformers, and hardware are adversely impacted by salt air contamination, high winds, bird interference, and lightning strikes. See Map 3-6, *Primary Electric*, for locations of primary electrical lines in the area of the 920<sup>th</sup> RQW Complex.

Additionally, upgraded feeders have been installed to facilitate faster load shifting. A centralized, electrical 7 mW back-up generation system located at the south substation can provide continuous power to all non-housing loads in the event all commercial power is lost. Facilities requiring back-up power are also independently supported. Such facilities include the Hospital, the Communication Center, the Command Post, AFTAC, and lift stations. As illustrated in Table 3-13, allowing 2.5 kW per capita as provided by electrical design criteria, and a power factor of 0.9, PAFB has the capacity to accommodate a population increase of 7,261.



**Table 3-13 Additional Substation Capacities**

Substation	Peak Demand	Transformer Capacity	Thermal Capacity	Additional Persons
North	7,789 kVA	40,500 kVA	18,882 kVA	3,293
South	11,259 kVA	89,600 kVA	25,096 kVA	3,968
<b>Total</b>	<b>19,048 kVA<sup>1</sup></b>	<b>130,100 kVA</b>	<b>43,978 kVA</b>	<b>7,261</b>

Notes:

- 1 The total peak demand is the total of each substation's peak demand, occurring independent of the other. A planning demand figure is the coincidental peak demand, which is approximately 25,100 kVA.

Number of PN =  $0.9 \text{ Power Factor} \times (\text{Thermal Capacity} - \text{Peak Demand kVA})$   
2.5 KW/PN)

### 3.7.5 Central Heating/Cooling Systems

The Central Heating Plant (Building 314) has three boilers of 14,700 million British thermal units (MBTU) each for a total heating capacity of 44,100 MBTU. The fuel source is natural gas supplied from City Gas Company, located in Rockledge, Florida. The back-up fuel is oil. Boiler usage is two boilers running at one-half to three-quarters months of the year; the third boiler is backup.

The Central Heating Plant provides space heat to the main base area (excluding family housing which is electrically heated by individual housing units, the Hospital, and the AFTAC building) with high-pressure steam heat at 100 pounds per square inch gage (psig) nominal pressure. The piping system is a two-pipe system: steam supply and condensate return. Lines are 50 percent underground and 50 percent aboveground insulated with asbestos. These lines are routinely inspected and pressure tested by plant personnel. There are small-centralized cooling systems installed at PAFB. Cooling is provided by separate cooling units connected to single or several grouped buildings.

There is significant residual capacity of the Central Heating Plant because it operates only about three months of the year. The three boilers are approximately 10 years old, and in excellent condition. The piping system, initially installed over 45



years ago, is in poor condition. Additionally, many components of the system are insulated with asbestos. With the base-wide replacement of steam lines, the condition of the piping system is expected to be brought up to acceptable condition.

### **3.7.6 Natural Gas System**

City Gas Company supplies natural gas to PAFB. One four-inch line enters the Base from the north, a second four-inch line enters at AFTAC, and a two-inch line enters from the south. There is no limit on gas supply. Average usage at PAFB is approximately 25,000 MBTU. Approximately 0.6 miles of gas lines, installed in 1999, and owned and maintained by PAFB, distribute low-pressure gas to the Central Heating Plant, to the Medical Clinic, to AFTAC, and to individual building heating plants. City Gas has recently installed gas lines into the North and Central Housing Areas. There are no natural gas lines within the 920<sup>th</sup> RQW Complex.

### **3.7.7 Liquid Fuel System**

The liquid fuel system includes all fuel delivery, storage, and distribution facilities. Seventy-one of the 75 liquid fuel storage tanks are aboveground. All in-use tanks comply with current regulatory requirements. Availability of fuel has not been a constraint. Supplies are arranged through the Defense Logistics Agency (DLA), and are delivered exclusively by tanker truck. The concrete storage tanks are considered “cut and cover”, and are not subject to corrosion deterioration. For locations of fuel storage tanks in the area of the 920<sup>th</sup> RQW Complex, please refer to Map 3-8. Table 3-14 shows the Liquid Fuel Storage Tanks and Capacity.



**Table 3-14 Liquid Fuel Storage Tanks and Capacity**

Description	Category Code	Number of Storage Tanks	Total Capacity (Gallons)
Operating Diesel Storage Tank	124-134	7	30,700
Operating Jet Fuel Storage Tank	124-135	4	100,000
Operating MOGAS Storage Tank	124-137	4	48,000
AVGAS Storage	411-131	2	10,000
Diesel Storage JP-8	411-134	6	150,000
Jet Fuel Storage	411-135	9	700,000
Used / Waste Oil		6	7,700
MOGAS Storage	411-137	3	54,000
Heating Fuel Oil Storage	821-112	30	10,070
Fire Pit / Training		3	3,000
MOB Radar		1	250
<b>Total</b>	<b>--</b>	<b>75</b>	<b>1,113,720</b>

Note:

All storage tanks listed in this table are above ground except four Operating MOGAS Storage Tanks (Category Code: 124-137), at the AAFES gas station / Class Six Store (Installed in 1995), which meet all regulatory Standards.

### 3.7.8 Communications

A discussion of communications begins with the Air Force Space Command Range System, comprised of the Eastern Range (ER) operated by the 45 SW, and the Western Range at Vandenberg AFB, CA. The Eastern Range, headquartered at PAFB, is staffed and organized to support the following mission:

- Provide spacecraft processing, launch and tracking facilities, safety procedures, and test data to a variety of customers, and
- Manage launch operations for DoD space programs.

Range support is distributed from CCAFS down the coast to PAFB, Jonathan Dickinson Missile Tracking Annex (JDMTA), Malabar Tracking Annex (MTA), and downrange tracking sites at Antigua and Ascension Islands. There are varying configurations of radar, telemetry, optics, command, data processing, timing,



communications, meteorology, and other activities at each site. An extensive communications network consists of communication satellites; microwave links; high frequency (HF), very high frequency (VHF), and ultra high frequency (UHF) radio systems; and various landline links to connect the ER sites and stations with each other and the world.

The main components of the communication system at PAFB listed below are discussed in more detail in the PAFB General Plan:

- Long Haul Systems
- Transistorized Operations Phone System (TOPS)
- Microwave
- Voice and Data
- Local Area Networks (LAN)
- Metropolitan Area Network (MAN)
- Video Systems
- Land Mobile Radio (LMR)
- Target C4I Architecture

### **3.7.9 Transportation**

The roadway network at PAFB is made up of arterial, collectors, and local roads. There is only one arterial (South Patrick Drive) on the Base. This arterial carries the majority of the north-south traffic and connects most areas of the Base. South Patrick Drive runs from the South Gate at Pineda Expressway to the intersection of O'Malley Road and Atlas Avenue, in the Main Base area. It provides primary access to the southern Base area including the Central Housing Area, the Base Exchange, Commissary, Medical Clinic, Golf Course, and Marina. South Patrick Drive is partially 4-lanes (south of the South Tech Drive intersection) and partially 2-lanes (north of South Tech Drive). It also extends south of the installation to the City of Satellite Beach, serving the South Housing Area.



There are several collector roads on the PAFB roadway network. Among them are: Jupiter Street, Atlas Avenue, O'Malley Road, Falcon Avenue, and Spacelift Avenue. One of these roadways, Jupiter Street, provides access to the main gates and to State Highway A1A (SH A1A). Atlas Avenue is a 2-lane collector that runs from O'Malley Road to the River Industrial Area. Falcon Avenue and Spacelift Avenue are 2-lane collector roadways that provide north-south access in the Main Base area. Vehicular access onto the Base via the main gate is a concern due to short morning delays for northbound traffic on SH A1A making left turns through the Main Gate at Jupiter Street.

PAFB has easy access to an excellent roadway and Interstate Road system, bus and rail access linking the Base to surrounding areas, and nearby airports providing national and international air travel. Roads available to PAFB are modern, well maintained, and fully adequate to support the Base's traffic needs.

Interstate Road 95 (I-95), which passes along the eastern seaboard of Florida and to the west of PAFB is a major north-south route. State Road 404, known locally as the Pineda Expressway, is an east-west highway that joins SH A1A to I-95. Florida State Road 528 (Beachline Expressway) is an east-west arterial that connects SH A1A, and PAFB, to Orlando. Finally, United States Highway 1 (US-1) as well as Florida SH A1A are important north-south routes. In fact, SH A1A passes directly through the east side of the installation, separating the main installation from the beach areas.

PAFB has three controlled gates. The Main Gate provides access from SH A1A to Jupiter Street in the Main Base area. The South Gate provides access to South Patrick Drive from Pineda Expressway at the south end of the Base. The third is the Truck Inspection/Commercial gate.



### **3.8 Land Use**

#### **3.8.1 Introduction**

A primary goal of effective land use planning is to create an environment for people to work, play, and live that is functional, efficient, and pleasant. Throughout the planning process, analysts evaluate existing land use and transportation systems, using site and facility planning to produce an arrangement of compatible and functional activities that address future requirements. By using a collaborative process, land use planning results in a plan that provides a logical and realistic direction for future development on base.

At PAFB, land use planning is constrained by a number of factors, including historic development patterns, land configurations, systems technology and military strategy. The array of land uses and the locations of buildings, roads and utilities have changed over time, as missions and needs have evolved. The placement of activities has also responded to the physical and natural environments that existed when each use was developed. Therefore, planning for the location of infrastructure, the proximity of functionally related activities, and the specific needs of installation personnel has been a challenging process of overcoming land use obstacles at PAFB.

#### **3.8.2 Existing PAFB Land Use**

A detailed discussion of existing and future land uses is presented in the PAFB General Plan. Figure 3-8 shows the existing land uses for the proposed 920<sup>th</sup> RQW Complex area.

##### **3.8.2.1 Airfield**

The Airfield is the most dominant land use of PAFB, and comprises a total of 728 acres. To maintain the safe operation of the airfield, Clear Zones, clearance areas and setbacks (certain areas of land beyond the paved sections of the airfield) must remain free of obstructions. Industrial facilities, also within the PAFB Clear Zone, are



normally situated close to the airfield, but should not be located within the Clear Zone. See Map 3-2 for an illustration of airfield obstructions for the 920<sup>th</sup> RQW and PAFB.

### **3.8.2.2 Airfield Operations**

As noted above, land use associated with the Airfield is the largest land use function on the installation. The “Airfield” land use category includes Primary Airfield surface, and associated Runways, taxiways, and Aprons. The “Airfield Operations” designation represents lands used in support of, or related to, flight activities. For example, the Passenger Terminal building, hangars and aircraft maintenance facilities are considered Airfield Operations land uses.

### **3.8.2.3 Administrative**

The principal administrative area on PAFB occupies land within the Main Base Area, adjacent to the Main Gate. This area houses the Wing Headquarters, Group Headquarters, and Security Forces (SF). A boat dock for SF is being proposed outside of the administration area next to the Outdoor Recreation boat dock for obvious land use reasons.

Adjacent to the main base Administrative area, on land currently designated as Airfield, are several additional office facilities. These buildings, located south of Jupiter Drive, are considered airfield obstructions and therefore planned for eventual demolition.

Another major area of Administrative land use is located east of South Patrick Drive, adjacent to the central gate (now closed). This area houses the AFTAC administrative functions. Relocation of the Central Gate is being proposed just north of the AFTAC facility.



#### **3.8.2.4 Community Commercial**

PAFB offers a wide range of commercial facilities, including a Base Exchange, Commissary, Burger King, BX, Gas Station and Satellite Pharmacy. All of these functions are located near the southern end of the base, east of South Patrick Drive. Other Community Commercial facilities include the Satellite Base Exchange (Shoppette), Dining Hall, and associated warehouse facilities, which are located, near the Main Base Area. The PAFB Officers' Club and Enlisted Club are located outside the installation proper, east of SH A1A, along the coastline.

#### **3.8.2.5 Community Service**

Some of the Community Service land uses on base include a Chapel, Library, Post Office, and Environmental Health Offices. These functions are all situated in the main base area. Also located in the Main Base Area are the Gymnasium and Racquetball Courts, which occupy land that is within the northern Clear Zone.

#### **3.8.2.6 Medical**

Facilities which house the Medical functions for PAFB include the Medical Clinic, Dental Clinic, and Medical Compound/ Administration buildings, all located at the southern end of the installation, east of South Patrick Drive and the South Gate. The locations of the existing medical facilities are compatible with the adjacent Commissary & Base Exchange commercial activities, and with the adjacent open space to the east.

#### **3.8.2.7 Industrial**

Industrial facilities located within Patrick Air Force Base are scattered throughout the installation and serve a variety of functions. The largest area of Industrial use occurs along the Banana River, in the northwest portion of the Main Base. Within this area several warehouses, maintenance shops, and storage facilities are situated. These heavy Industrial uses are undesirable in an area with the potential for being the installations commercial and community activity hub.



Other Industrial land uses are located in proximity to Aircraft Operations and Maintenance functions, which, at PAFB, are located at the northeast and northwest ends of the airfield. The River Industrial Area contains numerous Industrial facilities related to the 920th Rescue Wing's airfield operations and CES functions. Additional Industrial areas are located on the east side of the airfield, south of the new PAX Terminal and Base Supply facilities, and include the equipment research/testing/engineering buildings, (981, 986 & 988), and housing maintenance building (985), as well as the Florida Air National Guard (FLANG) area, located behind the Medical/Dental Center in the southeast corner of the base.

Finally, warehouses and various other small industrial buildings sit within an enclosed complex previously occupied by the Defense Reutilization and Marketing Office (DRMO) at the south end of the Base. With the recent relocation of DRMO to CCAFS, space in this area has become available for uses such as RV and boat storage and warehouse functions needed by the Services Squadron.

### **3.8.2.8 Accompanied Housing**

Accompanied Housing occupies the second largest amount of land on Patrick Air Force Base. This housing is divided into three main land areas:

1. North Family Housing - 250 units
2. Central Housing – 300 units
3. South Housing – 960 units (privatized)

Homes in the North and Central Housing areas were built in 1995 through 1998, while units in the South Housing area (located approximately 1-mile south of PAFB) were constructed in 1959. These three housing areas contain a total of 1510 units, although a majority of the homes in South Housing are vacant due to the privatization effort underway.



### **3.8.2.9 Unaccompanied Housing**

Unaccompanied Housing on PAFB includes Airmen's Dormitories, Visiting Officers Quarters (VOQ), and Visiting Airmen Quarters (VAQ). Dormitories are located primarily in 4 buildings along Spacelift Avenue, with VOQ's and VAQ's scattered throughout the main base area.

### **3.8.2.10 Outdoor Recreation**

Patrick Air Force Base offers a variety of outdoor recreational facilities, the most significant being:

- The Marina, with dry storage in the southwestern portion of the base;
- The Golf Course, also in the southwestern portion of the base;
- The "Chevron Park", located along the Banana River;
- The "FamCamp" area, also located along the Banana River; and
- Several beachfront picnic areas.

Other notable outdoor recreation facilities include a large neighborhood park located in the Central Housing area, and several smaller pocket parks for residents in the North Housing area.

### **3.8.2.11 Launch and Range Control**

This special land use category applies to a plot of two acres along the beach south of the NCO Club. It contains radar, optical and communications equipment used to support launches from CCAFS. Recent site upgrades in this area include installation of rock and concrete "riprap" to control shoreline erosion and expanded and refurbished facilities and equipment. In addition, a required facility expansion (Building 969) southward requires conversion of a portion of the Outdoor Recreation land use area to Launch and Range Control.



### **3.8.2.12 Open Space**

There are currently 329 acres of Open Space land designated on PAFB. Open Space includes areas such as vacant sites between developed areas, undeveloped pieces of land adjacent to the airfield, and river or beachfront property to be preserved in its natural state. Some Open Space lands include areas that would be permanently-dedicated Open Space due to constraints such as airfield clear zones and storm water retention.

### **3.8.2.13 Off-Installation Considerations**

Patrick Air Force Base is located north of the City of Satellite Beach, and south of the City of Cocoa Beach, on a barrier island that is bordered by the Banana River on the west and the Atlantic Ocean on the east. Land uses immediately north and south of the installation are within the unincorporated area of Brevard County. These areas are currently developed primarily as residential uses.

Residential land uses adjacent to the northern base boundary are compatible with the residential uses existing and planned for the north end of PAFB. Residential land uses immediately south of the base (on the opposite side of Pineda Causeway) are compatible with the adjacent installation land uses (Marina and Golf Course). However, a portion of the residential development on "Tortoise Island", south of PAFB, is located within the Accident Potential Zone I. According to the 2000 Air Installation Compatible Use Zone study, this community is partially located within the Day-Night Average Sound Level ( $L_{dn}$ ) zone of 65-70 decibels. Since the east and west boundaries of PAFB front on shorelines, there are no encroachments of civilian land uses along either of these boundaries.

## **3.9 Socioeconomic Resources**

The economic impact region for the 920<sup>th</sup> RQW and PAFB is the geographical area subject area subject to significant installation generated economic impacts, and is encompassed the area within a 50-mile radius of PAFB. This area includes portions



of eight different counties: Brevard, Indian River, Okeechobee, Orange, Osceola, Seminole, St. Lucie and Volusia. The region stretches northward to New Smyrna Beach, southward to Fort Pierce, and westward to Orlando

The 45th Space Wing (which includes PAFB and Cape Canaveral AFS) is the number one employer in Brevard County, with an estimated 11,500 employees (including military, civilian, and contract employees). Other major employers are concentrated in four areas:

- Kennedy Space Center (KSC)
- Melbourne
- Palm Bay
- South Titusville region

The presence of the Department of Defense (DoD) and several high tech and aerospace employers provides a predominant economic force in the area, with an economic value of \$1.139 billion impact during FY 2002 (PAFB General Plan 2003). In addition, PAFB supports over 12,650 DoD retirees within Brevard County, who bring in more than \$292 million per year in retirement income. Thus, the 45th Space Wing and its tenant units are a major source of employment and revenue for thousands of Brevard County residents.

### **3.10 Environmental Justice**

Presidential Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, was issued on February 11, 1994. The EO requires federal agencies to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies and activities on minority and low-income populations.

A Presidential memorandum that accompanies EO 12898 specified that federal agencies “shall analyze the environmental effects, including human health,



economic and social effects, of Federal actions, including effects on minority communities, when such analysis is required by the National Environmental Policy.”

### **3.11 Cultural Resources**

Historical and archaeological resources are protected under the National Historic Preservation Act of 1966 (NHPA), as amended (16 U.S.C. § 470 *et seq.*), the Archaeological Resources Protection Act of 1979 (ARPA) (16 U.S.C § 470 *et seq.*), the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. § 469 *et seq.*) and Executive Order 11593.

An archaeological survey was conducted at PAFB in the early 1980s to determine the presence of cultural resource sites pre-dating the existence of the base. This research proved negative. A letter dated August 25, 1981 from the State Historic Preservation Office (SHPO) to the Commander of PAFB concurred with this finding and the base was cleared for construction (see Appendix B).

Structures built at PAFB before 1959 (45 years old or older) are potentially eligible for listing in the National Register of Historic Places (NRHP). To date, the only potentially eligible buildings, located within the proposed 920<sup>th</sup> Complex, are Buildings 313, 673 and 688. PAFB procedures for compliance with the previously mentioned statutes are contained in the 45th SW Cultural Resources Management Plan (CRMP), a component document that inventories cultural resources and procedures for managing the historically significant facilities. Table 3-16 contains a list of potentially eligible historic buildings located at PAFB and their dates of construction. The buildings highlighted in yellow are located within the proposed 920<sup>th</sup> Beddown area.

Additional information and data about other historical buildings at PAFB can be found in the PAFB General Plan EA.



Table 3-16 Potentially Eligible Historic Buildings at PAFB

Bldg. Number	Date Of Construction	Bldg. Number	Date Of Construction	Bldg. Number	Date Of Construction
251	1945	561	1945	986	1953
313	1943	562	1945	988	1955
317	1943	575	1945	989	1957
318	1943	673	1958	992	1956
330	1944	688	1956	996	1954
402	1975	710	1942	1173	1953
407	1945	722	1943	1315	1970
423	1959	734	1944	1316	1970
425	1957	735	1943	1319	1958
431	1942	738	1944	1322	1941
439	1945	908	1958	1327	1941
530	1942	922	1964	1330	1941
534	1942	926	1968	1350	1951
535	1942	945	1957	1353	1961
536	1942	957	1954	1425	1941
537	1942	958	1945	1432	1941
543	1982	961	1959	1435	1941
545	1943	969	1963	1437	1941
556	1945	970	1963	1440	1941
559	1944	981	1965		
560	1944	984	1953		



### **3.12 Hazardous Materials and Waste Management**

The *Pollution Prevention Act* (1990) establishes a hierarchy of pollution prevention practices, which include:

- Source reduction as the primary means of reducing pollution;
- Recycling alternatives after all source reduction options have been examined;
- Treatment after recycling and source reduction have been deemed unfeasible; and
- Disposal, as a last resort, after all other options have been exhausted.

The current emphasis on PAFB is to achieve compliance with the pollution regulations through prevention programs. Pollution prevention opportunity assessments are conducted continually to produce projects for pollution prevention. These projects include, but are not limited to, process changes to reduce hazardous material requirements, or equipment purchases to minimize the use of hazardous materials.

A wide variety of hazardous materials ranging from paint, solvents, adhesives, cleaners, metal treatments, and fuels are used on PAFB. The collection, management, transportation, and disposition of hazardous wastes are defined and strictly regulated by the Resource Conservation and Recovery Act (RCRA), as amended, and by applicable federal and state regulations. All hazardous material purchases are required to be authorized. The materials are required to be tracked through the HAZMART Pharmacy. *45 SW Operations Plan (OPLAN) 19-14, Petroleum Products and Hazardous Waste Management Plan*, describes waste management procedures on PAFB.



### **3.12.1 Storage Tanks**

There are 75 fuel storage tanks on the Installation, 4 underground storage tanks (UST), and 71 aboveground storage tanks (AST). The 4 USTs are double-walled with automatic leak detection. The ASTs include 23 bulk fuel storage tanks, 23 generator fuel storage tanks, and 8 heating fuel storage tanks. See Section 3.7.7 for more information about liquid fuel storage tanks on the installation. A total of 46 USTs have been removed. Most of the remaining are scheduled to be removed as a result of remediation actions and upgrades. See Map 3-1 for the location of storage tanks identified as IRP sites.

#### **3.12.1.1 Petroleum Contamination**

In addition to the ongoing Installation Restoration Program (IRP) activities, several sites on base have been identified as petroleum contaminated. Florida law requires that the instance of petroleum contamination be addressed separately from IRPs. Petroleum contaminated sites at PAFB include several USTs which have either been completely remediated or are currently in the process. Other petroleum-contaminated sites are a refueling truck maintenance area, a firefighter training area, and several spill sights. Projects have been programmed to remediate all known petroleum contaminated sites.

### **3.12.2 Hazardous Wastes**

#### **3.12.2.1 Initial Accumulation Points (IAP)**

There are a number of active IAPs on PAFB, which can store up to 55 gallons of hazardous wastes, or one quart of acutely toxic hazardous waste, for an indefinite period and without a permit. According to the 920<sup>th</sup> RQW, they have eight RCRA IAPs within the 920<sup>th</sup> RQW Complex. Waste streams collected at these points include:

- Paint waste
- sealant
- adhesive
- blast media and
- universal waste batteries



Used oil filters and oil are managed as controlled wastes and are recycled. Aerosol cans are taken to HazMart where waste determination can be made.

Table 3-17 provides a summary of the hazardous waste generated by the 920<sup>th</sup> RQW for 2003, 2004 and the first month of 2005. As noted Buildings 630, 647 and 750 are the sources of the hazardous waste and the volumes indicated that the 920<sup>th</sup> would be a conditionally exempt small quantity generator under RCRA regulations.

### **3.12.2.2 90-Day Accumulation Points**

These facilities can store any amount of hazardous wastes up to 90 days at a time without a permit. After that period, the wastes must be removed to a permitted facility either on or off the base. According to the 920<sup>th</sup> RQW, they do not have a 90-Day Accumulation Point within their complex. However, there has been some internal discussions about establishing a 90-Day Accumulation Point within the 920<sup>th</sup> RQW.

### **3.12.2.3 Permitted Storage Facilities**

The U.S. Environmental Protection Agency (USEPA) and the Florida Department of Environmental Protection (FDEP) issue permits for hazardous waste facilities. PAFB has a Permitted hazardous Waste Storage Facility, Facility 947, where hazardous wastes identified in the permit may be stored for up to one year from the date the waste is placed in storage at the facility. It is imperative that new waste streams be identified and forecast as early as possible to ensure compliant management and disposal.



**Table 3-17: Summary of Hazardous Waste Generated by the 920th RQW for 2003 and 2004**

Facility	Waste Stream	Date Received	Container Type	Weight (lbs)	Weight (Kg)	Class		EPA Waste Codes	Proper Shipping Name
<b>2003</b>									
630	HK0009	01-03-2003	UN1H2	63	28.6	9	Solid	F001 F002 F005	Hazardous Waste, Solid, n.o.s., 9, NA3077, PG III (F001, F002) RQ
630	HK0011	07-22-2003	UN1H2	38	17.2	9	Solid	D007	Hazardous Waste, Solid, n.o.s., NA3077, PG III (D007) RQ
750	HK0011	12-11-2003	UN1H2/Y30/S	42	19.1	9	Solid	D007	Hazardous Waste, Solid, n.o.s., NA3077, PG III (D007) RQ
<b>2004</b>									
630	HJ0056	01-22-2004	UN1A1	357	161.9	3	Liquid	D001 D006 D007 D008 F003 F005	Waste Paint Related Material, 3, UN1263, PG III (F003, F005, D001, D006, D007, D008) RQ
630	HD0008	05-10-2004	UN1A2	53	24.0	9	Solid	D005 D006 D007 D008	Hazardous Waste, Solid, n.o.s., NA3077, PG III (D005, D006, D007, D008) RQ
630	HK0011	05-10-2004	UN1H2	45	20.4	9	Solid	D007	Hazardous Waste, Solid, n.o.s., NA3077, PG III (D007) RQ
630	HK0009	05-10-2004	UN1H2	59	26.8	9	Solid	F001 F002 F005	Hazardous Waste, Solid, n.o.s., 9, NA3077, PG III (F001, F002) RQ
647	HK0011	10-18-2004	UN1H2	24	10.9	9	Solid	D007	Hazardous Waste, Solid, n.o.s., NA3077, PG III (D007) RQ
<b>2005</b>									
750	HK0011	01-27-2005	UN1H2	46	20.9	9	Solid	D007	Hazardous Waste, Solid, n.o.s., NA3077, PG III (D007) RQ



### **3.12.3 Solid Waste**

Between the early 1940s and 1972, six landfills were used on PAFB. These landfills may contain general refuse, waste oils, paint cans, paint slops, spray booth filters, asbestos, polychlorinated biphenyl's (PCB) filters, and pesticide cans. The largest underlies the area of the Base Exchange, Commissary, and the southern portion of the Central Housing Area. They are now all closed and under remedial action as IRP sites. Commercial contractor now removes all waste materials to the Brevard County Landfill. The Environmental Flight (45th CES/CEV) manages the recycling contract for PAFB and CCAFS. The recycling contractor operates a consolidated material recycling facility as well as collecting and selling the recyclables. All recycling proceeds are currently used to help fund the recycling program.

### **3.12.4 Installation Restoration Program**

There are thirty Installation Restoration Program (IRP) sites on PAFB. Twenty-eight are either proposed for closure (pending regulatory agency concurrence), or under long-term monitoring land use controls. The two remaining sites are under further investigation and appropriate action(s) are being taken. Table 3-18 provides a list of the IRP sites located within the 920<sup>th</sup> RQW Complex, which will have to be evaluated on a case-by-case basis for each of the proposed construction activities potentially affecting any of the IRP areas. Map 3-1, *Composite Constraints*, shows the IRP sites in the area around the 920<sup>th</sup> RQW Complex.



**Table 3-18: Installation Restoration Program Sites**

AF Site No.	SWMU No.	Site Name	Facility No.	Current Status
ST-015	P040	Truck Wash Facility	676	Routine maintenance on Bioventing System.
DP-004	P004	PCB Contaminated #2	675	EPA's RFA recommended "No Further Action"
DP-006	P029	Tank/Drain Field @ Chemistry Lab	673	The RI/FS dated 03/97 proposed "No Further Action" and was approved by EPA and FDEP on 06/17/97 and 04/21/97, respectively.
DP-007	P030	Tank/Drain Field @ Paint Shop	681	A technical document to support "No Further Action" was submitted on 07/31/92 and was approved by EPA and FDEP on 08/26/92 and 10/13/92, respectively.
688	P043	Aircraft Wash Rack	688	Confirmation Sampling Report dated 08/95 proposed "No Further Action" and was approved by EPA and FDEP on 04/08/96 and 07/22/96, respectively.

### 3.13 Safety and Occupational Health

Health and safety includes consideration of any activities, occurrences, or operations that have the potential to affect one or more of the following:

- The well-being, safety or health of workers – Workers are considered to be persons directly involved with the operation producing the effect or who are physically present at the operational site.
- The well being, safety, or health of members of the public-members of the public are considered to be persons not physically present at the location of the operation, including workers at nearby locations who are not involved in the operation and the off-installation population.

The standards applicable to the evaluation of health and safety effects differ for workers and the public; thus, it is useful to consider each separately.



The OSHA is responsible for protecting worker health and safety in non-military workplaces. The OSHA regulations are found in 29 CFR. For Air Force operations, AFI 91-301 and AFI 91-202 contain the Air Force's Safety program, and provide the basis for worker safety programs. Specific PAFB programs which affect construction and demolition operations include the asbestos and Lead-based Paint Plans. Map 3-11 shows the Facility Demolition Plan. In addition to Buildings 675 and 676 shown on Map 3-11, the 920<sup>th</sup> RQW will demolish Buildings 603, 605, 607, 628, 672, 691, 696, and 697.

Asbestos used in construction and insulation, when damaged, may release fibers that pose a health hazard. PAFB manages asbestos-containing materials generated by installation activities through an Asbestos Management Plan and Asbestos Operations Plan. The 45th Space Wing has an intense asbestos program where if possible, asbestos is handled "in place" and systematically eliminated from facilities, as renovations are complete. A complete inventory detailing the location of asbestos in wing facilities is maintained, and personnel are trained in procedures to prevent damage to asbestos and to properly deal with asbestos in both planned and unplanned circumstances.

According to the 45<sup>th</sup> CES the following Buildings 624, 630, 632, 673, 675, 676, 688, 698, 750, 751 have tested positive for asbestos containing building materials (ACBMs). According to the 45<sup>th</sup> CES, a base wide asbestos survey is being conducted and should be completed in April 2005 and the data will be entered into a database.

Lead-based paint was commonly used in and on building and other structures until 1978. Lead-based paint in good condition doesn't pose a health hazard. When lead-based paint is in a deteriorated (cracking, peeling, chipping) condition, or damaged by renovation or maintenance activities, it can release lead-containing particles that pose a threat of lead contamination to the environment and a health



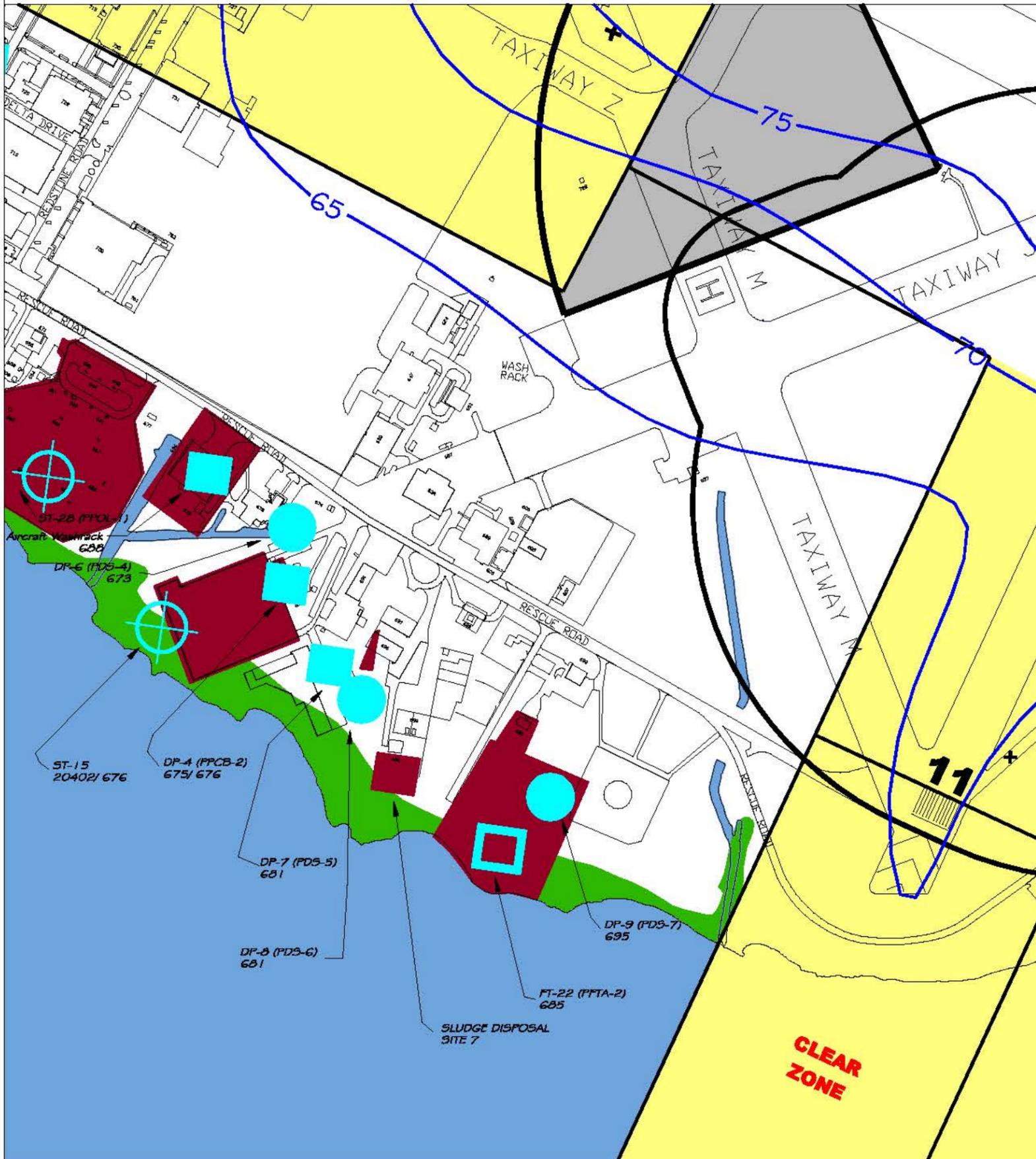
hazard to workers and building occupants. Emphasis is placed on personnel awareness and training in procedures to prevent damage to lead-based and to properly deal with it in both planned and unplanned circumstances.

Lead and asbestos abatement will be required prior to demolition. Furthermore, Lead and asbestos abatement may also be required for renovation work as well, if the renovations can not be conducted without significant impacts.

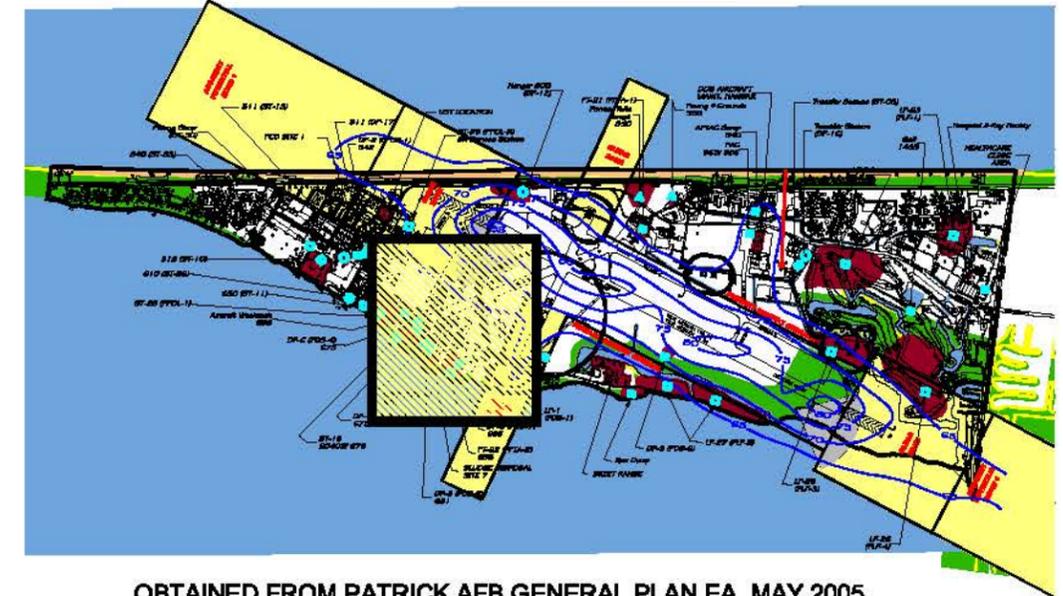
In addition, as previously stated in 3.12, construction activity in the area of IRP must be reviewed prior to construction activities beginning to ensure construction workers safety.



# 920TH RESCUE WING BEDDOWN ENVIRONMENTAL ASSESSMENT



## LOCATION MAP



OBTAINED FROM PATRICK AFB GENERAL PLAN EA, MAY 2005

## LEGEND

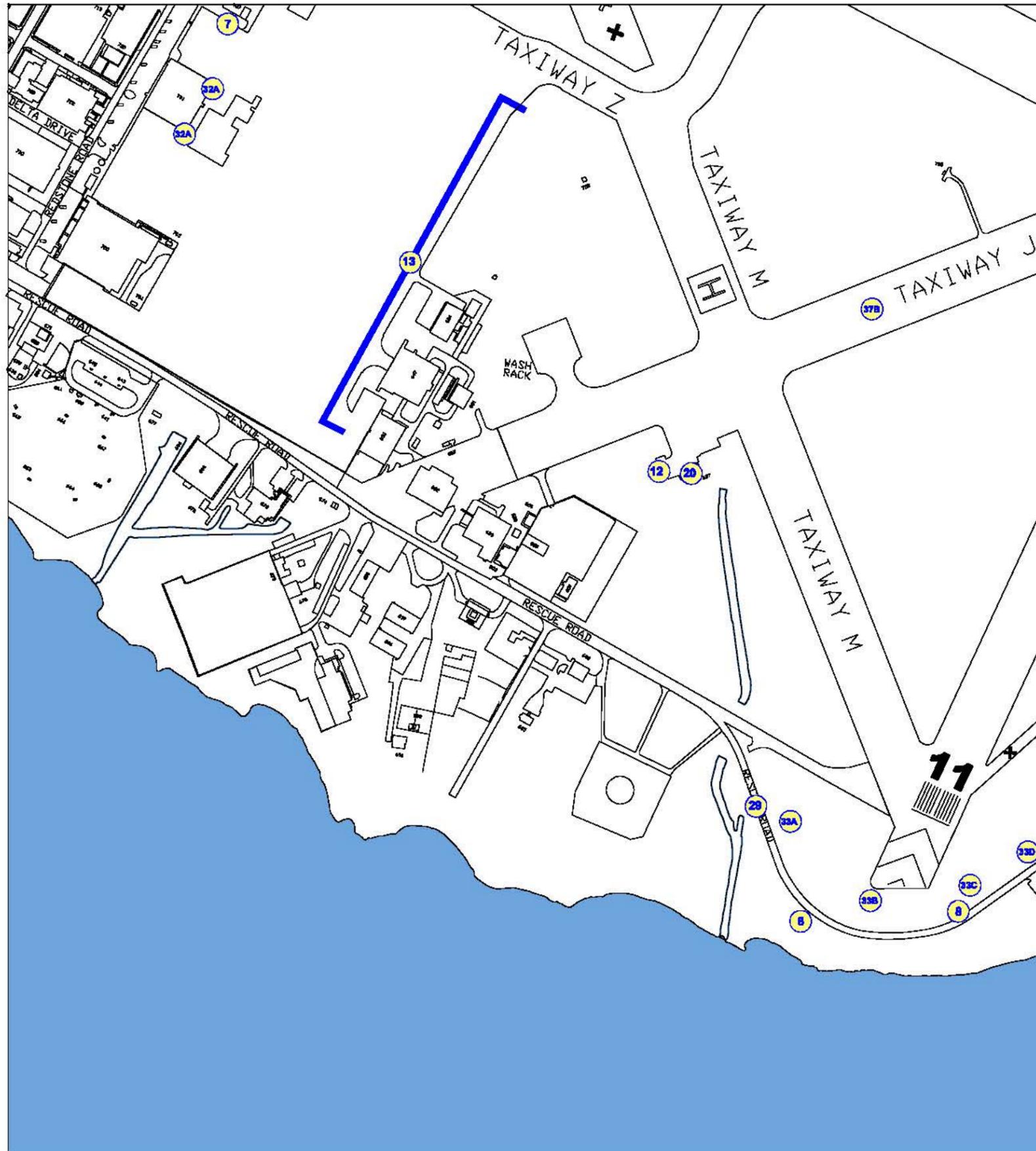
	Installation Boundary	<b>IRP SITE SYMBOLS</b>	
	IRP Site		AF Rec NFA
	APZ / Clear Zone		State Petroleum
	100-Year Floodplain		LTM / LTO
	Quantity-Distance Zone		Closed IRP Site
	Localizer Critical Area		Ldn db Noise Contour (June 1999 Data)

### Map 3-1 COMPOSITE CONSTRAINTS

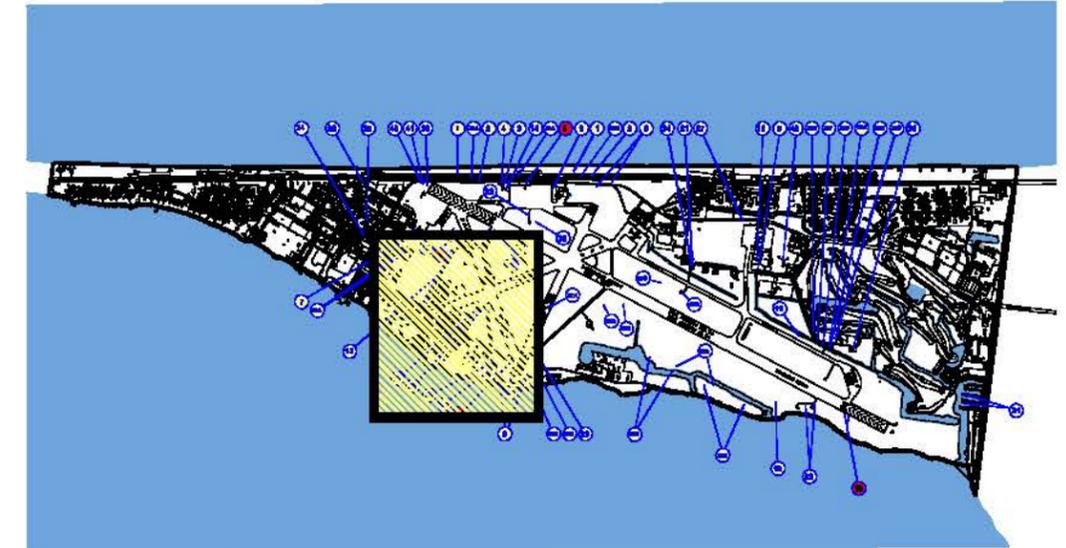




# 920TH RESCUE WING BEDDOWN ENVIRONMENTAL ASSESSMENT



## LOCATION MAP



OBTAINED FROM PATRICK AFB GENERAL PLAN EA, MAY 2005

## LEGEND

### Obstructions to Airfield Criteria

Obstruction #	Description
7	Coin Operated Car Wash & Driveway
8	Traffic Lights
12	Light Poles and Trm Pad
13	Lights (North Parking Apron)
20	Engine Test Cell Shelter
29	Re-Route Rescue Road (F Street)
32a-b	Apron Lights
33a-b	Electrical Enclosures
37a-b	Hot Cargo Pads

## Map 3-2

### AIRFIELD OBSTRUCTIONS

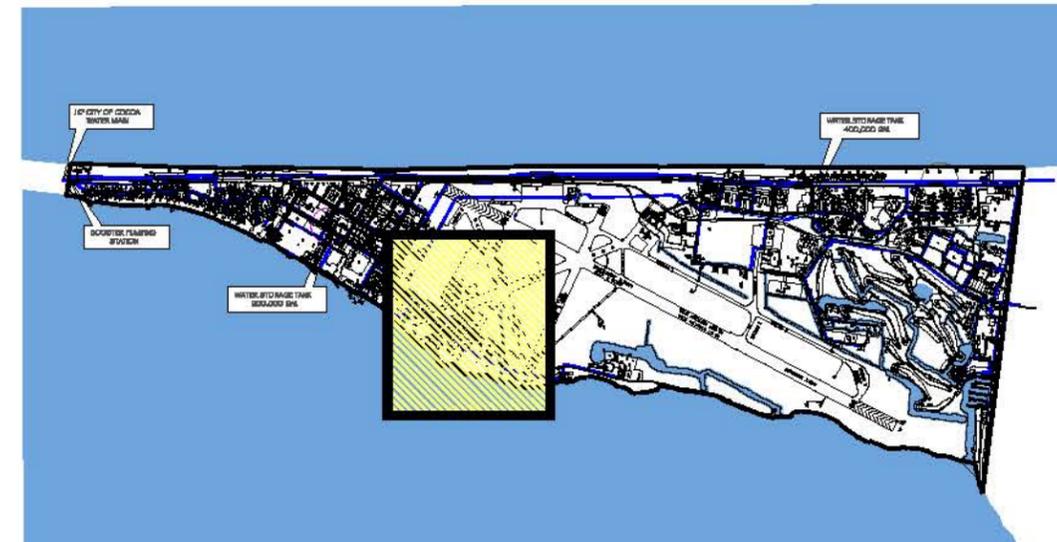




# 920TH RESCUE WING BEDDOWN ENVIRONMENTAL ASSESSMENT



## LOCATION MAP



OBTAINED FROM PATRICK AFB GENERAL PLAN EA, MAY 2005

## LEGEND

— Primary Water Main

## Map 3-3

PRIMARY WATER SYSTEM





# 920TH RESCUE WING BEDDOWN ENVIRONMENTAL ASSESSMENT



## LOCATION MAP



OBTAINED FROM PATRICK AFB GENERAL PLAN EA, MAY 2005

## LEGEND

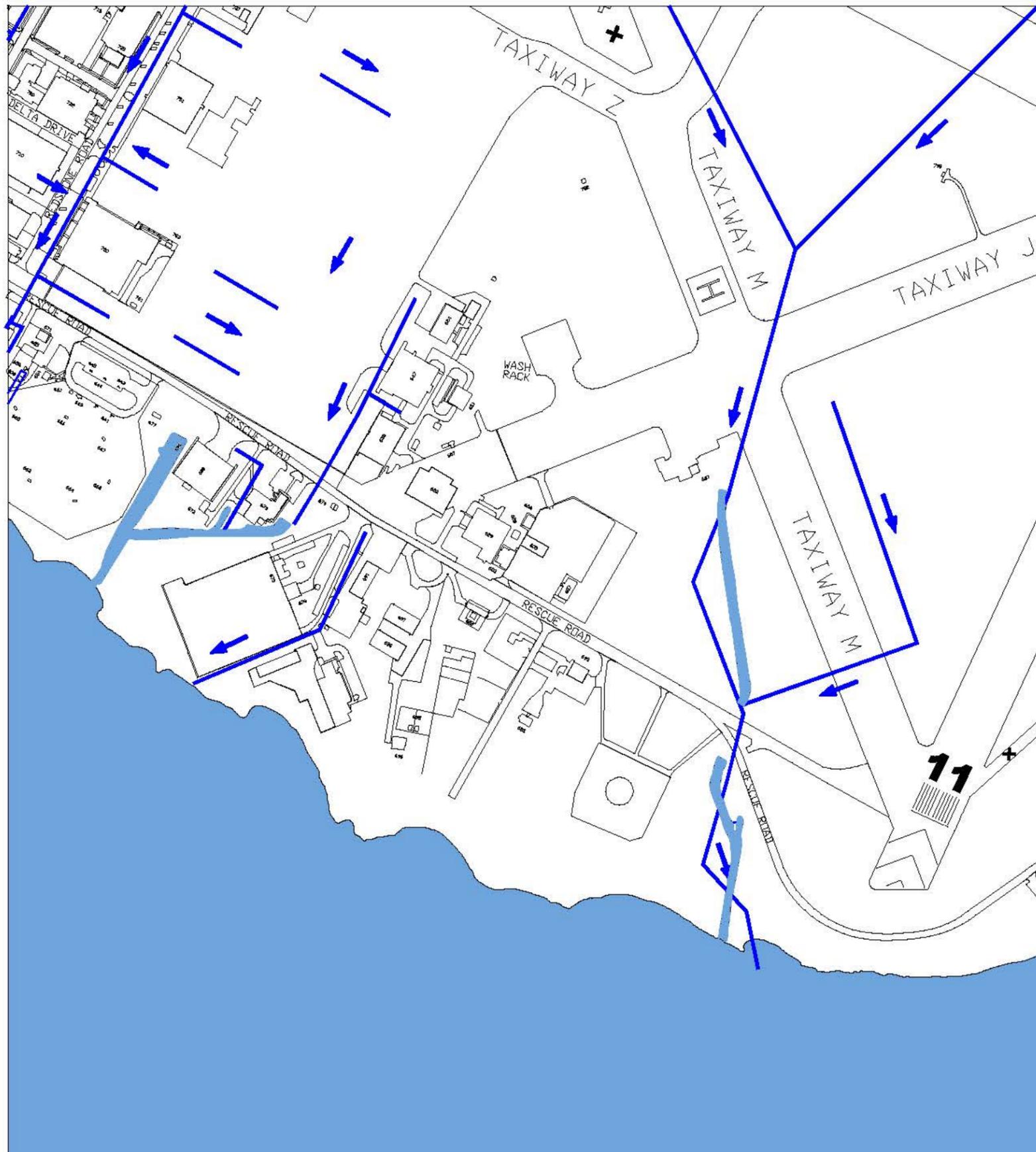
 Primary Sanitary Sewer System



**Map 3-4**  
**PRIMARY SANITARY**  
**SEWER SYSTEM**



# 920TH RESCUE WING BEDDOWN ENVIRONMENTAL ASSESSMENT



## LOCATION MAP



OBTAINED FROM PATRICK AFB GENERAL PLAN EA, MAY 2005

## LEGEND

-  Storm Drainage
-  Flow Direction

## Map 3-5

PRIMARY STORM WATER DRAINAGE SYSTEM

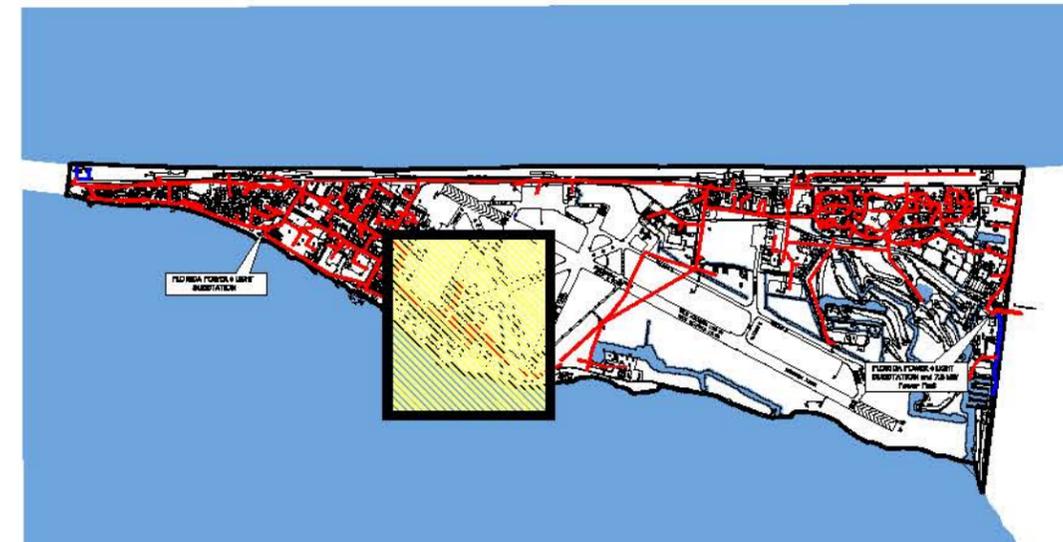




# 920TH RESCUE WING BEDDOWN ENVIRONMENTAL ASSESSMENT



## LOCATION MAP



OBTAINED FROM PATRICK AFB GENERAL PLAN EA, MAY 2005

## LEGEND

— Primary Below Ground Electric Main

Note:  
Transmission voltage of 138KV is converted to a distribution voltage of 13.2KV at the Florida Power and Light Substations.



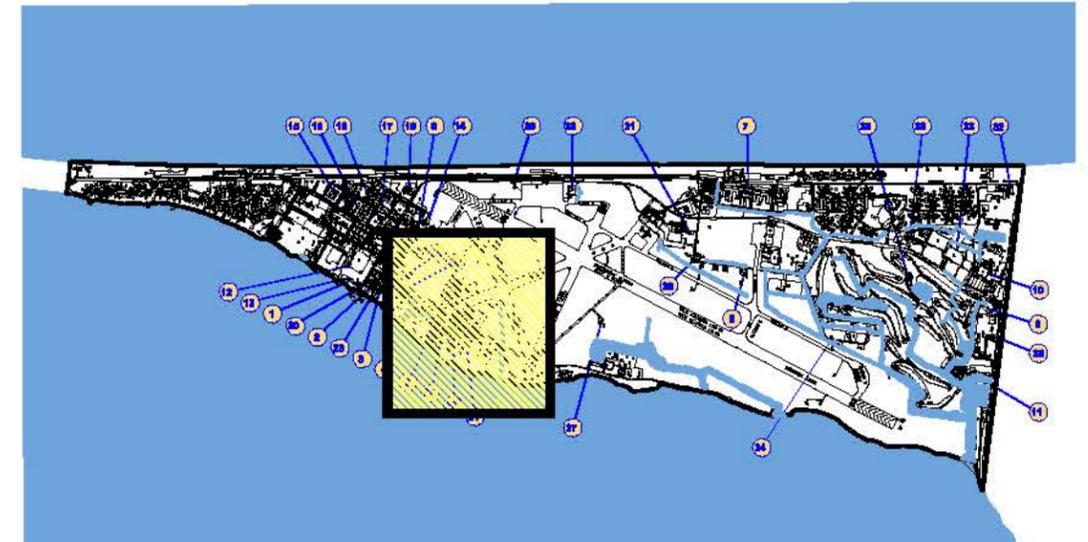
## Map 3-6 PRIMARY ELECTRIC SYSTEM



# 920TH RESCUE WING BEDDOWN ENVIRONMENTAL ASSESSMENT



## LOCATION MAP



OBTAINED FROM PATRICK AFB GENERAL PLAN EA, MAY 2005

## LEGEND

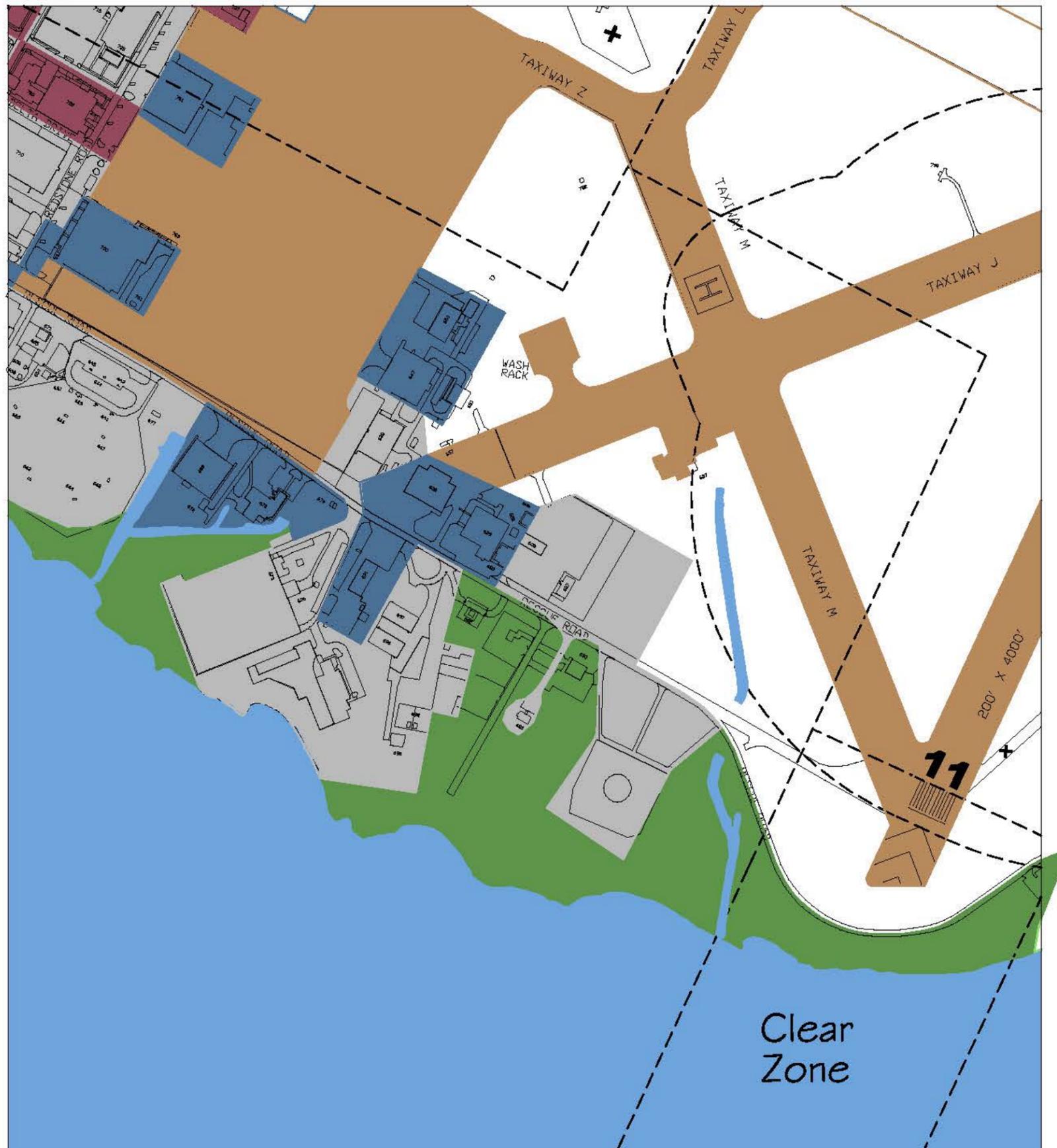
Map #	Tank #	Location	Cap (g)	Use
4	663	POL#1	100,000	JP-8
5	676	Refuel Trk Mnt	6,000	Waste Oil
6	751-1	Aero Club	5,000	Avgas
21	629	Special Operations	300	Heat
22	632	Engine Shop	500	Heat
24	661	Portable Tank	250	Waste Fuel
25	670-3	Oil Recycling	500	Used Oil
27	691-4	AGE	250	Heat



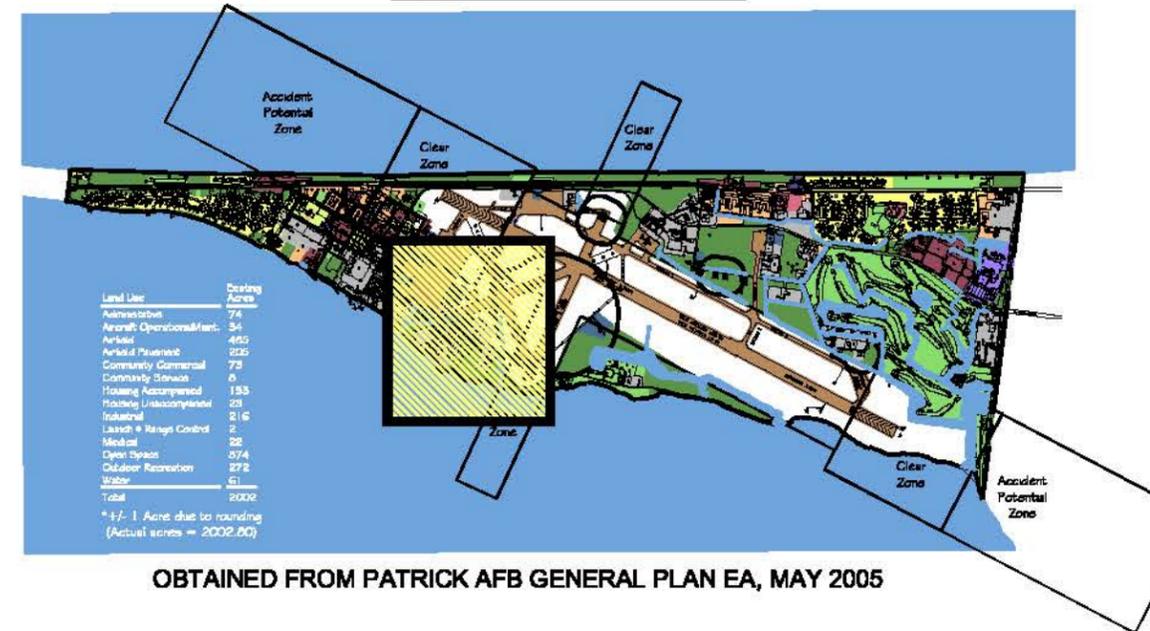
## Map 3-7 LIQUID FUELS DISTRIBUTION SYSTEM



# 920TH RESCUE WING BEDDOWN ENVIRONMENTAL ASSESSMENT



## LOCATION MAP



OBTAINED FROM PATRICK AFB GENERAL PLAN EA, MAY 2005

## LEGEND

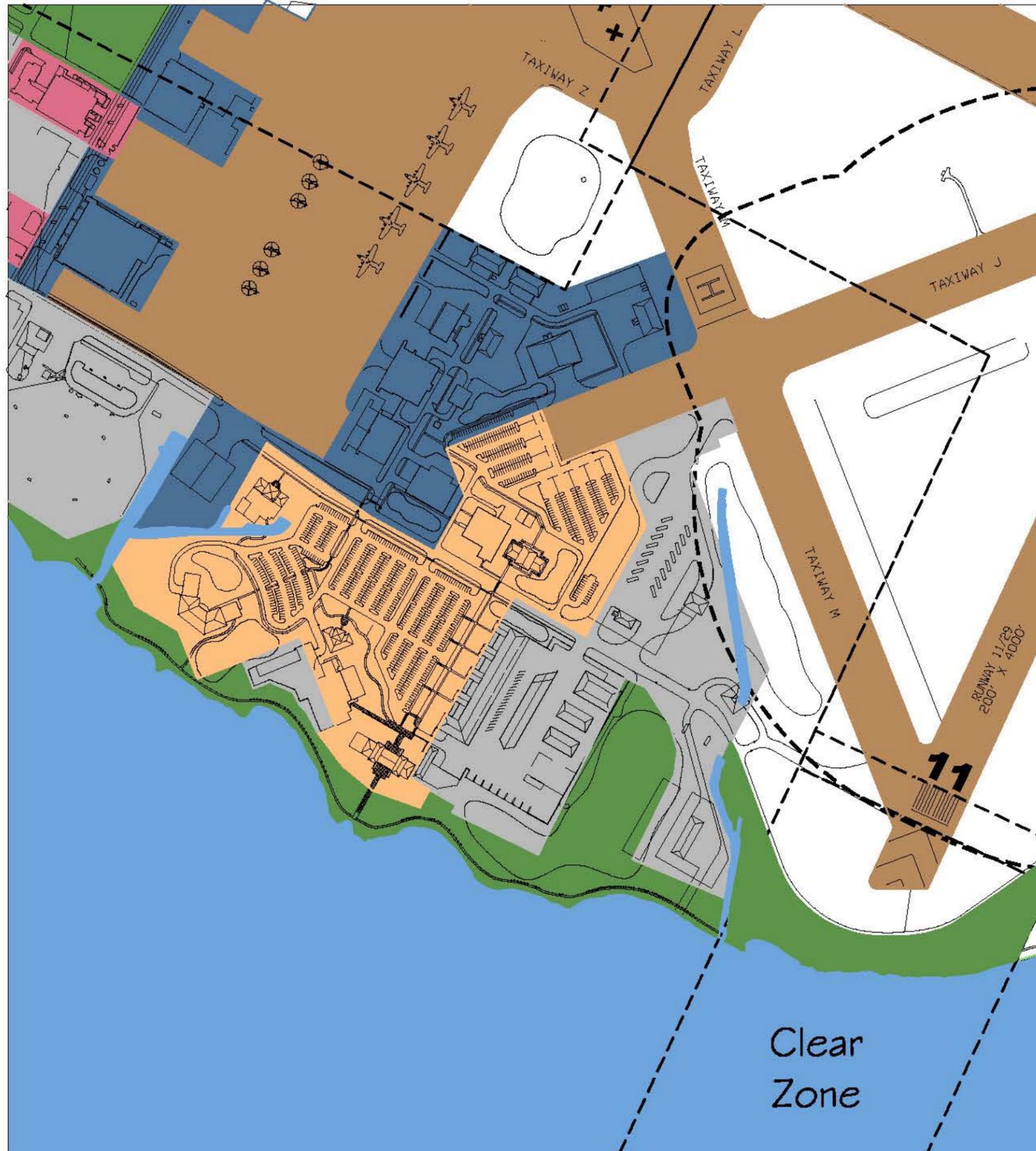
- Installation Boundary
- Airfield
- Runway/Taxiway/Apron
- Aircraft Operations & Maint.
- Industrial
- Community Commercial
- Open Space
- Water
- QD Boundary
- Airfield Surfaces

**Map 3-8**  
EXISTING ON-BASE  
LAND USE PLAN

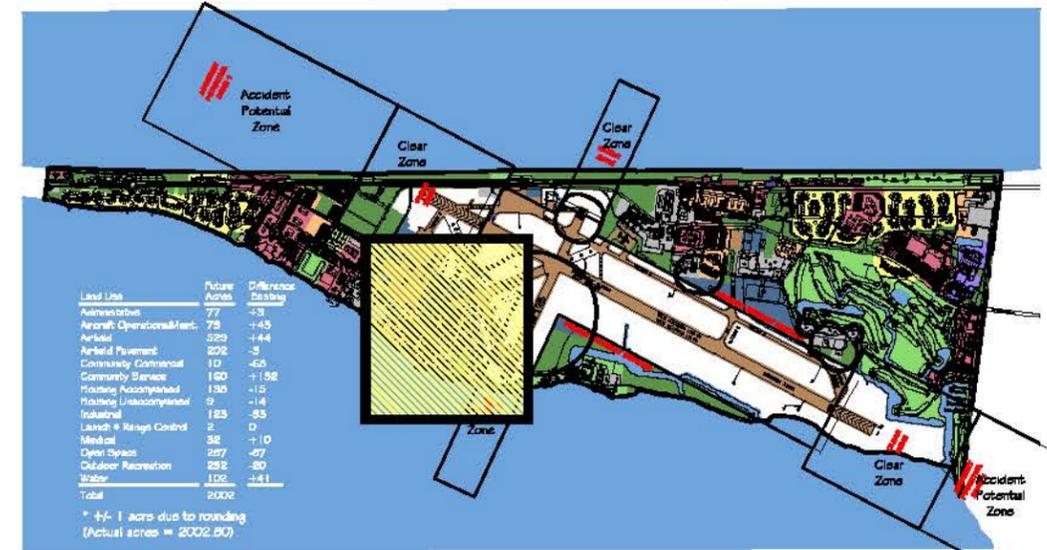




# 920TH RESCUE WING BEDDOWN ENVIRONMENTAL ASSESSMENT



## LOCATION MAP



OBTAINED FROM PATRICK AFB GENERAL PLAN EA, MAY 2005

## LEGEND

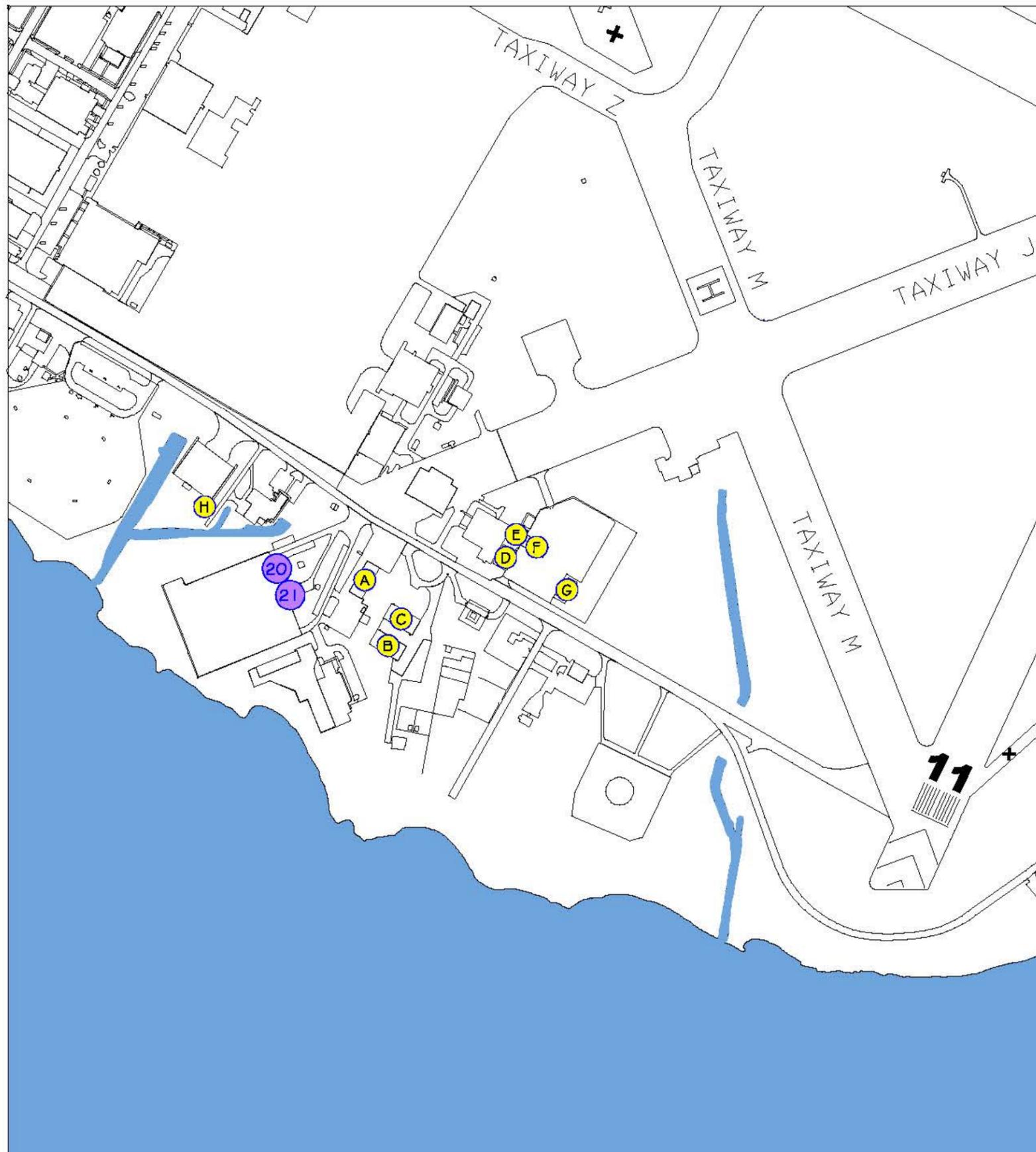
- Installation Boundary
- Airfield
- Runway/Taxiway/Apron
- Aircraft Operations & Maint.
- Industrial
- Administrative
- Community Service
- Open Space
- Water
- QD Boundary
- Airfield Surfaces

**Map 3-9**  
FUTURE ON-BASE  
LAND USE PLAN

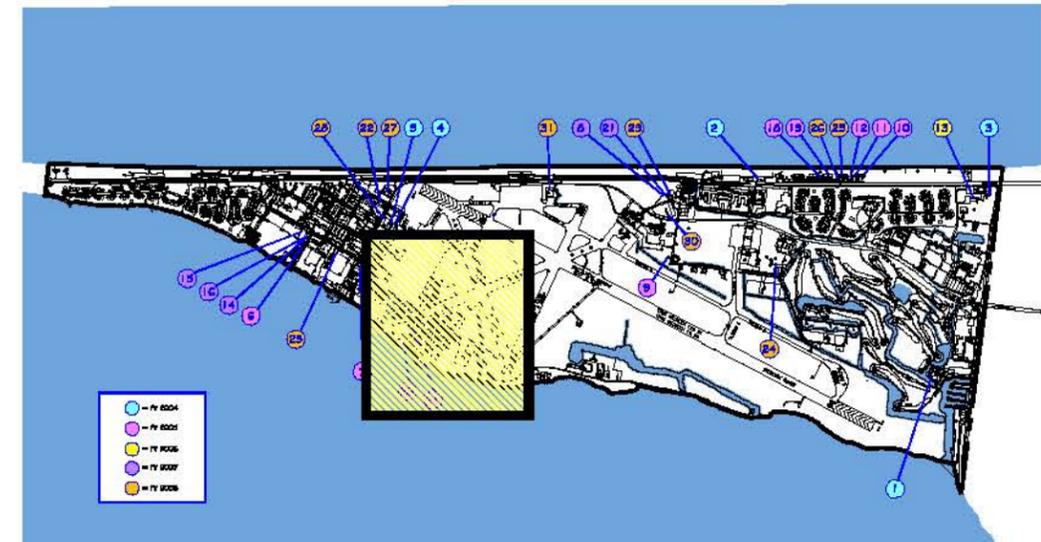




# 920TH RESCUE WING BEDDOWN ENVIRONMENTAL ASSESSMENT



## LOCATION MAP



OBTAINED FROM PATRICK AFB GENERAL PLAN EA, MAY 2005

## LEGEND

Map #	FY	Project Title
20	07	920 RQW MILCON, Bldg 675
21	07	920 RQW MILCON, Bldg 676

- (A)** BUILDING 691
- (B)** BUILDING 696
- (C)** BUILDING 697
- (D)** BUILDING 603
- (E)** BUILDING 605
- (F)** BUILDING 606
- (G)** BUILDING 607
- (H)** BUILDING 672

## Map 3-10 FACILITY DEMOLITION PLAN





## **4.0 ENVIRONMENTAL CONSEQUENCES**

### **4.1 Introduction**

This section of the EA describes the potential environmental consequences of the Proposed Action by comparing proposed project activities with the potentially affected environmental components. Sections 4.1 through 4.13 provide discussions of potential environmental consequences for the proposed action.

Federal environmental laws and regulations were reviewed to assist in determining established threshold for assessing environmental impacts (If any) in fulfillment of NEPA requirements. Proposed Actions were evaluated to determine their potential to result in significant environmental consequences using an approach based on the interpretation of significance outlined in the CEQ regulations for implementing the procedural provisions of the NEPA (40 CFR 1500-1508).

Guidelines established by the CEQ (40 CFR 1508.27) specify that significance should be determined in relationship to both context and intensity (severity). The assessment of potential impacts and the determination of their significance are based on the criteria in 40 CFR 1508.27.

Based on these criteria, three levels of impact can be identified:

1. No Impact – No impact implied.
2. No significant Impact – An impact is predicted, but the impact does not meet the intensity/context significance criteria for the specific resources.
3. Significant Impact – An impact is predicted that meets the intensity/context significance criteria for the specific resource.

Refer to Section 5.0, Cumulative Impacts for the discussion of the proposed actions' incremental impacts.



## **4.2 Air Quality**

### **4.2.1 Proposed Action**

No significant long term impacts will occur as a result of the Beddown of the 920<sup>th</sup> RQW. However short-term air quality impacts could occur during construction operations associated with the Proposed Actions within the 920<sup>th</sup> RQW Complex and during the operation of equipment in support of the new areas. The potential impacts are not expected to be significant. It is anticipated that the construction activities and any installed air emitting equipment would not cause or contribute to a violation of the Federal NAAQS or the state AAQS.

Air quality impacts for the 920<sup>th</sup> RQW training have been addressed in the *Environmental Assessment for Search and Rescue Training, HH-60 and HC-130, 920<sup>th</sup> Rescue Group, 301<sup>st</sup> and 39<sup>th</sup> Rescue Squadrons, PAFB, FL, October 2003* (920<sup>th</sup> Training EA).

Anticipated emissions during construction include dust and particulates (PM-10) from land clearing and site preparation activities, exhaust products (NO<sub>x</sub>, SO<sub>2</sub>, CO, PM-10 and volatile organic compounds (VOCs) from heavy equipment and VOC emissions from application and use of paints, adhesives and solvents. It is expected that fugitive dust from ground-disturbing activities can be reduced by application of Best Available Control Technologies (BACT) such as application of water sprays, dust suppressants, use of coverings or enclosures, paving, enshrouding, planting, and reduction of vehicle speeds on unpaved roads.

In addition, new stationary sources of emissions, such as: sanding, sandblasting, surface coating and welding operations, may be added to the facility as part of the Proposed Action. Potential emissions generated from the addition of any new stationary sources from the Proposed Action, which could reasonably emit air pollutants, would need to be identified and quantified. The need for a permit or permit exemption would need to be evaluated prior to the construction of any new or modified air polluting equipment. Individual projects would require an analysis of



permitting requirements by following the 45th SW procedure for EIAP before the project may proceed.

No Class I ozone depleting substances (ODSs) will be used under the Proposed Action. The installation of new Chillers will require a certification that non-ODS compounds were utilized. Therefore, the proposed action is not expected to adversely affect stratospheric ozone.

PAFB must maintain compliance with the conditions specified in Permit No. 0090021-003-AV as part of the Proposed Action. PAFB would assure that the addition or modification of new equipment would not cause or contribute to a violation of the NAAQS or AAQS. Impacts from the new equipment should not be significant if the proper permitting procedures are followed and equipment is operated using good engineering practice.

ACM surveys for demolition of facilities with ACM are required to meet NESHAP standards. Current records kept for ACM were maintained per IAW AFI 32-2052 for occupant asbestos hazards, therefore, new surveys may be required.

#### **4.2.2 No-Action Alternative**

Under the No Action Alternative, the Proposed Action would not occur. Air Quality impacts would potentially remain at the current historical levels data since no change in activities would occur.

### **4.3 Water Resources**

#### **4.3.1 Proposed Action**

The proposed 920<sup>th</sup> RQW Headquarters Building is not serviced by storm sewers and surface runoff appears to be directed to ditches which drain to the Banana River. Therefore the construction of the proposed 920<sup>th</sup> RQW Headquarters Building falls under the jurisdiction of the St. Johns River Management District. Their regulations indicate that an environmental resource stormwater permit is required for



construction of a stormwater management system for construction of 4,000 square feet (sf) or more of impervious surface area. According to the Preliminary Headquarters Plans, located in Appendix A, the estimated total impervious area will be 118,914 sf. Figure 4 of the Preliminary Headquarters Plans, located in Appendix A, shows the location of the proposed storm water retention pond which would allow more precipitation to infiltrate the ground surface and recharge the ground water system. This would also help reduce storm water runoff.

It should be noted that all construction activities for the Beddown of the 920<sup>th</sup> RQW that require 4000 sf of impervious surface for vehicle use or 9000 SF or greater for vehicles and buildings combined will require Environmental Resource Permitting (ERP) and certified design of stormwater management systems.

Projects that may require ERP include the following:

- Maintenance Workshop Complex (38,600 sf)
- The Weapons Maintenance Shop (8300 sf)
- Pararescue Building (6000 sf)
- Addition to Building 698 (6000 sf)
- Corrosion Control Facility (24,000 sf)
- Relocated 45<sup>th</sup> Space Wing's Petroleum, Oil and Lubricant yard Structure.
- Logistics Readiness Squadron Building (22,500 sf)
- New Aerospace Ground Equipment Building (9000 sf)

A water conservation plan is being prepared for PAFB, which encourages efficient use of water. Construction contractors would be required to obtain National Discharge Elimination System (NPDES) Storm Water Discharge Permits. The contractors would be required to comply with the NPDES permit requirements, as well as, all applicable Federal, state and local laws and regulations during the construction period. Additionally, best construction management practices and adherence to the requirements in permits and in the construction design



specifications would ensure impacts to water resources are minimized to the maximum extent possible. Refer to Section 4.7, Infrastructure and Transportation, addressing impacts to groundwater due to continued PAFB development. Refer to Section 5.0 addressing cumulative impacts of increased water demand.

The construction of additional facilities and parking lots could potentially result in minor increases in the rate and total volume of storm-water on the base. Because the increase in total developed area at the base would be small, impacts resulting from increased runoff are expected to be negligible. During periods of high runoff or flooding during major storm events, impacts to surface water quality could occur if runoff were not properly managed. Because the developed area where the facilities associated with the 920<sup>th</sup> RQW Complex would be located is relatively level, the potential for increased erosion is small.

In addition to surficial land disturbance, which will occur mostly on previously disturbed areas, foundations for the various proposed projects which comprise the Proposed Action are expected to be as deep as the groundwater table. Therefore all dewatering activities will be evaluated for Consumptive Use Permit determination based on water withdrawal methods, volume and time frame of dewatering anticipated.

Local state and federal regulations and appropriate materials-handling practices contain requirements for handling, use and disposal of all chemical and other substances that could contaminate groundwater during construction and operational activities related to the 920<sup>th</sup> RQW Complex. Proper use, handling and storage of POL and appropriate disposal of wastes and wastewaters in accordance with relevant laws and regulations will minimize adverse impacts to groundwater quality and ensure that no significant impacts occur as a result of the operations within the 920<sup>th</sup> RQW Complex.



Floodplains are not suitable for the construction of new facilities and will only be considered for construction if there is no practicable alternative, and will not significantly modify or harm the floodplain and will not increase the likelihood for loss of life or property.

Potential water quality impacts for the 920<sup>th</sup> RQW's search and rescue training in the Banana River and Atlantic Ocean are addressed in the 920<sup>th</sup> Training EA.

#### **4.3.2 No Action Alternative**

If the No Action Alternative is chosen, existing facilities would be maintained and new facilities would not be constructed in support of changing operational requirements. There would be no changes to water resources because there would be no change to the general types of ongoing activities at PAFB.

### **4.4 Geology and Soils**

#### **4.4.1 Proposed Action**

There would be no significant impacts to geology and soils from the implementation of the Proposed Action. The Proposed Action is to maintain infrastructure and grounds, and demolish and construct facilities within the 920<sup>th</sup> RQW Complex in support of current and future installation requirements for PAFB. By utilizing storm water best management practices during new construction, potential negative impacts on the geology and soils (e.g. sheet flow and gully erosion) would be avoided. By controlling these factors, siltation and turbidity of the canals and waterways would be minimized.

#### **4.4.2 No Action Alternative**

Under the No Action Alternative, existing facilities would be maintained and new facilities would not be constructed in support of changing operational requirements. There would be no significant impacts to geology and soils because there would be no change to general types of ongoing activities in the area.



## **4.5 Noise**

### **4.5.1 Proposed Action**

There would be no significant noise impacts expected from the implementation of the Proposed Action. Normal noise producing activities on the base would continue but would not be affected by the construction of new facilities, however, short-term increases of noise levels around demolition and construction sites would be reasonably expected to occur. Construction noise has not historically been a significant issue with construction projects in the past as demonstrated in previous EAs prepared for projects at PAFB and retained in the offices of the of the 45CES/CEV.

The following proposed facilities are potentially located between 65 and 70 decibels noise contours, which are not considered significant (conversation between two people is in this range.):

- (6) Maintenance Workshop Complex
- (7) Weapons Maintenance Building and Munitions Storage
- (8) Liquid Oxygen Facility (LOX)
- (12) Storage Building

Figure 1-4 shows the location of the proposed facilities.

The 920<sup>th</sup> RWQ will follow the PAFB AICUZ Plan with any change in aircraft types assigned to 920<sup>th</sup> RWQ or significant mission changes that increase flight activities and/or associated aircraft support activities.

Potential Noise impacts for the 920<sup>th</sup> RQW's search and rescue training are addressed in the 920<sup>th</sup> Training EA.

### **4.5.2 No Action Alternative**

The No Action Alternative would result in no significant impacts to noise. Current noise levels would remain unchanged.



## **4.6 Ecological Resources**

### **4.6.1 Proposed Action**

The positive impacts are that most construction will occur in previously disturbed areas, which would be a compatible land use and landscaping will be added with maximum use of native species to potentially add cover/habitat for wildlife on base. In addition, the Proposed Action includes leaving significant open spaces along the Banana River on the west central portion of the Base. These activities would provide higher quality habitat for the many species, which co-exist on PAFB, and ensure their protection within the base.

Compatible land use elements of the Proposed Action would improve the sustainability of healthy, diverse and productive plant and animal communities reflective of a naturally balanced ecosystem. Though there are no rare or endangered plant species on PAFB, native plant communities as well as non-game species would also be encouraged. More natural habitat would improve sustainability of the diverse varieties of plant and animal species that make their homes on PAFB. The restriction of activities on the shoreline of the ocean would help protect the threatened and endangered sea turtle species that use the beach for nesting. Additionally, the PAFB 45th SW Instruction 32-7001, *Exterior Lighting Management* (1 April 2003) would continue to afford additional protection for the sea turtle through proper management of existing and all new base lighting. Protection for the manatee and other listed and protected species would continue through proper consultation with the U.S. Fish and Wildlife Service (FWS), National Marine Fisheries Service (NMFS), and any state agencies. Furthermore, PAFB would follow procedures set forth in the Integrated Natural Resources Management Plan (INRMP) for proper management of the base's ecological resources.

Since wetlands are one of the most biologically productive natural ecosystems, planned management of the potential wetlands resources found on PAFB is critical to sustaining biodiversity at PAFB. As required by Executive Order 11990 to minimize the destruction, loss or degradation of wetlands; the natural wetland



systems will be protected and there will be no net loss of wetland under the Proposed Action. No impacts are anticipated; however any action that affects the wetlands will undergo proper coordination with the regulatory agencies.

Construction and renovation activities are not expected to affect aquatic biota within the major water bodies on or surrounding the 920<sup>th</sup> RQW Complex and PAFB. Potential impacts would be addressed through proper consultation and coordination with Federal and state regulatory agencies. Furthermore, 920<sup>th</sup> RQW would continue to operate under PAFB INRMP.

Potential ecological impacts for the 920<sup>th</sup> RQW's search and rescue training are addressed in the 920<sup>th</sup> Training EA.

#### **4.6.2 No Action Alternative**

If the No Action Alternative were selected, the Proposed Action would not occur. There would be no impacts to biological resources since no change in activities would occur.

### **4.7 Infrastructure**

#### **4.7.1 Proposed Action**

- **Drinking Water System**

The supply of domestic water from the City of Cocoa is more than adequate, at present. If more water is needed, arrangements with the City of Cocoa could be effected. If required, the City of Melbourne could also provide water. Therefore, no significant impacts would occur.

Figure 3 in the Proposed Headquarters Plan, located in Appendix A, shows the location of a new 6-inch fire line, and 3 and 6-inch water lines, which will service the new Headquarters building.



- **Sanitary Sewer System**

According to the Proposed Headquarters Plan, located in Appendix A, sanitary lift station will be installed to tie into the existing main system. In addition, fire hydrants will be installed as required. As project designs are prepared, the project designer will determine whether existing utilities are adequate. Infrastructure Improvements Plan involves repairs to, and replacement of, certain sewer mains; lift stations and pumps in the lift stations. Therefore, positive impacts would result from repairs and improvements.

Building 674, pumping station for sanitary sewer system will be retained, however an existing above ground storage tank on the site will be salvaged and a closure assessment completed through the Air Force (45 CEVC).

Figure 3 in the Proposed Headquarters Plan, located in Appendix A, shows the location of a new 8-inch sewer line, which will service the new Headquarters building.

- **Storm Drainage System**

Potential damage from storm water is not apparent. However, part of the system was installed in 1949 with extensive construction since then. Therefore, the PAFB General Plan recommends hydrologic study of factors affecting storm water runoff. Plans for the enhancement of the storm drainage system may be necessary to provide an added degree of protection. Therefore, positive potential impacts could result from improvement in the storm drainage system.

As part of the normal maintenance routine at PAFB, canals and drainage ditches must be maintained to prevent the overgrowth of plants and trees. The overgrowth of vegetation can result in improper drainage of the canals



and ditches, thus impeding normal flow of storm water runoff, which could cause unnecessary flooding.

The proposed 920<sup>th</sup> RQW Headquarters Building is not serviced by storm sewers and surface runoff appears to be directed to ditches which drain to the Banana River. Figure 4 of the Preliminary Headquarters Plans, located in Appendix A, shows the location of the proposed storm water retention pond.

Surface runoff from the parking lot and downspouts from the Headquarters building will be directed to catch basins which outlet to the retention pond. The retention pond outlet will be directed to the drainage ditch which borders the site to the north. The retention pond with a permanent pool is intended to meet water quality and runoff detention objectives and to enhance the visual appeal of the Headquarters site. The stormwater drainage/retention design will be reviewed by the 45<sup>th</sup> SW Civil Engineering Squad, Environmental Flight (45 CES/CEVC) for permitting requirements.

The proposed new Fuel Truck Facility parking yard will have secondary containment with capacity equal to the larger of the volume of the largest refueler truck to be parked or the runoff from a rainfall of intensity equal to 2-year expectancy, 24-hour duration storm (over the concrete area). Ramps over containment curbs must be sloped no more than 2% to avoid damage to fuel trucks.

The parking lot design for the fuel truck parking area will provide an impermeable retention and controlled drainage system leading to a containment or treatment system. The area will be paved with concrete sloped a minimum of 1% toward catch basins or trench drains.

Furthermore, all proposed projects included in the 920<sup>th</sup> RQW Complex Plan will be reviewed by the 45 CES/CEVC for permitting requirements.



- **Electric Systems**

The PAFB electric system appears to be adequate, at present. Infrastructure Improvements Plan involves repairs and maintenance of the electrical system. Therefore, positive impacts would result from repairs and maintenance of the system.

Section 6.6 of the proposed Headquarters Plan, located in Appendix A provides discussion of the proposed electrical system for the proposed Headquarters Plan.

- **Central Heating/Cooling System**

There is significant residual capacity of the Central Heating Plant because it operates only about three months of the year. The three boilers are approximately 10 years old and in excellent condition. The PAFB General Plan identifies the piping system, initially installed over 45 years ago, as being in poor condition. Additionally, many components of the system are insulated with asbestos. With base-wide replacement of steam lines, the condition of the piping system is expected to be brought up to acceptable condition. Therefore, with these improvements to the system, positive impacts would occur.

Section 6.4 of the proposed Headquarters Plan, located in Appendix A provides discussion of the proposed mechanical system for the proposed Headquarters Plan.

- **Natural Gas System**

The PAFB natural gas system appears to be adequate, at present. Therefore, no significant impacts would occur.



- **Liquid Fuels System**

The liquid fuel system includes all fuel delivery, storage and distribution facilities. All in-use tanks comply with current regulatory requirements. The PAFB General Plan calls for projects to upgrade piping, remove or replace selected storage tanks, or replace underground storage tanks with aboveground tanks. Therefore, with these improvements to the system, positive impacts would occur.

- **Communications**

Communications is the backbone of PAFB and the 920<sup>th</sup> RQW and their missions. Therefore, only positive impacts would be expected from improvements and upgrades to its existing communication systems. This would allow PAFB to carryout its missions now and in the foreseeable future.

Section 6.9 of the proposed Headquarters Plan, located in Appendix A, provides discussion of the proposed communications system for the proposed Headquarters Plan.

- **Transportation**

The highway system in the vicinity of PAFB is sufficient to meet the demand for current and future traffic and PAFB is expected to experience only limited growth over the next few years. Therefore, maintenance and improvements to existing transportation systems would have positive impacts.

#### **4.7.2 No Action Alternative**

The selection of the No Action Alternative would result in the above improvements not being accomplished and therefore, existing inefficiencies in the current infrastructure would remain.



## **4.8 Land Use**

### **4.8.1 Proposed Action**

Figure 3-8 shows the existing land uses for the proposed 920<sup>th</sup> RQW Complex area and Figure 3-9 shows the proposed land uses changes for the proposed 920<sup>th</sup> RQW Complex area. As noted, the major land use changes are the creation of an administrative area and realignment of the industrial and aircraft operations and maintenance areas. All renovations, modifications and new construction would be consistent with PAFB General Plan. Further implementation of the Proposed Action would supplement the positive changes that have been accomplished, and enhance the working and living environment at PAFB.

Land use for the 920<sup>th</sup> RQW's search and rescue training are addressed in the 920<sup>th</sup> Training EA.

### **4.8.2 No Action Alternative**

If the No Action Alternative is selected, new construction would not occur. Therefore, all of the proposed renovations and new construction projects, outlined in the 920<sup>th</sup> RQW Complex Plan, would not be implemented, therefore impacting the mission readiness and productive operations of the 920<sup>th</sup> RQW's. The existing shops are undersized and spread out in several areas, wasting resources and reducing efficiency. Current facilities area not designed for current uses and do not accommodate assigned personnel and required equipment. Personnel must travel between numerous faculties to accomplish required tasks.

## **4.9 Socioeconomic Resources**

### **4.9.1 Proposed Action**

The Proposed Action would provide positive impacts to socioeconomics from its implementation. There would not be any noticeable impacts to population, but employment in the region would be expected to increase with future construction projects planned at PAFB. No adverse impacts to the region's economy have



resulted from the beddown of the 920<sup>th</sup> RQW. Economic benefits to the region are expected to increased employment and local purchases of materials associated with construction of the facilities. As consumers, all new personnel add to the local economy (purchases) and generate new revenue (such as taxes and fees) for local governments.

Socioeconomic impacts for the 920<sup>th</sup> RQW's search and rescue training are addressed in the 920<sup>th</sup> Training EA.

#### **4.9.2 No Action Alternative**

There would be no significant impacts to socioeconomics from the No Action Alternative.

#### **4.10 Environmental Justice**

##### **4.10.1 Proposed Action**

The Proposed Action was reviewed and found to be in compliance with Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Population and Low-Income Populations, and 32 CFR 989, Environmental Impact Analysis Process. Given the physical parameters of the Proposed Action, analysis indicates little or no potential for substantial environmental effect on any human population outside PAFB boundaries.

##### **4.10.2 No Action Alternative**

The No Action Alternative would have no potential for substantial environmental effect on any human population outside PAFB boundaries.



## 4.11 Cultural Resources

### 4.11.1 Proposed Action

There are no anticipated significant impacts to cultural resources from the implementation of the proposed action. PAFB procedures, which are governed under State and Federal rules and regulations, are contained in the 45th SW Cultural Resources Management Plan.

A National Park Service archaeologist has made a detailed inspection of PAFB, noting the nature, location, and extent of base construction disturbance. Although the archaeologist did not conduct an intensive survey of the area and no fieldwork was involved, his inspection was sufficient to conclude that is highly unlikely that PAFB contains any significant archaeological cultural resources that could be affected by future construction. A letter dated August 25, 1981 from the State Historic Preservation Office (SHPO) to the Commander of PAFB concurred with this finding and the base was cleared for construction.

Any construction contract would include an “unanticipated discovery” clause, which would specify that it, during construction activities, the selected contractor observes items that might have historical or archaeological value, such observations should be reported immediately to the appropriate authorities in compliance with applicable laws so that a determination can be made as to their significance and what, if any, special disposition of the finds should be made. The construction contractor should cease all activities that may results in the destruction of these resources and should prevent employees from trespassing on, removing or otherwise damaging such resources.

Several existing facilities, however, are eligible or potentially eligible for listing on the *National Register of Historic Places (NRHP)*. These facilities (Table 3-11) must be evaluated for their historic significance prior to any construction, demolition, or other restoration activities. Projects associated with Buildings 313, 673 and 688 must be evaluated by the SHPO before any projects associated with these buildings can



begin. Most activities, including demolition, are permitted after appropriate consultation and mitigation, if required. Modifications and renovations to eligible and potentially eligible structures/buildings must also be consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties (36 CFR Part 68). A "no adverse effects" opinion due to 920th RQW reutilization of facilities 313, 673 and 688 was concurred by the State Historic Preservation Office (Appendix B). Completion of Florida Master Site File forms and photography of the facilities was requested for public record of these Florida War II and Cold War era structures.

Cultural Resources impacts for the 920<sup>th</sup> RQW's search and rescue training are addressed in the 920<sup>th</sup> Training EA.

#### **4.11.2 No Action Alternative**

Under the No Action Alternative, the Proposed Action would not occur. There would be no impacts to cultural resources since no change in activities would occur. The 920<sup>th</sup> RQW would still have to follow procedures, which are governed under State and Federal rules and regulations, and contained in the 45th SW Cultural Resources Management Plan.

#### **4.12 Hazardous Materials and Waste Management**

##### **4.12.1 Proposed Action**

There should be no significant impacts anticipated to hazardous materials and waste from the implementation of the Proposed Action. The Proposed Action is the Beddown of the 920<sup>th</sup> RQW, which will include demolishing and constructing facilities on PAFB in support of current and future installation requirements for the 920<sup>th</sup> RQW. Hazardous materials and wastes could potentially be encountered during demolition of facilities within the 920<sup>th</sup> RWQ Complex on PAFB in the forms of asbestos containing building materials (ACM) and lead paint. Hazardous materials would be handled in accordance with the 920<sup>th</sup> RQW Hazardous Waste



Management Plan and PAFB OPLAN 19-14 to ensure they are stored, transported and disposed of properly. Construction design specifications would continue to provide specific procedures to be followed by the construction or demolition contractor for management of hazardous materials and waste.

The use of hazardous materials (petroleum, oils, lubricants (POLs), and paints) and generation of small quantities of hazardous and non-hazardous waste (waste paint, solvents, welding materials and oil) generally occur with large construction projects. With proper management, the small quantities of hazardous materials and wastes associated with the construction would pose no threat to human health or the environment.

Daily operations at the various facilities within the 920<sup>th</sup> RQW Complex will continue to generate the following waste streams:

- Paint waste
- Sealant
- Adhesive
- Blast media
- Universal waste batteries, and
- Used Oil and filters

Aerosol cans are taken to HazMart where waste determination can be made.

These waste streams are and will continue to be managed under the 920<sup>th</sup> RQW's Hazardous Waste Management Plan and the Patrick's AFB's OPLAN 19-14. The waste streams listed above are all recycled and should further reduce the volumes of waste requiring final disposal.

Current wash water from the 920<sup>th</sup> RQW's wash rack, located south of Building 624 on a concrete apron, is collected and disposed of as a hazardous waste due to cadmium contamination from the washing of C-130 engines. If the proposed Corrosion Control Facility is built, the same disposal practices may have to be



employed. According to the 45<sup>th</sup> CES/CEV discharging to the sanitary sewer system may not be an option due to a zero discharge policy.

Table 3-12 provides a list of the IRP sites located within the 920<sup>th</sup> RQW Complex, which will have to be evaluated on a case-by-case basis for each of the proposed construction activities potentially affecting any of the IRP areas. Map 3-1, *Composite Constraints*, shows the IRP sites in the area around the 920<sup>th</sup> RQW Complex. Construction activity in the area of IRP must be reviewed prior to construction activities beginning to ensure no further spread of contamination and maintain safe conditions for construction personnel.

Section 7.1 of the proposed Headquarters Plan, located in Appendix A, provides a detailed discussion of the presence of petroleum hydrocarbons, which has been determined to be an environmental concern at Building 676 and Facility 20402. Section 7.2 provides recommendation for construction activities in the area of the IRP site. The following is a summary of the petroleum hydrocarbons impacts:

The presence of petroleum hydrocarbons has been determined to be an environmental concern at Building 676 and Facility 20402. This area is a Solid Waste Management Unit (SWMU) site under the Resource Conservation and Recovery Act (RCRA). In 1994 and 1995, 191 soil borings were collected in the southwest quadrant of Facility 20402 to determine extent of “excessively contaminated soils” and reported in a Contaminated Assessment Report (June 1996). The approximately location of contamination is indicated in the drawings. The report was reported by O’Brien and Gere Engineers (O’Brien and Gere) satisfied requirements of Chapter 62-770 of the Florida Administration Code (FAC). The contamination may have resulted in a combination of diesel fuel, JP-8 and gasoline (MOGAS), the site is classified as “mixed product analytical group” (MPAG). According to O’ Brien and Gere, FAC Rule 62-770.200 (7) states that “excessively contaminated soil” must remediated. The rule states that soil headspace readings over 50 parts per million (ppm), determined with an organic



vapor analyzer equipped with flame ionization detector, indicate “excessive contamination” on MPAG sites.

Remediation of the “excessively contaminated soil” has been attempted by bioventing and soil vapor extraction with limited success. Bioventing blows air or oxygen into vadose zone well points to enhance the natural biodegradation process. Soil vapor extraction involves pulling a vacuum on vadose zone well points in order to extract the volatile components. A new remedial approach is being considered that would involve introduction of oxidizing compounds into the vadose zone well points which should not be impeded with new construction. All existing monitoring wells and remediation well points must not be impacted by new construction activities. The wells are currently flushed-mounted in the existing pavement.

Groundwater is encountered at five to six feet below grade on site. A groundwater contamination plume exists on site as well. Applicable Florida regulations only require remediation of soils that are excessively contaminated. Therefore, dewatering should be avoided if possible. If dewatering is required during construction, the water should be analyzed and disposed of in accordance with FDEP rules and regulations. It should be noted that once funding has been approved for the Proposed Project, notification to the FDEP will be required.

Excavation of contaminated soil during construction should remain on site and within the SWMU boundaries. However, disposal of “excessively contaminated soil” can occur if it is determined that it will eliminate potential additional contamination of the shallow groundwater. If the contaminated soils are determined to be non-hazardous under RCRA regulations, the contaminated soils can be handled as a special waste and disposed of at an FDEP approved landfill.

Potential hazardous waste impacts for the 920<sup>th</sup> RQW’s search and rescue training are addressed in the 920<sup>th</sup> Training EA.



#### **4.12.2 No Action Alternative**

There would be no significant impacts to hazardous materials and waste from the implementation of the No Action Alternative. The 920<sup>th</sup> RQW's Hazardous Waste Management Plan and PAFB's OPLAN 19-14 would continue to provide guidance for handling of hazardous materials on the Base.

#### **4.13 Safety and Occupational Health**

##### **4.13.1 Proposed Action**

Short-term health and safety impacts could occur as a result of ongoing construction activities within the 920<sup>th</sup> RQW Complex under the Proposed Action. Use of established safety procedures and implementation of site-specific health and safety plans would minimize potential impacts to health and safety from proposed activities. Demolition projects within the 920<sup>th</sup> RQW Complex under the Proposed Action may be required to address National Emissions Standards for Hazardous Air Pollutants (NESHAP) prior to demolition as current survey data (per IAW AFI 32-1052) generally documents health hazards to facility occupants only. ACM abatement must occur before disposal; abatement and disposal must be performed by certified personnel in accordance with Asbestos NESHAP (40 CFR 61 Subpart M), 62-257, Florida Administrative Code, and 45 SW Asbestos Management OPLAN.

The OSHA is responsible for protecting worker health and safety in non-military workplaces. The OSHA regulations are found in 29 CFR. For Air Force operations, AFI 91-301 and AFI 91-302 contain the Air Force's Safety program, and provide the basis for worker safety programs. Specific PAFB programs which affect construction and demolition operations include the Asbestos and Lead-based Paint programs.

Table 3-12 provides a list of the IRP sites located within the 920<sup>th</sup> RQW Complex, which will have to be evaluated on a case-by-case basis for each of the proposed construction activities potentially affecting any of the IRP areas to ensure



construction workers safety. Map 3-1, *Composite Constraints*, shows the IRP sites in the area around the 920<sup>th</sup> RQW Complex.

All facilities and landscaping that may affect the airfield will be constructed such that the 7:1 ratio is met according to the *United Facilities Criteria 3-260-01, Airfield and Heliport Planning and Design*. Safety obstructions will not be created and landscaping will not provide extensive habitat for birds to create a Bird Aircraft Safety Hazard.

#### **4.13.2 No Action Alternative**

Under the No Action Alternative, existing facilities would be maintained and new facilities would not be constructed in support of changing operational requirements. There would be no impacts to health and safety. There would be no change to the general types of ongoing activities within the 920<sup>th</sup> RQW Complex under the Proposed Action. In addition, the obstructions in the Airfield Clear Zones would remain and continue as operational health hazards.



## **5.0 CUMULATIVE IMPACTS**

### **5.1 Definition of Cumulative Impacts**

Cumulative impact as shown in 40 CFR 1508.7 is "...the impact on the environment which results from the incremental impact of the action when added to other past, present, or reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time."

Potential cumulative impacts of the proposed activities are evaluated by determining (1) whether the Proposed Action would have an impact on a given resource and (2) what is the incremental impact of the Proposed Action when added to other past, present, and reasonably foreseeable future actions.

### **5.2 Past, Present, and Reasonably Foreseeable Actions**

PAFB and its predecessor Banana River Naval Air Station have operated at the base since 1940. During this time period, environmental and land use policies evolved to meet the growing public awareness to environmental and land use issues and concerns. To address these issues and concerns, PAFB has developed, over the years, environmental and land use policies and programs to guide the PAFB in its day-to-day operations, which includes but not limited to:

- 45th Space Wing, PAFB, FL., *Base General Plan (Comprehensive Plan)*, 2003.
- 45th Space Wing, Civil Engineering, Environmental Flight, *Environmental Assessment for Development of Patrick Air Force Base, Florida*, December 1997.
- 45th Space Wing, Civil Engineering, Environmental Flight, *Integrated Natural Resource Management Plan (INRMP)*, 2001.
- 45th Space Wing, Civil Engineering, Environmental Flight, *Cultural Resources Management Plan (CRMP)*, 2001.
- 45th Space Wing, Civil Engineering, Environmental Flight, *45th Space Wing Guide to Environmental Quality*, 1996b.



- 45th Space Wing, OPLAN 19-14, 45th Space Wing Petroleum Products and Hazardous Waste Management Plan. May 2, 1995.
- CH2M HILL, Water System Study, Patrick Air Force Base, Florida. July 1998. Storm Water Pollution Prevention Plan
- 45th Space Wing, Draft OPLAN 32-3, Patrick Air Force Base Spill Prevention and Countermeasures Plan, March 2003.
- 45th Space Wing, PAFB, FL, Bird Hazard Reduction Plan, OPLAN 91-212, January 1998.
- 45th Space Wing, PAFB, FL, Patrick Air Force Base, Air Installation Compatible Use Zone Study, February 2001.

PAFB has developed extensive programs and plans to address environmental and cultural issues that are associated with the Base. The general goals and objectives for the installation, as outlined in the PAFB General Plan, ensure that environmental impacts are reduced and/or eliminated. However, future individual actions may still require detailed environmental analysis and recommendations of feasible alternatives prior to construction and/or implementation. This procedure would provide efficient, environmentally sensitive operational support at the installation, and meet the installation's mission need for comprehensive planning.

The 920th Rescue Group (RQ) moved to PAFB in January 1993 and became an official tenant of PAFB and mission partner to the 45<sup>th</sup> SW in November 1993. On April 1, 2003, the RQ became a Wing and now employees over 1350 individuals. The 920<sup>th</sup> Rescue Wing (RQW) provides combat rescue, air support for manned space flight operations at Cape Canaveral, and safety surveillance for sea security zones. It also provides humanitarian and disaster relief operations as directed. During wartime missions, the 920th RQW provides an air refueling capability to perform night, long range, and low level operations in support of combat rescue. During peacetime missions, the 920th has the following missions:

- Support Air Combat Command and Special Operations Command by achieving and sustaining combat rescue capability.



- Support Air Force Space Command by clearing of down range locations prior to missile launch activity.
- Support NASA by providing contingency rescue capability for space shuttle launch activities.
- Support USAF and Department of Defense (DoD) with worldwide capability to search for, locate, and render emergency medical treatment to personnel in response to national search and rescue plans.
- Support International Civil Aviation Organization signatories by providing search and rescue capability to foreign governments at their request.
- To support US agencies by participating in humanitarian and disaster relief operations.

### **5.3 Analysis of Cumulative Impacts**

#### **5.3.1 Air Quality**

Short-term air quality impacts could occur during construction operations associated with the Proposed Action within the 920<sup>th</sup> RQW Complex under the Proposed Actions and during the operation of equipment in support of the new areas. The potential impacts are not expected to be significant. It is anticipated that the construction activities and any installed air emitting equipment would not cause or contribute to a violation of the Federal NAAQS or the state AAQS.

Construction-related impacts could result from fugitive dust (particulate matter) and combustion of fuel from construction equipment. In addition, new stationary sources of emissions could be added to the facility as part of the Proposed Action.

Potential emissions generated from the addition of any new stationary sources from a Proposed Action, which could reasonably emit air pollutants, would need to be identified and quantified (i.e. surface coating and, welding operations, etc...) The need for a permit or permit exemption would need to be evaluated prior to the construction of any new or modified air polluting equipment. Individual projects



would require an analysis of permitting requirements by following the 45th SW procedure for EIAP before the project may proceed.

PAFB and 920<sup>th</sup> RQW must maintain compliance with the conditions specified in Permit No. 0090021-003-AV as part of the Proposed Actions. The 920<sup>th</sup> RQW would assure that the addition or modification of new equipment would not cause or contribute to a violation of the NAAQS or AAQS. Impacts from the new equipment should not be significant if the proper permitting procedures are followed and equipment is operated using good engineering practice.

### **5.3.2 Water Resources**

If the Proposed Action is implemented, there would be small-scale positive impacts to water resources. As part of the Proposed Action, many areas presently covered with impervious surfaces (asphalt and concrete) would be replaced with natural ground cover. This would allow more precipitation to infiltrate the ground surface and recharge the ground water system. Emergent vegetation would be removed as often as necessary to maintain flow.

The proposed projects would potentially be subject to the St. John River Management District and the FDEP's Storm Water Rules and Regulations, as well as PAFB's Storm Water Pollution Prevention Plan. The proposed projects must be submitted to PAFB EPF for review and evaluation prior to implementation.

Floodplains are not suitable for the construction of new facilities and will only be considered for construction if there is no practical alternative, will not significantly modify or harm the floodplain and will not increase the likelihood for loss of life or property. Should construction become necessary within the 100-year floodplain, care must be taken to ensure that project design and construction incorporates flood-proofing measures and that the finished floor elevation is above the flood level. The proposed projects must be submitted to PAFB EPF for review and evaluation prior to implementation.



### **5.3.3 Geology and Soils**

No cumulative effects are anticipated for the Proposed Action. By utilizing storm water best management practices during demolition and new construction activities, potential negative impacts on the geology and soils (e.g. sheet flow and gully erosion) would be avoided. By controlling these factors, siltation and turbidity of the canals and waterways would be minimized.

### **5.3.4 Noise**

There would be no significant noise impacts expected from the implementation of the Proposed Action. No cumulative effects are anticipated.

### **5.3.5 Ecological Resources**

There would be no significant adverse impacts to natural resources from the implementation of the Proposed Action. Priority would be given to preserving the natural shoreline vegetation and controlling invasive species, which are critical to shoreline stabilization. These activities would provide higher quality habitat for the many species, which co-exist on PAFB, and ensure their protection. Natural wetland systems would be protected and there will be no net loss of wetland under the Proposed Action.

### **5.3.6 Infrastructure**

PAFB is expected to experience only limited growth over the next few years, and the current infrastructure appears to be adequate, at present and for the near future. No cumulative impacts are anticipated from the Proposed Action. Any impacts from implementation of the proposed action would be of a positive nature.

Currently PAFB does not have any plans to increase groundwater usage. However, off-base usage may increase as surrounding communities experience growth, thus resulting in a potential cumulative impact of increased groundwater usage, which could directly or indirectly impact PAFB in the future.



### **5.3.7 Land Use**

If the Proposed Action is undertaken the land uses within the proposed 920<sup>th</sup> Complex on Patrick Air Force Base would be appropriately located and functionally efficient, thus creating a positive cumulative impact. The most significant revisions to the land use plan involve the relocation of Industrial uses from the river community area, and the removal of structures from the Northern Clear Zone. These changes would not only bring PAFB into compliance with Airfield Criteria, they would also enhance the Quality of Life for base personnel. The land uses in the Clear Zone area would become Open Space, promoting visual quality in the Main Base area. New Facilities and improvements in the river community area would create a public gathering place in an environment that would capitalize on its riverside location. Further implementation of the recommendations of the Area Development Plans would supplement the positive changes that have been accomplished, and enhance the working and living environment at PAFB.

### **5.3.8 Socioeconomic Resources**

The Proposed Action would provide positive cumulative impacts to socioeconomics from its implementation. There would not be any noticeable impacts to population, but employment in the region would be expected to increase with future construction projects planned at PAFB. No adverse impacts to the region's economy would result from the Beddown of the 920<sup>th</sup> RQW. Economic benefits to the region are expected to increased employment and local purchases of materials associated with construction of the facilities. As consumers, all new personnel add to the local economy (purchases) and generate new revenue (such as taxes and fees) for local governments.

### **5.3.9 Environmental Justice**

No cumulative impacts are anticipated from the proposed action with respect to environmental justice.



### **5.3.10 Cultural Resources**

No cumulative impacts are anticipated from the proposed action with respect to cultural resources.

### **5.3.11 Hazardous Materials and Waste Management**

No cumulative impacts are anticipated from the Proposed Action with respect to Hazardous Materials and Waste Management. Waste amounts would increase with continued abatement and demolition of buildings that become unusable, but then there would be a leveling off as new facilities are constructed that would be devoid of asbestos and heavy metal paint issues and won't require very much maintenance.

### **5.3.12 Safety and Occupational Health**

No cumulative impacts are anticipated from the proposed action with respect to safety and occupational health. Furthermore, the Proposed Action includes demolition and construction of facilities on PAFB in support of current and future installation requirements.

## **5.4 Irreversible and Irretrievable Commitment of Resources**

The Proposed Action would result in some irreversible and irretrievable commitment of resources such as wood, concrete, minerals and labor. This commitment of resources is not significantly different from that necessary for many other similar building programs. It is similar to the building activities that have been carried out on PAFB over recent years.



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## **APPENDICES**

**APPENDIX A**

**920<sup>th</sup> Rescue Wing Headquarters**

**FY 2006**

**SXHT 97-3008**

**CUSTOMER CONCEPT DOCUMENT (CCD)**

**920<sup>th</sup> Rescue Wing Headquarters**

**Patrick Air Force Base  
Brevard County, Florida**

**PN SXHT973008  
FY 2006**

Prepared for:

**Department of the Air Force  
Air Force Reserve Command  
Robins AFB, Georgia**

Prepared by:

**U.S. Army Corps of Engineers  
Louisville District**

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## 1. Executive Summary

This Customer Concept Document is a comprehensive planning tool providing the Air Force Reserve Command Headquarters (HQ AFRC), the Patrick AFB Base Civil Engineer (BCE), and the 920<sup>th</sup> Rescue Wing (920 RQW) with the requirements for a military construction project. This project will include the construction of the 920<sup>th</sup> Rescue Wing Headquarters and relocation of the 45<sup>th</sup> Space Wing Fuel Truck Facility. This document provides a project description, identifies the facility requirements, graphically represents the requirements, and validates the construction cost estimate. This process gives the 920<sup>th</sup> Rescue Wing and Base Civil Engineer an understanding of the overall project details, allows the AFRC project manager to facilitate design with a clear list of customer and base requirements, and saves design funds by shortening design time and defining design requirements.

The 920<sup>th</sup> Rescue Wing, Air Force Reserve Command (920 RQW) is located at Patrick Air Force Base, south of Cape Canaveral Air Force Station (CCAFS), Florida. The 920<sup>th</sup> Rescue Group converted to Wing status on 1 April 2003 and now employs 1,378 individuals. As of 1 October 2003, the Wing is mission tasked by the Air Force Special Operations Command. The Wing provides combat rescue support for the Aerospace Expeditionary Force (AEF) including air support for manned space flight operations and safety surveillance for sea security zones. When directed, humanitarian and disaster relief operations are also conducted. To accomplish these duties, the Wing recruits, organizes, and trains Air Force Reservists for active duty in time of war, national emergency, or contingency tasking.

With the conversion from Group to Wing status, a headquarters building located with the operational and maintenance facilities is necessary for efficient and effective management of administration and training. Currently, the majority of functions are located on the third floor of Building 423 with other functions dispersed across the base.

The 920<sup>th</sup> Rescue Wing Headquarters project includes demolition of the 45<sup>th</sup> Space Wing Fuel Truck Facilities (existing parking area, Buildings 675, 676, and 679), construction of a new headquarters building with a parking area and associated utilities on the current Fuel Truck Facility site, and construction of a new Fuel Truck Facility on another site. Anti-terrorism force protection measures, sustainable design features, communications infrastructure, and contaminated soil removal are also included.

The cost estimate for this project is based on a fiscal year 2006 appropriation; therefore, will require adjustment for the actual year of appropriation. Based on the facility requirements and concept plans presented in this document, using the estimating techniques contained in the Parametric Cost Engineering System (PACES), the estimated construction contract cost for the Wing Headquarters project is \$13,200,000. This cost includes building demolition, building construction, anti-terrorism force protection measures, sustainable design features, supporting facilities, contingency, and supervision, inspection, and overhead (SIOH) costs. The estimate is based on an 18-month construction performance period with construction starting in April 2006.

## 2. Project Description

### 2.1 Problem Statement

With the conversion from Group to Wing status, a headquarters building located with the operational and maintenance facilities is necessary for efficient and effective management of administration and training. As the 920<sup>th</sup> has progressed from Squadron to Group to Wing, no consolidated space has been provided. Currently, the majority of functions are located on the third floor of Building 423 with other functions dispersed across the base. Building 423 cannot accommodate all the newly assigned Wing functions and is located remotely from the Wing operational and maintenance facilities. The 920<sup>th</sup> Wing Headquarters functions are not distinguishable from the Patrick AFB functions, sharing Building 423 with 11 other units including the large presence of the 45<sup>th</sup> Space Wing Operations Group. The small area allocated to the 920<sup>th</sup> in Building 423 is not a conducive environment for hosting dignitaries. Lack of adequate working space for the new Wing functions will degrade mission readiness and morale.

### 2.2 Project Site

This planning document outlines the requirements for the programming, design, and construction of a new headquarters facility for the 920<sup>th</sup> Rescue Wing and relocation of the 45<sup>th</sup> Space Wing Fuel Truck Facility. The project includes demolition of the existing fuel truck facility structures and parking area to clear the site for the headquarters facility. Construction of a new Fuel Truck Facility is part of this project and includes an administrative/maintenance building.

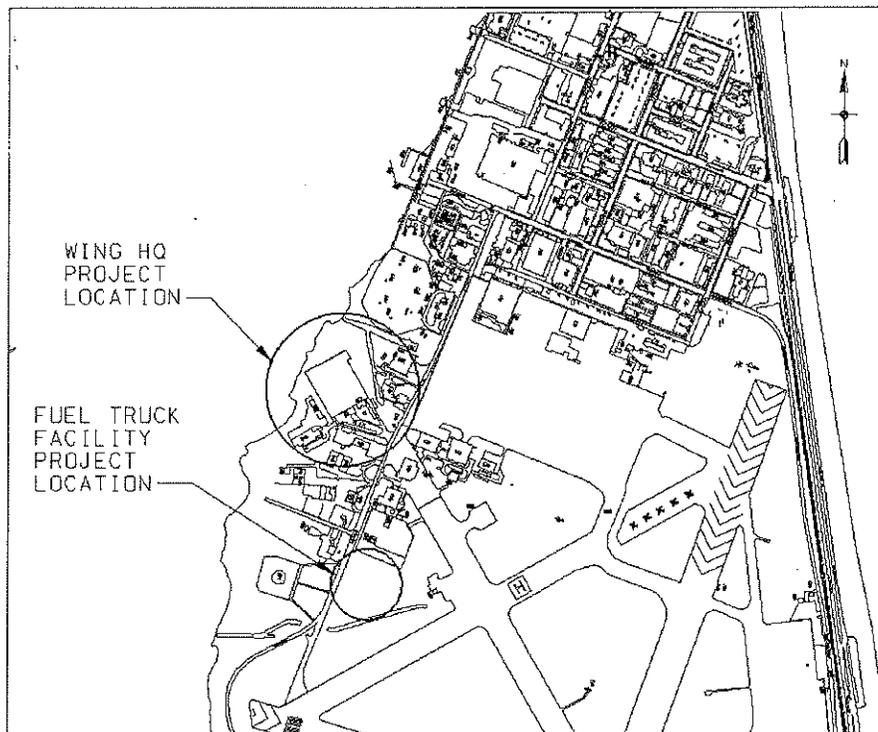


Figure 1: Location Plan – Patrick AFB

The chosen project site will locate the new headquarters building adjacent to the Wing's operational and maintenance facilities within the River Industrial area of the base, between the airfield and the Banana River. Rescue Road provides access to the area. The site is on the edge of the Banana River with a deep airfield drainage ditch and natural vegetation bordering the northeast side of the site. Adequate space is available on the 8 acre site for the headquarters building, the anti-terrorism force protection set-backs, a retention basin, and parking for 150 vehicles.

The site for the new Fuel Truck Facility is further south between Rescue Road and the airfield.

### **2.3 Project Design Sustainability**

This project has not yet been mandated to reach any particular sustainable design rating goal, however, provisions for sustainable design are included to improve energy efficiency and conserve natural resources. Anticipated sustainable design strategies include:

- Using the base requirement for a detention pond to develop a retention pond to enhance storm water management by filtering runoff with natural vegetation, aerating water to support aquatic life, and including an irrigation system to support landscaping.
- Landscaping parking lots within depressed islands to collect storm water and reduce heat gain from the paving.
- Maximizing use of natural light and ventilation by providing operable windows in as many occupied areas as possible.
- Humidity monitoring system and lighting control system to reduce energy usage.
- Sound insulation throughout building to control noise.
- Raised flooring throughout occupied areas to increase space flexibility providing an air plenum, communications cabling space, and adaptable electrical distribution.
- Use of products having recycled material content.
- Photovoltaic / battery storage as an alternative to the emergency generator.

### **2.4 Project Design Anti-Terrorism Force Protection**

The project facilities for the Wing Headquarters and Fuel Truck Facility will comply with the *DOD Minimum Antiterrorism Standards for Buildings* including construction and site criteria. Requirements for the Wing Headquarters include mandatory building setback from roads and parking, progressive collapse considerations, laminated glass in the insulating window units, control gate for the service drive, and barrier curbs. Requirements for the Fuel Truck Facility include mandatory building setback from roads and parking, laminated glass in the insulating window units, control gates for the truck parking, and barrier curbs.

## 2.5 Project Statistics

Table 1 below, indicates statistics for the proposed Wing Headquarters project.

Installation:	Patrick Air Force Base
Requiring Command:	Air Force Reserve Command (AFRC)
Project Name:	920th Rescue Wing Headquarters
Fiscal Year:	2006
Project Number:	SXHT973008
Category Code:	610-129
Wing Headquarters Scope:	42,100 square feet gross floor area (+ 4,465 sf exterior covered area as half scope)
Fuel Truck Facility Bldg Scope:	5,300 square feet
Current Working Estimate:	\$13,200,000

**Table 1: Project Statistics**

### 3. Project Floor Area and User Requirements

The user requirements and floor area allocation for the Wing Headquarters were developed and validated during a programming charette on 8-11 September 2003 involving the Air Force Reserve Command, Patrick Air Force Base Civil Engineering, and the 920<sup>th</sup> Rescue Wing, within the parameters of the Air Force Reserve Command Handbook (draft) 32-1001 dated 2003. Building space functions, relationships, and size requirements for the proposed facilities were specifically identified through interviews with key personnel and discussions during the charette.

The siting for the new Fuel Truck Facility was developed and validated by HB&A, LLC of Colorado Springs during preliminary design meetings to develop a master plan for the area. The building floor area and support facilities provided in this project for the new Fuel Truck Facility match the quantities being demolished to open the site for the Wing Headquarters construction. The new location of the Fuel Truck Facility provides direct access to the air field rather than forcing the fuel trucks to cross Rescue Road.

#### 3.1 Organizational Needs

A new Wing Headquarters is needed to bring the 920<sup>th</sup> Rescue Wing administrative and training functions into a single location for efficient and effective management. The new facility will provide adequate parking, anti-terrorism force protection measures, sustainability features, and communications infrastructure to support the building occupants.

The existing 45<sup>th</sup> Space Wing Fuel Truck Facility site has been chosen for the new Wing Headquarters, therefore, the existing Fuel Truck Facility needs to be demolished and a new one constructed. The new parking area will provide more efficient parking and improved security for the vehicles. In addition, the project includes construction of a building for administration, dispatch, and maintenance.

#### 3.2 Wing Headquarters Facility Requirements

The proposed Wing Headquarters follows the space allowance guidelines in the Air Force Reserve Command Handbook 32-1001, *Civil Engineering Standard Facility Requirements*, the draft proposed to modify AFRCH 32-1001 dated 19 June 1998. Modifications to the space allowance guidelines occur due to the unique function requirements of the 920<sup>th</sup> Rescue Wing.

A floor area analysis for the Wing Headquarters, based on AFRCH 32-1001 (draft) is shown in Table 2 below.

Table 2: Wing Headquarters Floor Area Analysis

Ref No.	Handbook Reference*	Function	Net Floor Area (sf)		Notes
			Hdbk	Proposed	
<b>First Floor</b>					
2	7.7.3	Ops Group Command Section	600	685	
3	7.7.4	Maintenance Group Command Section	600	670	
10	7.7.7	Judge Advocate	912	800	(2) staff judges; (3) paralegals
12	7.7.6	Inspector General	220	340	
13	7.7.17	Public Affairs	640	480	
18	6.2	Command Post Vault	2,661	2,540	Includes vault construction & (1) training rm
20	5.3.1	HQ Information Systems	1,000	1,030	Receiving, mail
21	6.6	Ops Support Flight Intel Vault	5,100	4,000	Includes vault construction & (1) training rm
22	6.4.1.a	Ops Support Flight Intel Admin	850	750	
23	7.9	Recruiting	920	770	
Floor Total Net Area			13,503	12,065	
<b>Second Floor</b>					
4	7.7.2	Mission Support Group Command Section	600	970	Includes (1) joint-use training rm
5	7.7.11	Mission Support Squadron Command Suite	660	660	
6	7.7.14	Military Personnel Flight Section	2,140	3,225	
7	7.7.15	Family Readiness	305	590	
15	7.7.22	Wing Education & Training	2,890	2,330	Includes (2) rooms for training & testing
24	5.3.1	Network Control Room	1,000	1,000	Network racks and admin offices
25	7.8	Communications Squadron	800	790	
Floor Total Net Area			8,395	9,565	
<b>Third Floor</b>					
1	7.7.1	Wing Command Section	1,790	1,545	
8	7.7.8	Chaplain	350	390	Includes (1) joint-use training rm
9	7.7.9	Historian	200	200	(2) chaplains; (1) craftsman
11	7.7.10	Safety	650	640	
14	7.7.20	Military Equal Opportunity	250	310	
16	7.7.5	Performance Plans	750	280	
17		Wing Orderly Room	0	700	
19	7.7.8	Financial Management	2,250	1,570	
26	7.7.19	Services Function	1,295	770	
Floor Total Net Area			7,535	6,405	
Total Net Floor Area			29,433	28,035	
Gross Space Areas			8,830	14,065	
27	7.7	Wing Headquarters Allowance	3,846		
Total Gross Area *			42,109	42,100	

\* Total gross area excludes 4,456 square feet of exterior covered area considered in the cost estimate as half scope area.

Space allowance indicated in Table 2 is based on the AFRCH 32-1001 (draft). Allowable gross area includes 30% of the net allowable area to account for lobby, corridors, vestibules, bldg structure, mechanical room, communications room, electrical room stairs, vending/break rooms, and restrooms (to include one shower each).

Net floor areas indicated below include non-structural partitions. The underlined headings reflect the blocks of space illustrated in the floor plans in Figures 5, 6, and 7.

### 3.2.1 Wing Command Section (1545 sf)

The Wing Command Section includes private office space for the wing commander (225 sf), executive wing commander (180 sf), vice commander (180 sf), and senior advisor (160 sf). A private toilet with shower (50 sf) is provided for the wing commander. A workstation for a secretary is outside and adjacent to the private offices within a reception area (300 sf). The reception area includes an open seating area (couch, two side chairs, coffee table) and an enclosed space for a fax machine, copy machine, and office storage. A kitchenette (50 sf) with space for a refrigerator with an ice maker, a bar sink, a coffee maker, and a microwave is adjacent to the reception area. A training room (400 sf) with direct access to the reception area and corridor accommodates 20 people and includes a projection screen, cable drop, and video teleconferencing capabilities. The wing commander and vice commander require secure telephone unit lines (STU). The wing commander requires a duress alarm and cable drop.

### 3.2.2 Operations Group Command Section (685 sf)

The Operations Group Command Section includes three private offices (190 sf, 150 sf, 130 sf) and a reception area (215 sf) with a workstation for a secretary and space for seating.

### 3.2.3 Maintenance Group Command Section (670 sf)

The Maintenance Group Command Section includes three private offices (190 sf, 150 sf, 130 sf) and a reception area (200 sf) with a workstation for a secretary and space for seating.

### 3.2.4 Mission Support Group Command Section (970 sf)

The Mission Support Group Command Section includes three private offices (190 sf, 150 sf, 130 sf) and a reception area (200 sf) with a workstation for a secretary and space for seating. A training room (300 sf) with direct access to the commander's office and corridor accommodates 20 people and includes a projection screen and cable drop.

### 3.2.5 Mission Support Squadron Command Suite (660 sf)

The Mission Support Squadron Command Suite includes three private offices (140 sf, 140 sf, 120 sf) and a reception area (260 sf) with a workstation for a secretary and space for seating. The Command Suite has close access to the Military Personnel Flight Section.

### 3.2.6 Military Personnel Flight Section (3,225 sf)

A secondary corridor (115 sf) within the Military Personnel Flight Section allows for circulation between the following office areas.

### 3.2.6.1 MPF Orderly Room (600 sf)

The MPF Orderly Room includes a private office (110 sf), an open office area (130 sf) for two workstations, and a counter area (350 sf) with two doors to the corridor for high traffic entry and exit.

### 3.2.6.2 Personnel Readiness (DPMSA) (610 sf)

The Personnel Readiness office includes two private offices (110 sf each) for heads of employment and relocation. An open office area (390 sf) outside the private offices provides space for 5 workstations.

### 3.2.6.3 Customer Services (DPMSC) (700 sf)

Customer Services includes a private office (110 sf), an open office area (200 sf) for three workstations with access to the counter, and a separated workstation (90 sf) for photo IDs. A waiting area (300) separated from the office area by a counter accommodates seating for 12 people with couches and chairs for families and a cable drop for TV. The counter serves several people at the same time for questions and sign-in. Customer Services is situated at the entrance of the Military Personnel Flight Section for easy access and a storefront to accent the function for the customer.

### 3.2.6.4 Career Enhancement (540 sf)

Situated near Customer Services, the Career Enhancement office includes a private office (110 sf), an open office area (320 sf) for three workstations, and a small waiting area (110 sf). A storefront entrance accents the function for the customer.

### 3.2.6.5 Career Advisor (220 sf)

The Career Advisor office includes a private office (110 sf) and an assistant's workstation (110 sf) between the corridor and private office for access.

### 3.2.6.6 Systems (220 sf)

The Systems office includes a private office (110 sf) and an assistant's workstation (110 sf) between the corridor and private office for access.

### 3.2.6.7 Military Readiness (220 sf)

The Military Readiness office includes a private office (110 sf) and an assistant's workstation (110 sf) between the corridor and private office for access. The offices require construction to allow open classified documents and use of SIPRNET, NIPRNET, and STU. No windows are provided to the offices and a cipher lock door is provided to the corridor.

### 3.2.7 Family Readiness (590 sf)

The Family Readiness office includes two private offices (100 sf each), an open office area (200 sf) for two workstations, and a family waiting area (190 sf). The waiting area includes seating in couches and chairs for 10 people and a cable drop for TV. A storefront entrance accents the function.

### 3.2.8 Chaplain (390 sf)

The Chaplain office includes two private offices (140 sf each) for the chaplains, one Protestant and one Catholic, and a craftsman's workstation (110 sf) between the corridor and private offices for access. The private offices accommodate small conferencing tables.

### 3.2.9 Historian (200 sf)

The Historian office includes a single private office (200 sf) with space for small conferencing or work table and wall shelving.

### 3.2.10 Judge Advocate (800 sf)

The Judge Advocate office includes two private offices (120 sf each) for the staff judges that directly access a counseling room (100 sf) accommodating 6 people, and an open office area (300 sf) for three paralegal workstations, a small waiting area, and a library (150 sf).

### 3.2.11 Safety (640 sf)

The Safety office includes two private offices (110 sf each) for ground and air safety and an open office area (420 sf). The open office area accommodates three workstations and a common conference table.

### 3.2.12 Inspector General (340 sf)

The Inspector General office includes a private office (120 sf), a counseling room (110 sf) designed for high stress circumstances, and an information craftsman's workstation (110 sf) between the corridor and private office for access.

### 3.2.13 Public Affairs (480 sf)

The Public Affairs office includes a private office (120 sf), an open office area (360 sf) to accommodate five workstations, and a small storage closet.

### 3.2.14 Military Equal Opportunity (310 sf)

The Military Equal Opportunity office includes a private office (145 sf) for the MEO officer and a conference table for 4 people with an assistant's workstation (165 sf) between the corridor and private office for access.

### 3.2.15 Wing Education and Training (2330 sf)

#### 3.2.15.1 Training Administration (750 sf)

The Training Administration office includes three private offices (120 sf each), two of which have direct access and one way windows into the Testing Room. An open office area (240 sf) for four workstations is adjacent to a waiting area (150 sf) which accommodates 12 seated people.

#### 3.2.15.2 Testing Room (985 sf)

The Testing Room accommodates 30 people at computer testing stations arranged along the walls and a projection screen, leaving the center of the room open and having access to the corridor for those who are testing. The room can have exterior windows and has sound attenuation insulated walls.

#### 3.2.15.3 Training Room (595 sf)

The Training Room (450 sf) accommodates 30 people at briefing tables with a projection screen and access from the corridor only. An adjacent storage room (145 sf) is provided for training aids.

### 3.2.16 Performance Plans (280 sf)

The Performance Plans office includes a private office (145 sf) with a conference table for 4 people and an assistant's workstation (135 sf) between the corridor and private office for access.

### 3.2.17 Wing Orderly Room (700 sf)

The Wing Orderly Room includes a private office (120 sf), an open office area (170 sf) for two workstations, and a counter area (410 sf) with two doors to the corridor for high traffic entry and exit.

### 3.2.18 Command Post (2540 sf)

The Command Post, completely within vault construction with access flooring to allow open classified documents and SIPRNET use, includes entry through a vestibule (70 sf) to access a vault door.

Three private offices (120 sf each) within the vault open into a central, tiered floor space which features an enclosed battle station for 8 people (400 sf). The battle station looks over a 3-person control console (150 sf) and four 50-inch plasma monitors. The console area includes shelving and space for a two-door safe. Blinds within the battle station provide the option for further isolation. Consoles are government furnished.

The central tiered space (720 sf) includes seating for 15 people and adequate circulation to the offices, training room, and vault facilities. The training room (400 sf) seats 25 people at briefing tables and projection screen. A SIPRNET room (120 sf) accommodates two separate systems. An equipment room (100 sf) is adjacent to the central space for equipment racks having front and back access. A kitchenette (50 sf) and toilet (50 sf) serves the vault occupants. An admin support area (120 sf) for the battle staff includes space for a copier, fax, and computers.

### 3.2.19 Financial Management (1570 sf)

The Financial Management office includes two private offices (120 sf each), an open office area (820 sf) for nine workstations, and a separate open office area (310 sf) for three workstations serving the Military Pay function. A closet (100 sf) for supplies serves all the offices. An alcove (100 sf) off the corridor provides seating and allows access to the large open office area which connects to the private offices and Military Pay office. A roll-up window gives the customers access to the Military Pay office from the alcove.

### 3.2.20 Headquarters Information Systems (1030 sf)

The Headquarters Information Systems area includes two private offices (110 sf each) and an open office area (280 sf) for four workstations. An alcove (80 sf) off the corridor accommodates a copier for use by building occupants and has access to the reading room (80 sf). The reading room has two computer research stations for general use to comply with the Privacy Act/FOIA.

A receiving area (170 sf) with an 8-foot by 8-foot overhead door takes in mail from the base post office and overnight delivery companies. The overhead door leads to the building service drive for unloading two-ton trucks and an occasional tractor trailer truck. No loading dock is required. The mail room (80 sf) is accessed from receiving and accommodates mail boxes for the building occupants. A storage room (80 sf) off the receiving area holds large deliveries for pick-up. The receiving area, including the mail room and storage, is within hardened construction and is provided with a blast-relief vent for compliance with *DOD Minimum Antiterrorism Standards for Buildings*.

### 3.2.21 Operations Support Flight Intelligence (4000 sf)

The Ops Support Flight Intel function, completely within vault construction with access flooring to allow open classified documents, SIPRNET, and NIPRNET use, includes entry through a vestibule (70 sf) to access a vault door and adequate circulation between areas (410 sf). Occupants will use the building's restrooms and break room. The following spaces are within the vault.

#### 3.2.21.1 Training Room (300 sf)

The training room (300 sf) seats 20 people at around a conference table and along the walls. A monitor or projection screen is capable of use with the LAN system, SIPRNET, and NIPRNET. A cable drop for a TV is also provided.

### 3.2.21.2 Classified ADP Room (520 sf)

The classified ADP room includes open office space for five workstations (400 sf) and a SIPRNET station room (120 sf). The workstations require a total of 15 LAN drops and ports plus SIPRNET lines to each.

### 3.2.21.3 ADP Work Room (190 sf)

The ADP work room (190 sf) accommodates one workstation, 32 linear feet of high density mobile shelving, 5 storage cabinets that are 30-inches wide x 30-inches deep x 7 feet high, and a heavy duty paper shredder. Due to the noise of the paper shredder, additional sound attenuation is required.

### 3.2.21.4 Private and Open Offices (2510 sf)

Required office space includes eight private offices (110 sf each), an open office space (1280 sf) to accommodate 16 workstations, an operations plans room (110 sf) with one workstation, and an open admin/reception office area (240 sf) for two workstations and two fax machines (SIPRNET and NIPRNET).

## 3.2.22 Operations Support Flight Intelligence Admin (750 sf)

The Ops Support Flight Intel Admin area includes private offices for the commander (140 sf) and an executive assistant (120 sf) adjacent to an admin workstation and reception area. A training office (120 sf) is adjacent to the life support office (180 sf) which has workstations for two people. An ops flight management office (190 sf) accommodates two workstations and a several filing cabinets. Each office and workstation has access to NIPRNET.

## 3.2.23 Recruiting (770 sf)

The Recruiting office includes four private offices (110 sf each) and a reception area (330 sf) with a workstation for a secretary and a waiting area.

## 3.2.24 Network Control (1000 sf)

The Network Control area includes two private offices (120 sf each) with cipher lock doors, an open office area (400 sf) to accommodate four technical officer workstations with a cipher lock door to the corridor, and a network control room (360 sf) accessed through the open office area.

Network Control provides a LAN system for all the 920<sup>th</sup> Rescue Wing personnel, including those in other buildings. The Network Control room is sized for six, 24-inch wide x 30-inch deep x 7-foot high server racks. A clearance of 3 feet is required on the front and back of each rack with a 30-inch clearance between racks and at the ends to the walls. A 24-inch deep work bench with open shelves above and base cabinet below, along the length of one wall, facilitates rack installation and repair. A separate HVAC system and emergency generator power serves the network control room. No windows and no finished ceiling are required.

### 3.2.25 Communications Squadron (790 sf)

The Communications Squadron office includes a private office (120 sf) for the commander, a private office for the senior Air Reserve Technician (ART), and an open office area (550 sf) to accommodate five tech workstations, two admin workstations, and a small seating area.

### 3.2.26 Services Function (770 sf)

The Services Function office includes two private offices (110 sf each) and an open office area (550 sf) to accommodate eight workstations.

## 3.3 **Fuel Truck Facility Requirements**

The proposed Fuel Truck Facility building will replace the three existing buildings and parking area, utilizing the smaller scope of either the space allowance guidelines in the Air Force Handbook 32-1084, *Facility Requirements* or the existing facility size.

The new building will be 5,300 sf for administration, dispatch, and maintenance functions.

#### 4. Area Development Plan

The site for this project will meet the needs of the facility users, have a compatible area land use, and comply with the area development plan. The 45<sup>th</sup> Space Wing Facilities Excellence Plan divides Patrick Air Force Base into ten different areas. Each area is identifiable by a unique location, environmental character, or the specific activities and tasks that are conducted there. These areas are similar to the Area Development Plans contained in the Patrick AFB General Plan, which describe focused physical implementation of the base Facility Development Plan, and portray the urban design and quality of life amenities. The area development plan provides a comprehensive view of the constraints and objectives for the proposed sites which are in the area designated as the River Industrial area.

The proposed sites for the 920<sup>th</sup> Rescue Wing Headquarters and the 45<sup>th</sup> Space Wing Fuel Truck Facility will require demolition of existing permanent facilities, removal of disturbed contaminated soil, and construction of new primary and supporting facilities.

##### 4.1 Base Comprehensive Plan

Both sites' development for this project will comply with the *Patrick Air Force Base General Plan*. The *General Plan* identifies the essential characteristics and capabilities of the base and assesses the potential for development, responding to Air Force Space Command's commitment to preserve its assets and protect the environment. The following items address the project's site specific issues in accordance with the *General Plan*.

###### 4.1.1 Natural/Cultural Resources

The proposed site and construction pose no known hazard to threatened or endangered species. No known natural or cultural resources are present in this area. All construction to accommodate the Wing Headquarters will be set out of the 100-year flood plain per Executive Order 11988.

###### 4.1.2 Environmental Protection

The construction of these facilities will comply with all air, water, and soil protection plans including the National Environmental Policy Act. See paragraph 7 for recommendation to accommodate known contaminated soil areas on the Wing Headquarters site. Contaminated soil disposal will be coordinated through the Installation Restoration Program (IRP).

###### 4.1.3 Airfield Operations

The proposed sites are not within the runway clear zone or the accident potential zone and the new buildings will not penetrate the 7 to 1 transitional surface from the runway lateral clear zone.

#### 4.1.4 Land Use Plan

The land use will change for the Wing Headquarters site from industrial to administrative as a result of the proposed site and facility construction. The land use will not change for the Fuel Truck Facility site. The land use plan change will be reflected in the revised *Patrick Air Force Base General Plan* which will be completed in 2004.

#### 4.1.5 AICUZ

An Air Installation Compatibility Use Zone (AICUZ) study indicates that the proposed facilities will not require special noise control restrictions. Normal construction appropriate to the activity may be used.

#### 4.1.6 Utilities

Utilities to support the facilities are available at or near the proposed sites including water, sanitary sewer, storm sewer, and primary electric. See the proposed utility plans in this document for the location of the existing site utilities and proposal to extend the utilities to the buildings.

#### 4.1.7 Transportation

Both facilities can be reached using the existing Rescue Road. The proposed approach to the Wing Headquarters occurs along an existing access street off Rescue Road and to the new parking lot. The Fuel Truck Facilities approach occurs directly off Rescue Road.

#### 4.1.8 Architectural Compatibility

The new facilities will be designed to comply with the current architectural standards at Patrick Air Force Base, incorporating the Florida Mediterranean exterior features such as tile roofs, sand-finished stucco walls, covered walkways, and portico entrances.

#### 4.1.9 Landscape Development Plan

Landscaping will be in accordance with the *45<sup>th</sup> Space Wing Facilities Excellence Plan*. Clusters of palms and native vegetation will provide special site elements, tropical buffers from the elements, and screening from any undesirable views.

### 4.2 **Other Physical Constraints**

In addition to compliance with the *General Plan* and *Facilities Excellence Plan*, the proposed facilities will cope with other physical constraints as indicated below.

#### 4.2.1 Context

The Wing Headquarters will be constructed to take full advantage of the spectacular views of Banana River, blending with the site and its surrounding buildings and landscape elements to accomplish a project that expands the site's potential to be a pleasant environment for occupants and visitors. The Wing Headquarters building will be visible from points outside the base, particularly along portions of State Road A1A due to its three story height. The proposed site plan emphasizes the approach which begins with its visibility from A1A and is picked up again along Rescue Road, past an inviting front view of the building to an access road, into the building's parking lot, and onto the building's axis for a pedestrian approach to a colonnade that leads to the entrance.

The Fuel Truck Facility will be developed off of Rescue Road at a point further south of the Wing Headquarters. The parking area will be developed to include adequate parking and turn-around space for the fuel trucks and other support vehicles. A retention pond will be included, providing an opportunity for landscaping to develop the site and enhance the environment for the building.

#### 4.2.2 Climate

The climate at Patrick Air Force Base is humid subtropical. The Atlantic Ocean and the Banana River temper the climate, reduce the extremes of temperature range, and contribute to the high humidity in the region. The average monthly temperature ranges from 71.8 degrees F in January to 90.7 degrees F in July and August.

The annual average rainfall is 49.1 inches and occurs mainly from May through October. Tropical storms affect the area infrequently. The base routinely experiences high winds, and the chances of hurricane force winds in any given year are about one in seven. Due to its location adjacent to the ocean, the base experiences high salt content in the air and wind. This contributes significantly to the accelerated deterioration and aging of facilities.

Building configuration, deep roof overhangs, colonnades to building entrances, and sun shades at windows will be included in the project to protect from solar heat gain, heavy rainfall, and winds. Operable windows and porch areas overlooking the site and surroundings will be included to take advantage of the temperate spring and fall climates.

#### 4.2.3 Accessibility

The project will provide for full handicap accessibility for base employees and visitors. Site development will provide for pedestrian traffic and vehicular traffic.

The Wing Headquarters access drive will allow tractor trailer trucks to make occasional delivery to a small loading dock area. This access drive will include a key-pad controlled gate which can be used during higher threat-con levels as determined by base security. The Fuel Truck Facility will include two points of access for the fueling trucks and other support vehicles.

#### 4.2.4 Pedestrian Traffic

Most occupants and visitors will drive to the project sites, however, the project will provide for pedestrian traffic to the maximum extent possible. Concrete sidewalks and paver-paths with low-level lighting and landscaping for shade will be included for the building approaches.

#### 4.2.5 Antiterrorism / Force Protection

The project facilities will comply with the *DOD Minimum Antiterrorism Standards for Buildings* including construction and site criteria. In this standard, the Wing Headquarters is considered “inhabited” and a “primary gathering building”. The Fuel Truck Facility building is considered an “inhabited” building. The three story Wing Headquarters will require design to prevent progressive collapse.

#### 4.2.6 Sustainability

The project designers will use the Leadership in Environmental Design (LEED) building rating system to demonstrate the application of the sustainable design principles for this project. This project has not yet been designated for any type of formal LEED certification.

The project design will comply with the Air Force Affirmative Procurement Program requirements, Section 6002 of the *Resource Conservation and Recovery Act (RCRA)* and Executive Order 13101, *Greening the Government through Waste Prevention, Recycling, and Federal Acquisition* which directs federal agencies to purchase environmentally preferable products. The government requires the use of the recycled and recovered Comprehensive Procurement Guidelines (CPG). The CPG lists the specific items that are made of recovered materials that must be considered for use during design. The CPG references the Recovered Material Advisory Notice (RMAN) which contains the EPA’s recommendations for how to comply with the requirements of RCRA Section 6002 and the recommended minimum content standards for each designated item.

## 5. Project Drawings

The project drawings illustrate existing site conditions and proposed conceptual site and facility plans for the 920<sup>th</sup> Rescue Wing Headquarters and the 45<sup>th</sup> Space Wing Fuel Truck Facility to validate the requested site locations and floor areas.

### 5.1 Drawing Descriptions

The existing Fuel Truck Facility, including the asphalt parking area, Buildings 675, 676, and 679 shown in Figure 2, will be removed. Figure 2 also shows the new Wing Headquarters' building position with relation to the existing site elements.

Existing and new utilities for the Wing Headquarters' site are indicated in Figure 3. The approximate location of the existing contaminated groundwater plume is also shown.

The proposed development for the Wing Headquarters' site is illustrated in Figure 4. The building is adequately set back to meet the *DOD Minimum Antiterrorism Standards for Buildings* including the 82-foot building separation from uncontrolled parking and roads and the 150-foot setback from the base perimeter which is the Banana River shoreline. Two new pedestrian bridges are shown, one of which will provide pedestrian access between Bldgs 673, 688, and the Wing Headquarters. The other will provide the Wing Headquarters' site with its connection to the planned base-long recreation walk along the Banana River.

The first, second, and third floor plans of the Wing Headquarters are shown in Figures 5, 6, and 7 with overall dimensions and blocks of functional areas labeled. Each functional area will be further developed in the next design phase to include partitions for specific offices, training rooms, and building services. These floor plans validate the net and gross floor areas needed to allow the Wing Headquarters to properly function.

Figure 8 illustrates the roof plan of the Wing Headquarters which features the concrete barrel tile roof and paver surface terraces. Overhead trellis structures with vines from the planters along the edges will provide shade for the terraces.

A front elevation is provided in Figure 9 showing the three story Wing Headquarters with an entry colonnade, windows with sunshades, terraces, and concrete barrel tile roof areas.

The new site for the Fuel Truck Facility is shown in Figure 10 along Rescue Road with adjacent POV parking and a building to replace the floor area of Buildings 675, 676, and 679.

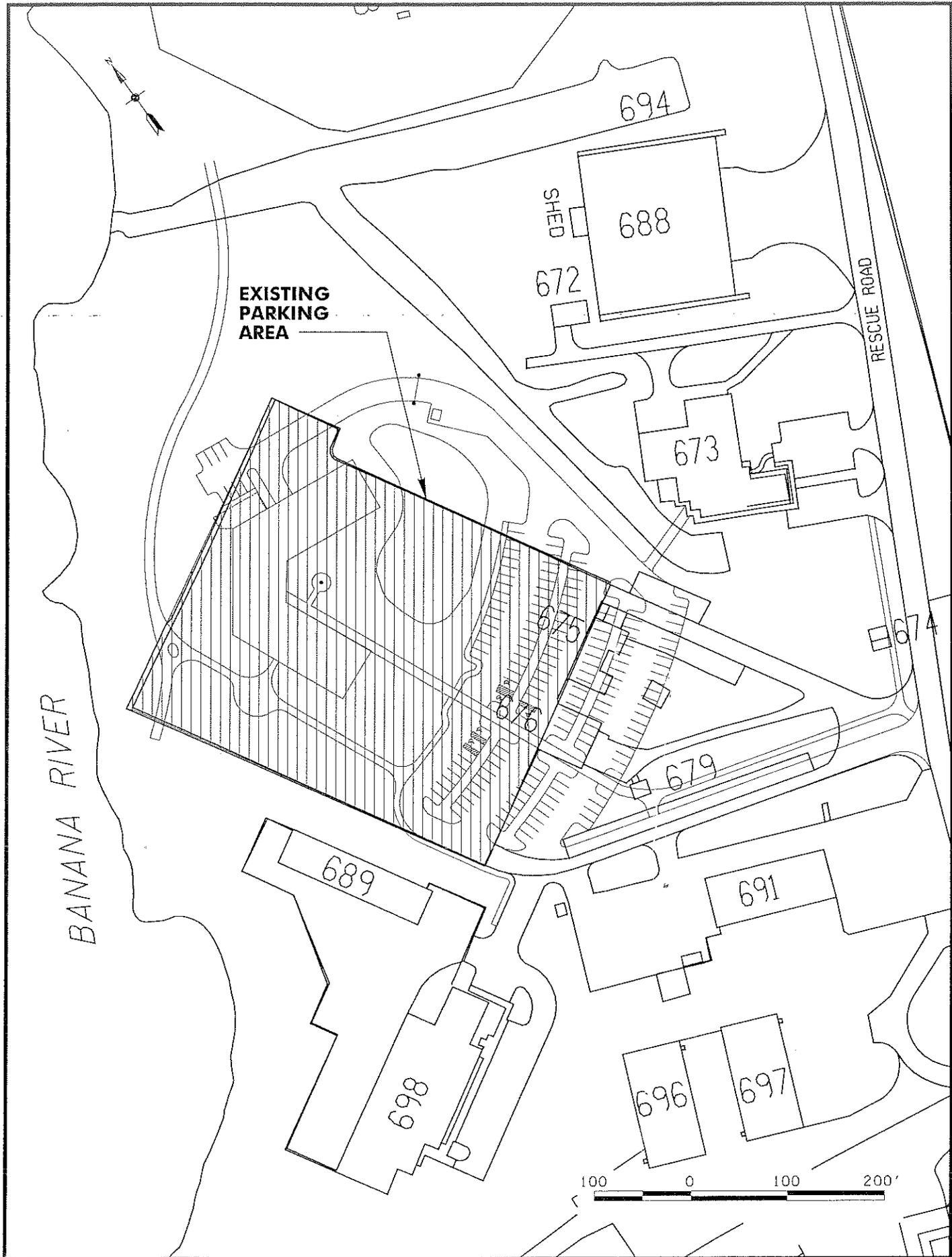


FIGURE 2 - EXISTING / PROPOSED WING HEADQUARTERS SITE PLAN

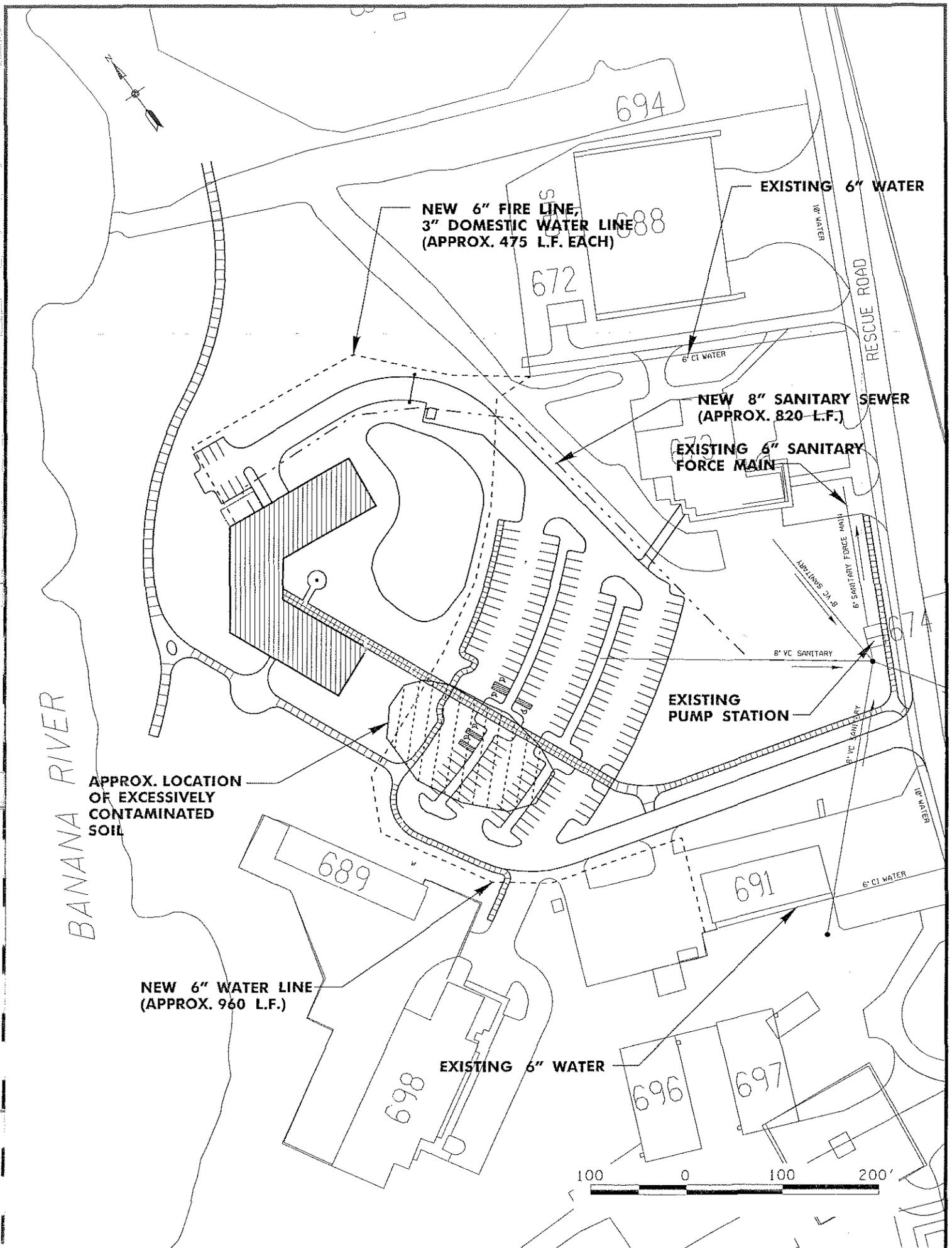


FIGURE 3 - PROPOSED WING HEADQUARTERS UTILITY PLAN

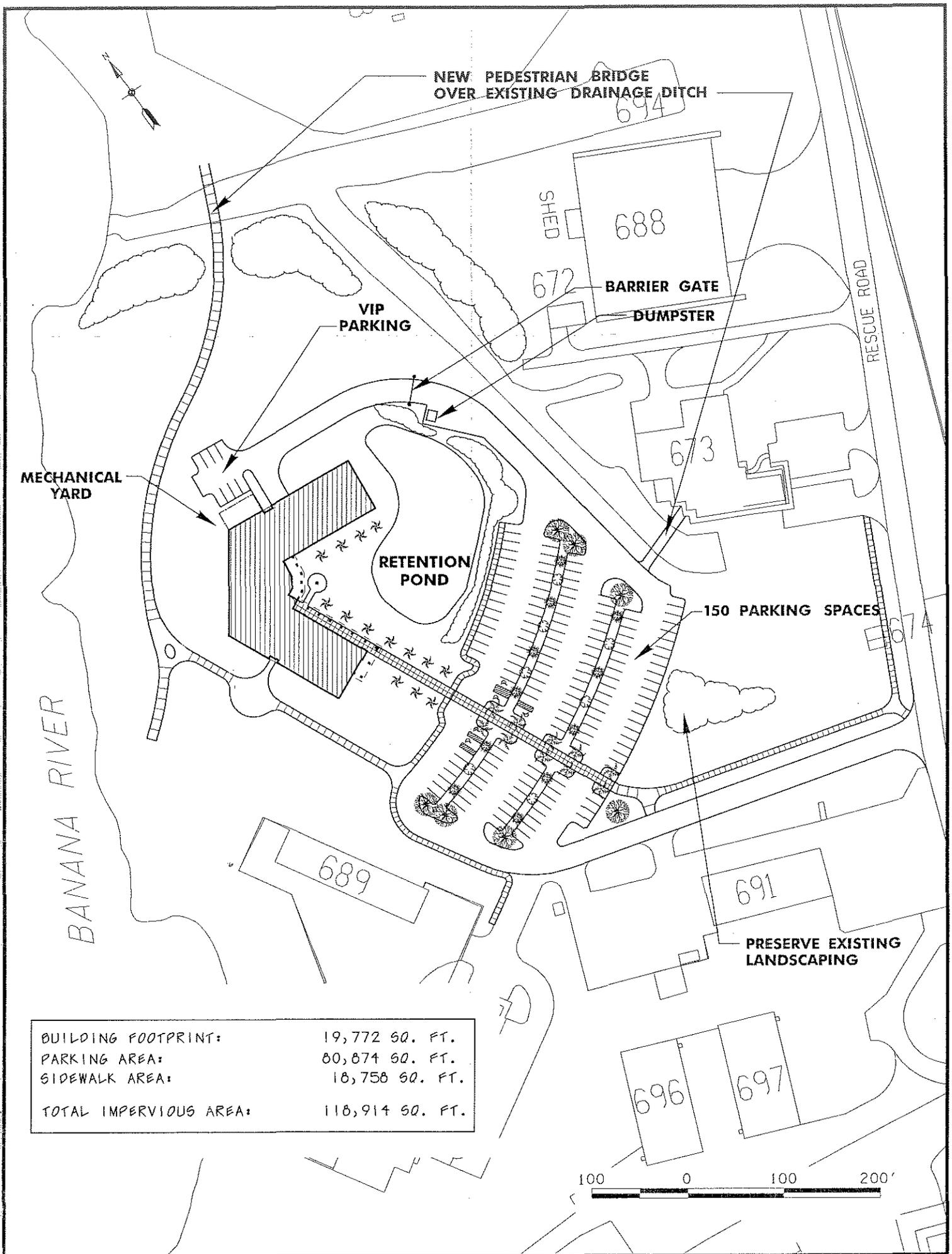
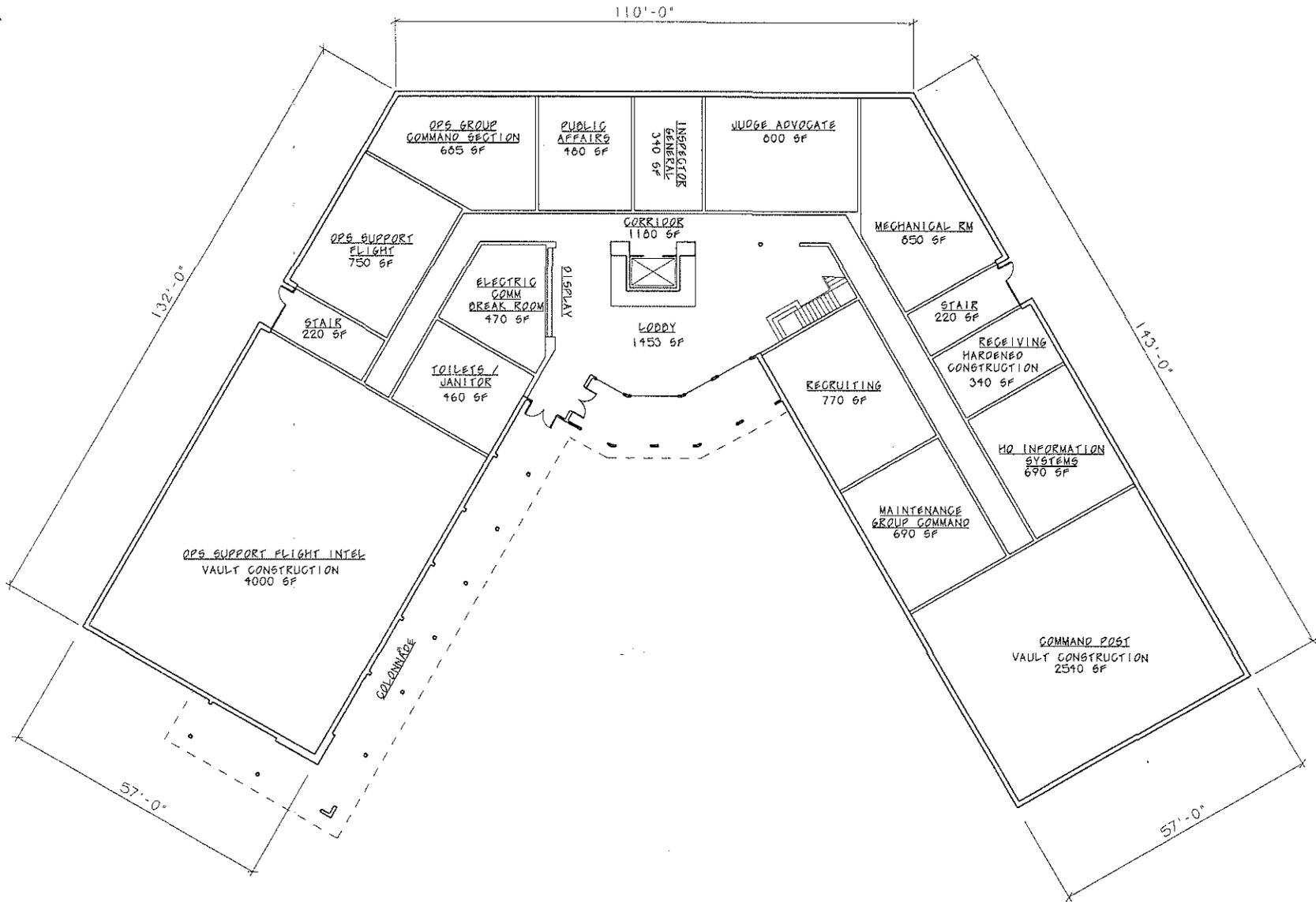
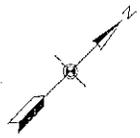


FIGURE 4 - PROPOSED WING HEADQUARTERS SITE PLAN



**FIRST FLOOR PLAN**  
GROSS AREA: 18,480 SF

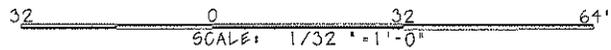
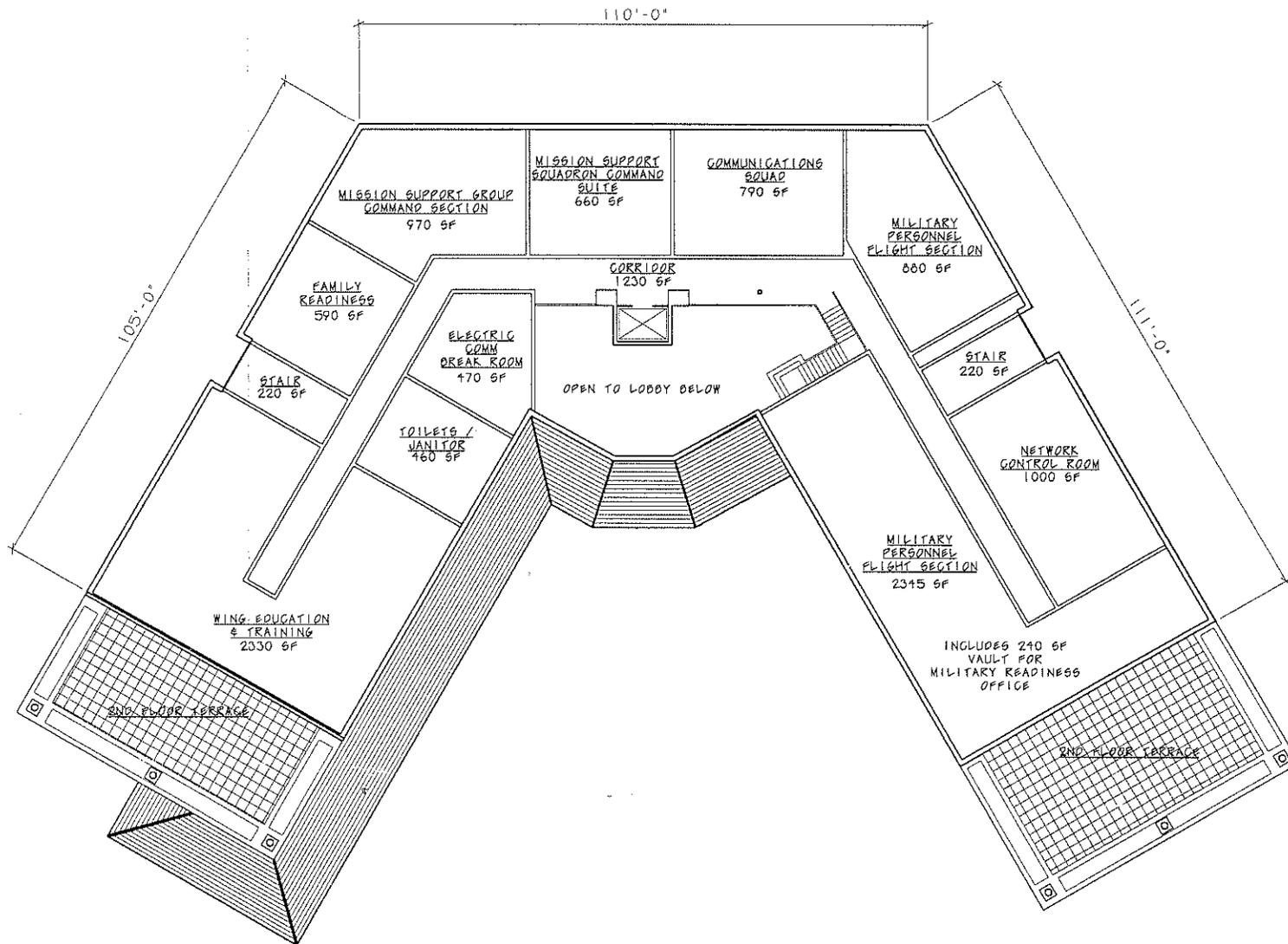


FIGURE 5: PROPOSED WING HEADQUARTERS FIRST FLOOR PLAN

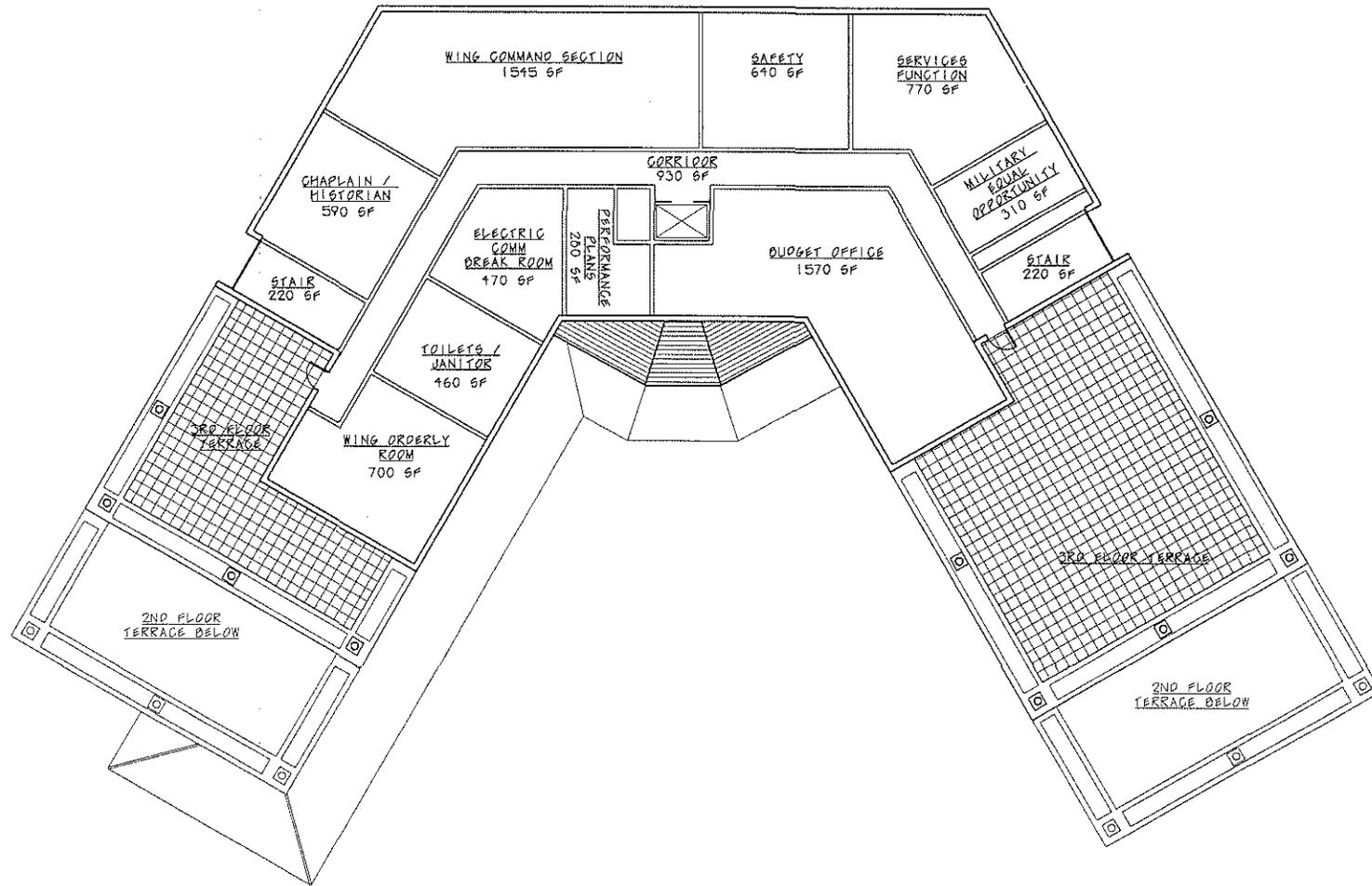
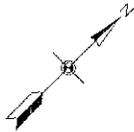


SECOND FLOOR PLAN

GROSS AREA: 13,745 SF

32 0 32 64'  
SCALE: 1/32" = 1'-0"

FIGURE 6: PROPOSED WING HEADQUARTERS SECOND FLOOR PLAN



THIRD FLOOR PLAN

GROSS AREA: 9,875 SF

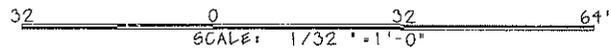
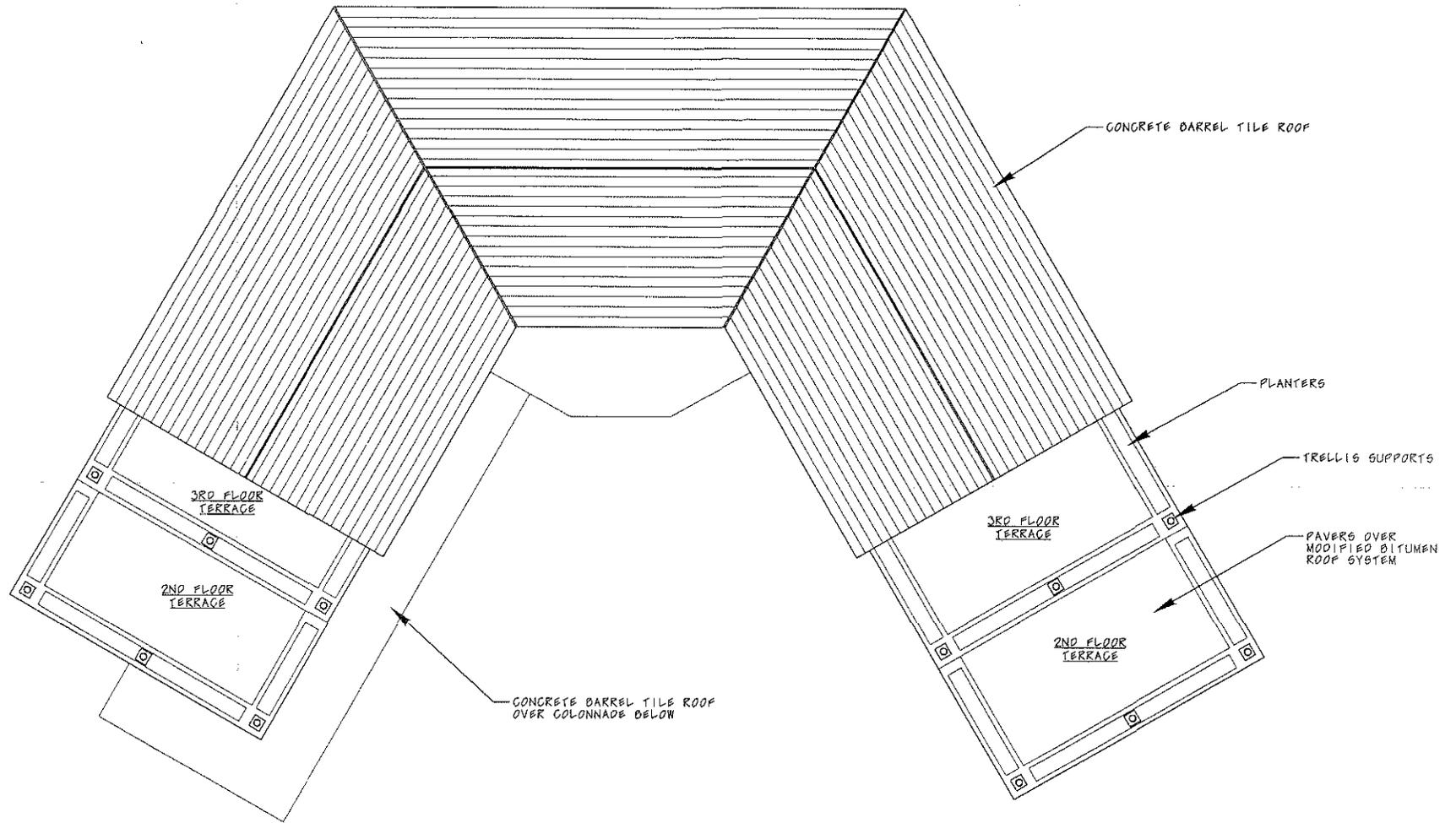
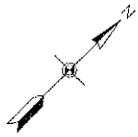


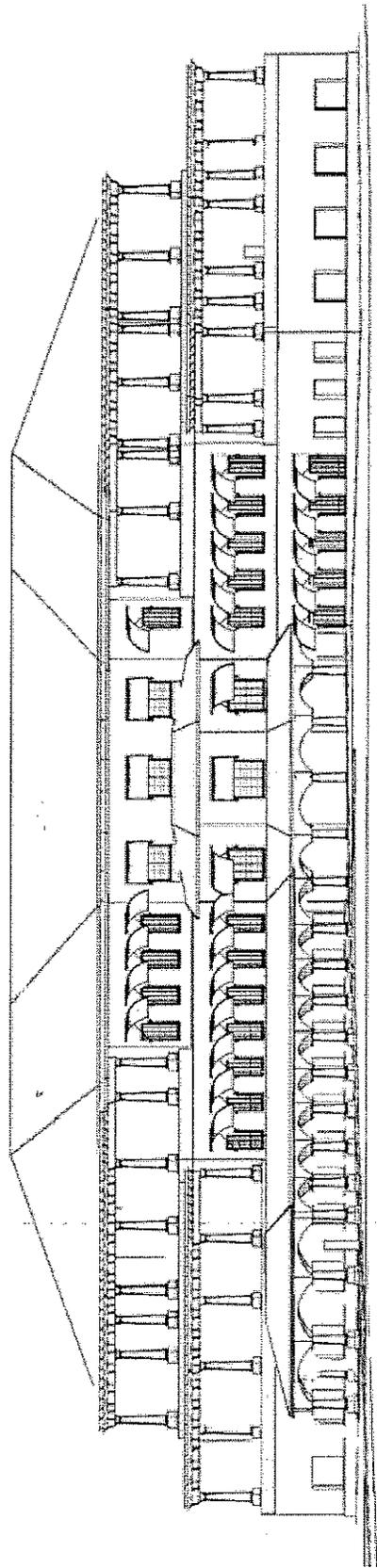
FIGURE 7: PROPOSED WING HEADQUARTERS THIRD FLOOR PLAN



ROOF PLAN

32 0 32 64'  
SCALE: 1/32" = 1'-0"

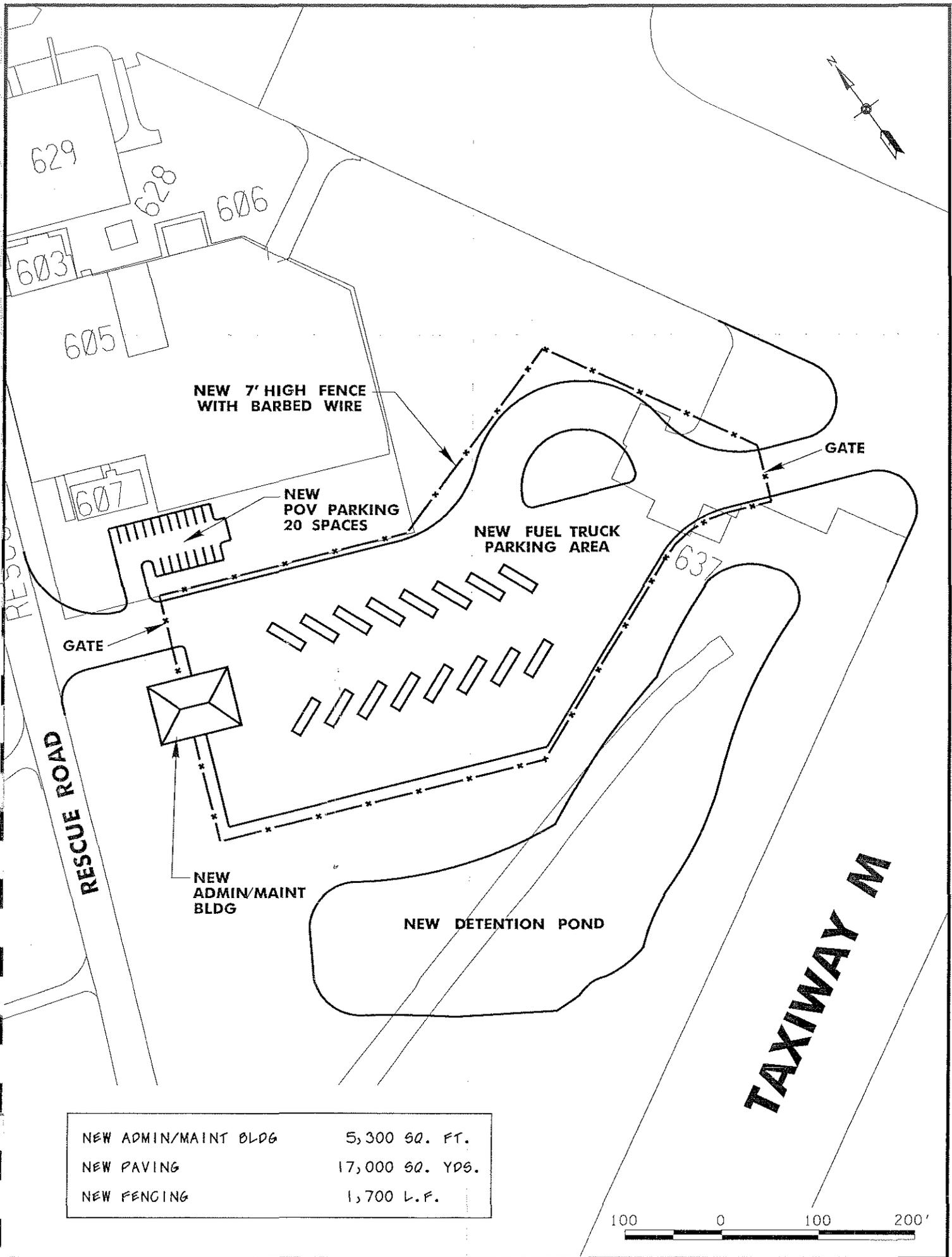
FIGURE 8: PROPOSED WING HEADQUARTERS ROOF PLAN



FRONT ELEVATION

0 32 64'  
SCALE: 1/32" = 1'-0"

FIGURE 9: PROPOSED WING HEADQUARTERS ELEVATION



NEW 7' HIGH FENCE WITH BARBED WIRE

NEW POV PARKING 20 SPACES

NEW FUEL TRUCK PARKING AREA

GATE

GATE

NEW ADMIN/MAINT BLDG

NEW DETENTION POND

RESCUE ROAD

TAXIWAY M

NEW ADMIN/MAINT BLDG	5,300 SQ. FT.
NEW PAVING	17,000 SQ. YDS.
NEW FENCING	1,700 L.F.



FIGURE 10 - SITE PLAN PROPOSED FOR THE NEW FUEL TRUCK FACILITY

## 6. Systems Analysis

Design and construction of the Wing Headquarters and Fuel Truck Facility will be compatible with the current Air Force Reserve Command and Patrick Air Force Base standards and proposals established by this document. All materials used will provide durable, low maintenance finishes and systems. Selection of building systems will consider life-cycle costs. The project will include all utilities, utility support, complete fire protection systems, demolition, site work, landscaping, and pavement for complete and usable facilities.

Design items indicated below will be used as a guide in developing the facility requirements. The items are not to be interpreted as an all-inclusive summary of project requirements, but feasible, conceptual considerations. These items will be verified during the design process along with any additional requirements discovered as the project's development continues.

### 6.1 Architectural

Architectural features of the Wing Headquarters and Fuel Truck Facility building will incorporate elements of style, color, and materials that reflect the Florida Mediterranean architecture which involves principles responding to climate and environment, while using indigenous materials and simple, intuitive building techniques to develop comfortable shelter for administrative, training, and maintenance functions. The proposal for the Wing Headquarters achieves a sensitive interaction with the environment using simple rectangular forms of stucco with deep recesses, a covered entrance colonnade, terraces to accent the roof, and subtle sun washed wall and paver colors.

The exterior walls of the Wing Headquarters will be constructed of reinforced concrete and concrete masonry with concrete stucco medium sand finish. Wall insulation will be provided on the interior side within the metal furring behind the interior drywall.

Entry doors and windows will be black anodized aluminum with insulated glass units. Windows will be operable where determined appropriate with sun shading elements to reduce heat gain and glare. The insulated glass units will be double pane with the exterior pane being 1/4-inch laminated glass with a solar gray tint and the interior pane being annealed or tempered glass as required in doors and windows less than 30 inches from the finish floor. Windows will comply with *DOD Antiterrorism/Force Protection Construction Standards*.

Concrete barrel tiles for the Wing Headquarters roof areas over the third floor and the entrance colonnade will tie the building volumes together. Terraces at the second and third floor levels link interior and exterior space for the occupants. The terraces include pavers over modified bitumen roofs, wood trellis structures with vines from the planters for partial shading, and spectacular views for all to enjoy. Gutters and downspouts of unfinished 20-gauge copper will be incorporated into the building to enhance the elevations and provide adequate drainage from the roof areas. The Fuel Facility building will be of similar construction.

Interior partitions will be sound insulated drywall on metal studs as appropriate. Use of a raised floor system is recommended to increase the building's functional flexibility, sustainability, and reduce maintenance labor.

The Wing Headquarters and Fuel Truck Facility building will meet handicap accessibility requirements of the *Uniform Federal Accessibility Standards* (UFAS) and *Americans with Disabilities Act Accessibility Guidelines* (ADAAG). Interior signage will be in accordance with UFC 3-120-01 *Air Force Sign Standard*.

## 6.2 Civil

### 6.2.1 Existing Wing Headquarters Site Description

The proposed Wing Headquarters site is located on the northwest side of Patrick AFB on Rescue Road between buildings 673 and 691. Banana River borders the site to the west. The site has an approximate area of 8.6 acres. Frontage along Rescue Road is about 250 feet. The site extends towards Banana River to the north and west between drainage ditches to the north and south.

The site is currently developed and used primarily as a parking area for refueling trucks. A large portion of the site (about 3 acres) consists of an asphalt parking lot. There are four existing buildings onsite (Bldgs 674, 675, 676, 679). Currently three asphalt driveways lead to these buildings and the parking lot from one large entrance off Rescue Road.

Vegetation in the undeveloped areas of the site consists primarily of tall grass with some bushes and small trees. There is also an existing landscaped area near Rescue Road which contains bushes and trees. The site is essentially flat and appears to drain to the north and east. Some fill may be necessary to raise the site to ensure adequate drainage. The first floor elevation will be set a minimum of one foot above the 100-year floodplain.

### 6.2.2 Demolition for the Wing Headquarters Site

The site for the Wing Headquarters will require significant demolition. The existing asphalt parking lot as well as three of the existing buildings will need to be demolished. One building will remain—Bldg 674. This building is located adjacent to Rescue Road and is a pumping station for the sanitary sewer system. The asphalt driveways located onsite will also be demolished in order to construct one main entrance to the site.

New pavement will be constructed over about one-third of the existing asphalt parking lot. Due to concerns about contamination beneath the existing parking lot, current plans call for demolition of only the asphalt surface in this area, leaving the pavement base in place. The suitability of the existing pavement base for the new parking lot will be evaluated. These steps will be taken both to reduce new construction costs and also minimize disturbance of possible contaminated materials.

### 6.2.3 Antiterrorism and Force Protection for the Wing Headquarters Site

The proposed site for the Wing Headquarters incorporates current DOD measures for antiterrorism and force protection. The *Department of Defense Antiterrorism/Force Protection Construction Standards* (Oct 2003) has been used as a guide. These standards define the Wing Headquarters as a primary gathering building. The minimum standoff distance for a primary gathering building with a controlled perimeter is 82 feet from all roads, parking areas, and dumpsters. The controlled perimeter was considered to be the Patrick AFB installation perimeter, as well as the Banana River shoreline.

No direct line-of-site access is provided to the building from any roadways. The building has been setback from roadways and parking lots a minimum of 82 feet. A 9-inch high barrier curb will be provided along the south side of the main access road in front of the headquarters building to prohibit vehicle access to the building. An access road and loading area have been provided for load/unload operations at the rear of the building. A barrier gate has been placed at the 82-foot standoff distance on the access road leading to the loading area. The dumpster has been placed at the 82-foot standoff distance from the building. Also, the building has been located 150 feet from the closest perimeter which is the Banana River.

### 6.2.4 Parking and Paving for the Wing Headquarters

Using applicable design guidance, 150 parking spaces are provided for the Wing Headquarters. In accordance with the Uniform Federal Accessibility Standards, five handicap spaces were provided. At a minimum, one of these spaces will be van accessible. A passenger loading zone has been provided as close to the main entrance as force protection setbacks will allow. This area will be handicap accessible, and will also include some type of aesthetic barriers to prohibit vehicular access to the sidewalk.

Sidewalks are provided to facilitate access to the Wing Headquarters from the parking lot. One main sidewalk through the parking lot is planned to connect to the main walkway leading into the headquarters building. This sidewalk will also connect to a sidewalk along the entrance drive and Rescue Road. Another sidewalk is planned along the west side of the building which will connect to a "river walkway." A pedestrian bridge is included across a drainage ditch for the "river walkway's" continuation. Additional sidewalks facilitate movement between the new building and the adjacent Air Force Reserve buildings and link the site with the base. A second pedestrian bridge is included to provide a connection to Building 673 across a drainage ditch. The new sidewalks vary from 6 to 10 feet wide.

At-grade access is provided to the loading area of the Wing Headquarters. This area will be concrete. The dumpster pad will also be concrete. The parking lot and access roads will be asphalt pavement. Several wide medians are planned for the parking lot to provide room for landscaping or interior "green space" in the parking lot.

### 6.2.5 Stormwater Drainage for the Wing Headquarters Site

The Wing Headquarters site is not serviced by storm sewers. Surface runoff appears to be directed to ditches which drain to the Banana River. The site falls under the jurisdiction of the

St. Johns River Water Management District. Their regulations indicate that an environmental resource stormwater permit is required for construction of a stormwater management system for construction of 4,000 square feet or more of impervious surface area. The proposed site meets that threshold. A detention or retention pond will be required as part of the stormwater management system for the site. Surface runoff from the parking lot and downspouts from the building will be directed to catch basins which outlet into a retention pond. The retention pond outlet will be directed to the drainage ditch which borders the site to the north. A retention pond with a permanent pool is intended to meet water quality and runoff detention objectives and to enhance the visual appeal of the headquarters site. A National Pollutant Discharge Elimination System (NPDES) permit will be required for this project at both sites. The stormwater drainage / retention design will be reviewed by the 45<sup>th</sup> Space Wing Civil Engineer Squad, Environmental Flight (45 CES/CEVC) for permitting requirements.

### 6.3 Structural

The Wing Headquarters and Fuel Facility Building will have reinforced concrete foundations and slabs-on-grade. The design of the foundation systems will be driven by a geotechnical soil report and boring investigation that will illustrate the actual site conditions. The exterior and interior walls will be reinforced cast-in-place concrete (at select locations) and reinforced masonry. The roof systems will be comprised of light gage metal trusses and galvanized roof deck. The roof deck will act as a diaphragm. The trusses and metal deck will support the concrete barrel tile roof.

The second and third floors of the Wing Headquarters will be hollow core precast concrete planks with a structural concrete topping. Column and beam construction will be used for the exterior porches and colonnade. The structural materials for the porches and colonnade will be coordinated to insure that the architectural features are met in addition to the structural requirements.

The design and construction of the buildings will be in accordance with the latest edition of the building codes applicable to the state of Florida as well as all applicable government criteria such as the Patrick AFB design guide and the *DOD Antiterrorism Standards for Buildings*. In accordance with the *DOD Antiterrorism Standards for Buildings*, design will prevent progressive collapse for the proposed three story Wing Headquarters.

### 6.4 Mechanical

The mechanical systems for the new Wing Headquarters will provide cooling and heating to occupied areas, and to communications equipment rooms. The primary air cooling and heating system will be an underfloor air distribution system, such as those manufactured by York (FlexSys), Trane, and others. Direct Digital Controls (DDC) will be used and will be compatible with, and connected to, the base EMCS system (Invensys). Ventilation of the building will be in accordance with ASHRAE 62-2003. The design and installation of the water and sanitary sewer systems will be in accordance with the latest edition of the International Plumbing Code. Utility connections will be made to the existing on-base systems. Metering for water will be provided. A water loop will be installed for the purpose of feeding a sprinkler system. A sanitary lift

station will be installed to tie into the existing force main system. Fire hydrants will be installed as required. The project designer will determine whether existing utilities are adequate for the new building loads.

## 6.5 Fire Protection

The Wing Headquarters will be equipped with a complete automatic fire alarm system including both heat and smoke detectors in accordance with UFC 3-600-01, Design: Fire Protection Engineering for Facilities. The detectors and/or manual pull stations will activate the alarm system. Horns will be provided throughout the building to meet the sound levels required by NFPA 72. Strobes will be provided in accordance with ADA and NFPA 101 and installed in accordance with NFPA 72. The Wing Headquarters will be provided with a Pyrotonics MXL addressable FA control panel utilizing phone lines for transmission of alarm signal to the Fire Department. All wire will be in conduit.

The Wing Headquarters will be fully sprinklered in accordance with the requirements with NFPA 13 and UFC 3-600-01.

## 6.6 Electrical

### 6.6.1 Power

#### 6.6.1.1 Exterior Distribution

All new exterior primary and secondary distribution systems to the buildings will be installed underground. New primary electric service will be copper conductors in concrete encased PVC conduit. The project designer will determine where existing utilities are adequate for the new building loads. Electrical system structures will be enclosed or screened. Landscaping can be an effective screen for electrical equipment. However, in order to avoid interference with existing utility components, trees should not be planted above underground utilities. If above ground electrical lines exist, trees will not be planted under the lines. When possible, electrical equipment will be located within the building. Adequate clearances will be maintained to service and remove equipment.

The following standards apply to electrical power lines and facilities at PAFB:

- Transformers will be 13.2 KV, primary, single or 3-phase, dead front, 304L, stainless steel, epoxy coated, medium green color. They will include a two-position load break switch, bayonet fusing, Plus-Minus 2 + 2 ½ % taps, oil level gauge, vacuum/pressure gauge, and oil drain valve with sampler.
- Medium Voltage Cable will be 15 KV URD, with 133% insulation (EPR), with 33% concentric neutral, #2 or 350 MCM.
- Ducts will be Schedule 40 PVC, encased in concrete, for all 15 KV cables. Low voltage cables will be Schedule 80 PVC, direct buried. Minimum size of 4" will be maintained for concrete encased duct, and one size larger than required by NEC for direct buried

duct. Provide a spare duct for all buried conduit. Limit duct runs to less than 450 linear feet between manholes.

A KW hour demand meter will be provided for all new services. A KW hour meter with photo-electric pulse type demand meter will be provided. All exterior electric equipment will be NEMA 4X. All supports, fasteners, straps, etc. will be stainless steel. All above ground exposed conduit will be PVC coated rigid galvanized steel.

#### 6.6.1.2 Interior Wiring

Branch circuit distribution will be in conduit and will be routed and concealed above ceilings and in the walls. All building distribution conductors will be copper.

### 6.6.2 Lighting

#### 6.6.2.1 Exterior Lighting

Underground installation of service lines for street, parking lot, and all exterior lighting greatly improves the appearance of streetscapes and facilities. This practice results in a visually clean environment, the importance of which cannot be overemphasized. The precedent of underground service will be followed and extended to all situations where exterior lighting is involved.

Exterior lighting is driven by the need to create a pleasant and safe environment, yet it requires maintenance and uses energy. All lighting will therefore employ energy conscious design selections to produce efficient life cycle costs, and will meet all environmental requirements. For the protection of endangered species and for energy savings, all lights must be turned off when not in use. Photocells are no longer permitted for use in parking lots, storage yards, or for area lighting unless the lights are a mission, safety, or security requirement. If a photocell is required, it must be linked to a timer and an LPS must be used. All exterior lights will be controlled by individual or cluster specific switches or an Energy Management Control System.

##### 6.6.2.1.1 Building Lighting

Lighting for exterior spaces around buildings will correspond to the architectural character of the building. Lighting standard heights and spacing will vary according to the design and needs of various facilities. Wall mounted entry and exterior building lighting will be handled separately in since buildings will have lighting which is integral to the building design. Where buildings lack integral exterior lighting, fixtures will be provided to complement the adjacent pedestrian and parking lot lighting.

Low pressure sodium lamps will be used on all exterior building lighting fixtures. All exterior accessories will have a black anodized aluminum or black polycarbonate finish.

Building entry, wall-mounted, and exterior lighting will be coordinated to include building lighting that is "integral" with exterior site lighting.

Fixture designs will complement building lighting and coordinate with adjacent pedestrian and parking lot lighting.

Illumination levels will be dictated by the IES.

#### 6.6.2.1.2 Parking Lot and Area Lighting

Street and parking lot lighting will use concrete poles, embedded into the ground. Due to corrosion problems, no metal attachments with a concrete foundation will be used. Lighting standard heights and spacing will also vary to adequately serve the needs of separate activities.

The existing basic style of street lighting will be continued. Low pressure sodium lamps will be used with single or double-mount fixtures on "Stresscrete" poles. Fixtures will be rectangular black anodized aluminum. Typical lamp mounting height in parking areas is forty feet. Distance between poles will vary depending on location.

Site lighting will provide visibility and recognition of facilities at night. It will also enhance security operations and contribute to a safer feeling among pedestrians. Illumination levels are dictated by the IES. Lighting standard heights and spacing will need to vary to adequately serve the needs of individual settings and activities.

A variety of types of light fixtures will be used in parking lots, including: lamp types, pole types, and bollard types. The application of these styles will be coordinated to achieve the desired level of illumination and to accommodate architectural objectives.

Lighting for streets, parking lots, and pedestrian routes will express the general building approach to improvement of the visual environment. The design of new lighting will consider the alignment and pattern of adjoining sites' fixtures. Extending the existing alignments and spacing patterns keeps the visual effect regular throughout the base.

Locations of street lighting will be as follows:

**Arterial Street:** Street lighting poles will be centered in the median, where medians exist.

**Collector Street:** Street lighting poles will be sited on both sides of the street and will be alternated to create a less formal, but rhythmic pattern.

**Local Streets and Cul-de-sacs:** All of the street lighting poles will be placed on the same side of the street.

#### 6.6.2.1.3 Path Lighting

Lighting will be used to illuminate pedestrian, bicycle, and multi-use recreational trails. Bollard style low pressure sodium lights will be used to illuminate sidewalks and pathways. Illumination levels are dictated by the IES. The style of light fixtures in these areas will be coordinated with the lighting used at adjacent facilities, parking areas, and streets.

### 6.6.2.2 Interior Lighting

The lighting design will include the use of high efficiency light fixtures, including T-8 color corrected fluorescent lamps and electronic ballasts. Daylighting techniques will be considered to provide natural lighting to common areas. Lighting that is appropriate for the use of the space will be chosen. Open offices will have lay-in 2x4 parabolic fluorescent light fixtures; conference rooms will incorporate dimmable recessed can lights. Parabolic lenses will be used in areas where glare on computer screens is an issue. Overhead lighting will be supplemented with task lighting. Occupancy sensors will be included where feasible to reduce energy consumption. Architectural lighting in entrances, corridors, waiting rooms, and other spaces to light artwork and provide interest will be chosen.

Natural, ambient, and task lighting will be provided in all areas. Architectural interest will be developed with coves, soffits, up lighting, recessed fixtures, or with wall mounted fixtures such as sconces.

In every case, energy consumption will be considered in the design to minimize it by using the most energy efficient fixtures and materials that will satisfy the design requirements.

### 6.6.3 Lightning Protection

A complete lightning protection system will be provided for the building.

### 6.6.4 Emergency Generator

An emergency diesel generator will be installed to provide backup power to the Command Post and Operations Support Flight Intelligence areas in the Wing Headquarters. Unit will be provided with fuel storage tank and automatic transfer switch.

## 6.7 Physical Security

In addition to the antiterrorism / force protection requirements, physical security to protect information and equipment will be provided for the Wing Headquarters and Fuel Truck Facility. The Command Post and Operations Support Flight Intelligence in the Wing Headquarters requires vault construction in accordance with DOD 5200.1-R, *Information Security Program Regulation*. Two levels of alarms are required in the secure room areas, Balance Magnetic Switches (BMS) on the vestibule entries and motion sensors in the rooms. Each vault requires a vestibule to access a class 5 vault door with card swipe entry. Construction will allow use of open classified documents and Secret Internet Protocol Router Network (SIPRNET). HVAC systems that are separate from the rest of the building will be provided to each vault area.

The Operations Support Flight Intelligence vault area will include an office area with additional metal shielding to allow use of the JWICS/JDISS network in addition to SIPRNET.

The Network Control area requires a cipher lock to control access.

The Military Readiness private office requires a cipher lock and will be constructed in accordance with DOD 5200.1-R, *Information Security Program Regulation* to allow open classified documents and SIPRNET use.

## 6.8 FAA

The facilities will not interfere with airfield operations or airspace use; therefore, does not require FAA coordination.

## 6.9 Communications

The Wing Headquarters and Fuel Truck Facility building will be wired throughout for both telephone and Local Area Network (LAN). All interior telephone and data lines will be CAT-5 cables, 8-wire to four-port outlets located with every 110-volt electrical outlet in the office areas. Both fiber optic and copper cable are required from the nearest communication manhole/handhole to the communications room in the building. Runs will be in schedule 80 PVC underground conduits. A spare conduit will be provided. (A total of 6-3" conduits are required from the street to the network control room.) All communication equipment, both telephone and data, will be mounted to a fire-retardant plywood backboard installed 3 feet above the entrance of the conduit duct bank. The construction contractor will make all wiring, equipment, and connections from the manhole/handhole to the end outlets.

## 6.10 References

Project design will comply with the Air Force Reserve Command and Base design guidance. Technical references consulted in preparation of this document include:

- a. UFC 4-010-01, *DOD Minimum Antiterrorism Standards for Buildings*, 8 October 2003.
- b. UFC 3-600-01, *Design: Fire Protection Engineering for Facilities*
- c. 2003 International Building Code
- d. NFPA 70, National Electrical Code, 2002
- e. NFPA 72, National Fire Alarm Code, 2002
- f. NFPA 101, Life Safety Code, 2003
- g. *Uniform Federal Accessibility Standards (UFAS)* August 7, 1984
- h. *Americans with Disabilities Act Accessibility Guidelines (ADAAG)*

- i. TM 5-822-2/AFM 88-7, Chap. 5 General Provisions and Geometric Design for Roads, Streets, Walks, and Open Storage Areas July 1987

## 7. Environmental Requirements

### 7.1 Investigation of Existing Conditions

The Wing Headquarters will be located in an area northwest of Building 676. Building 676 is a vehicle maintenance shop which provides routine maintenance and repair services for vehicles used for aircraft and ground equipment refueling. The vehicles are staged in a 134,000 sq ft fenced asphalt parking area known as Facility 20402. Building 676 and Facility 20402 are part of Solid Waste Management Unit (SWMU) P040, according to the facility's permit under the Resource Conservation and Recovery Act (RCRA).

The presence of petroleum hydrocarbons has been determined to be an environmental concern at Building 676 and Facility 20402. In 1994 and 1995, 191 soil borings were placed in the southwest quadrant of Facility 20402 to determine the lateral extent of "excessively contaminated soil." This effort was reported in a Contamination Assessment Report (CAR), dated June 1996 by O'Brien and Gere Engineers (OGE). See Figure 3 for the approximate location of the excessively contaminated soil area. According to OGE, the report was prepared to meet the requirements of Chapter 62-770 of the Florida Administrative Code (FAC) in accordance with the Florida Department of Environmental Protection's (FDEP) "Guidelines for Assessment and Remediation of Petroleum Contaminated Soil." Since the petroleum hydrocarbon contamination on the site may have resulted from a combination of diesel fuel, JP-8, and gasoline (MOGAS), the site is classified as having contamination from the "mixed product analytical group" (MPAG). According to OGE, FAC Rule 62-770.200(7) states that "excessively contaminated soil" must be remediated. The rule states that soil headspace readings of over 50 parts per million (ppm), determined with an organic vapor analyzer equipped with a flame ionization detector, indicate "excessive contamination" on MPAG sites.

OGE used 191 borings to closely define ( $\pm 10$  ft) the lateral extent of "excessively contaminated soil" based on headspace readings. Figure 2-1 in the 1996 CAR shows the locations of the soil borings (see attached). Figure 3 from the June 2002 LTO report provides an interpretation of the extent of total petroleum hydrocarbon (TPH) contamination in the shallow groundwater (see attached). Groundwater is encountered at five to six feet below grade on site. Based on Figure 2, the extent of "excessively contaminated soil" may be greater than the interpreted extent of the groundwater plume. Furthermore, additional soils extending beyond those that are "excessively contaminated" are likely to be contaminated with TPH, but at lower levels. The full extent of subsurface petroleum contamination has not been determined, because the applicable Florida regulations only require remediation of soils that are excessively contaminated.

Nat Peters contacted Donn Sardella, an environmental scientist with URS Corporation, which provides on-site environmental support to the USAF 45<sup>th</sup> Space Wing at Cape Canaveral Air Force Station and Patrick AFB. Nat Peters also contacted Mark Kershner, a Project Manager in the Installation Restoration Program (IRP) for the 45<sup>th</sup> Space Wing. The following pertinent information was obtained from those conversations:

- 1) Patrick AFB has a very good working relationship with the Florida regulators. They have frequent partnering meetings which have fostered a sense of trust. The regulators have

allowed Patrick AFB to construct new facilities on top of SWMUs without modifying the base's RCRA permit. Donn Sardella believes that an informal notification will be sufficient to allow construction of the project. Mark Kershner agreed and added that Patrick AFB would brief the regulators on the project after it is funded. The briefing would cover what is planned for construction and address environmental concerns. The Corps may need to make a presentation at such a briefing. Both gentlemen were very pleased that a conversation about environmental concerns was occurring in the early planning stages of the project.

- 2) Both gentlemen stated that Patrick AFB has been allowed to keep contaminated soil on-site during construction projects, if it is retained within its original SWMU boundaries. Patrick AFB has land-use controls in place and the regulators have agreed that keeping contaminated soil on-site within SWMUs is appropriate. The fence line around Facility 20402 defines the northern, eastern, and western boundaries of SWMU P040.
- 3) Nat Peters recommended to both gentlemen that it may be better to dispose of soil from the "excessively contaminated" area rather than move it outside of the current groundwater plume boundary. If the Corps moves soil from the area with the highest level of contamination to another area within the SWMU boundary, but with less contamination, we may induce additional shallow groundwater contamination. Both gentlemen agreed that it may be prudent to plan to dispose of any "excessively contaminated soil" as special waste at the county landfill.
- 4) Remediation of the "excessively contaminated soil" has been attempted by both bioventing and soil vapor extraction with limited success. Bioventing involves blowing air or oxygen into vadose zone well points to enhance the natural biodegradation process. Soil vapor extraction involves pulling a vacuum on vadose zone well points in order to extract the volatile component of the contamination. Since the soil contamination consists primarily of semi-volatile polynuclear aromatic hydrocarbons (diesel fuel components), soil vapor extraction provides little benefit. Patrick AFB is now considering a remedial approach which would involve introduction of oxidizing compounds into the vadose zone well points. This approach would not be impeded by the construction of a new building on the northern half of the site.
- 5) Any design for a new facility should retain existing monitoring wells and remediation well points. These facilities are currently flush-mounted in the existing pavement. If the pavement is removed or raised, plans should allow for the extension of the wells to the top of the new grade. There is no reason to believe that any new wells would be required for the construction project. Every effort should be made to protect existing wells during construction, but if a well is damaged, it must be properly abandoned and a new well must be installed to replace it. Most of the monitoring wells on site range from seven to 13 feet deep. A few wells are as deep as 34 feet.
- 6) There are several environmental reports available for the site at [www.mission-support.com/45SW\\_IRP](http://www.mission-support.com/45SW_IRP). A list is attached.

## 7.2 Recommendations

The offsite disposal of soil should be planned from any excavations that intersect with the area of "excessively contaminated soil," which is located in the southwest quadrant of Facility 20402.

This soil can be taken to a local landfill and disposed of as “special waste.” It would be non-hazardous under RCRA regulations.

If dewatering of excavations is required during construction, the water should be tested for TPH and properly disposed of. Avoid dewatering if possible.

For cost purposes, assume that soil excavated for the building footings will not be “excessively contaminated” and it will be retained on site.

Samples should be taken from the geotechnical borings screened for headspace readings. This is a field screening method that would not require laboratory analysis. This method would indicate if soils around the building footprint are “excessively contaminated” per Florida regulations. If “excessively contaminated soils” are encountered during the geotechnical borings, soils excavated from these areas during construction should be disposed of off site. This would increase the estimated project cost.

Assume that no environmental report will be required in association with the design or construction of this project. Partnering meetings with the regulators and the base personnel to present a project briefing is recommended.

Anticipate that the workers that are trenching or installing the water line in the zone of excessive contamination will need to use personal protective equipment to prevent dermal contact. Inhalation is not expected to be a worker safety issue, because the petroleum contaminants of concern are not volatile.

Even though the contaminants of concern are semi-volatile, vapor build-up under the building could be a long-term concern. Consider providing some ventilation beneath the raised building floor.

**APPENDIX B**  
**SHPO CORRESPONDANCE**



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

Ms. Robin Sutherland  
Department of the Air Force  
45<sup>th</sup> Space Wing  
1224 Jupiter Street  
Patrick Air Force Base, Florida 32925-3343

August 23, 2005

RE: DHR Project File Number: 2005-7288  
Received by DHR July 25, 2005  
*Modification and Reuse of Facilities 313, 673 and 688*  
Patrick Air Force Base, Brevard County

Dear Ms. Sutherland:

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, this office concurs with the finding that Facilities 313, 673 and 688 appear to meet the criteria for listing in the *National Register* and the proposed undertaking will have no adverse effect on historic properties.

In addition to the Historic American Buildings Survey (HABS) Level IV documentation, this office request that each historic property be recorded on a Florida Master Site File Historical Structure form (a copy can be downloaded at [www.flheritage.com/preservation/sitefile](http://www.flheritage.com/preservation/sitefile)). Please note that all photographs must meet archival-quality standards. We have attached a copy of the photographic standards.

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

Sincerely,

*Laura R. Kammerer, Deputy SHPO*

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

Enclosure

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  
George Firestone  
Secretary of State

DIVISION OF ARCHIVES, HISTORY  
AND RECORDS MANAGEMENT  
L. Ross Morrell, Director  
(904) 488-1480

August 25, 1981

In reply refer to:

Ms. Rowan Comer-Tesar  
Project Archaeologist  
(904) 487-2333

Colonel Marvin L. Jones  
Commander, Headquarters  
Eastern Space and Missile Center (AFSC)  
Patrick Air Force Base, Florida 32925

Re: Cultural Resource Assessment  
"Report for Visit to Patrick Air Force Base, Cape  
Canaveral Air Force Station, and Six Communications  
Annexes, Brevard County, Florida" by Wilford M. Husted  
(1981)

Dear Colonel Jones:

In accordance with the procedures contained in 36 C.F.R., Part 300 ("Procedures for the Protection of Historic and Cultural Properties"), we have reviewed the above referenced project for possible impact to archaeological and historical sites or properties listed, or eligible for listing, in the National Register of Historic Places. The authorities for these procedures are the National Historic Preservation Act of 1966 (Public Law 89-665) as amended by P.L. 91-243, P.L. 93-54, P.L. 94-422, P.L. 94-458, and P.L. 96-515 and Presidential Executive Order 11593 ("Protection and Enhancement of the Cultural Environment").

Based on the above cited survey results we concur with Mr. Husted in concluding that a systematic archaeological and historic site assessment survey of Patrick Air Force Base and the six tracking and communications annexes is not necessary. Furthermore, it is the opinion of this agency that proposed work in those seven areas is unlikely to affect any sites listed or eligible for listing on the National Register of Historic Places, and may proceed without further involvement with this agency.

FLORIDA-State of the Arts  
The Capitol • Tallahassee, Florida 32301 • (904) 488-3680

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RESOURCES

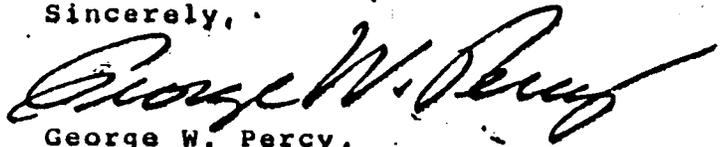
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Colonel Marvin L. Jones  
August 25, 1981  
Page Two

If you have any questions concerning our comments, please do not hesitate to contact us

On behalf of Secretary of State George Firestone, thank you for your interest and cooperation in preserving Florida's historic resources.

Sincerely,



George W. Percy,  
Deputy State Historic  
Preservation Officer

GWP:Ceh

cc: Wilfred M. Husted

## **APPENDIX C**

### **Comments From the Florida State Clearinghouse**



# Department of Environmental Protection

Jeb Bush  
Governor

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

Colleen M. Castille  
Secretary

October 12, 2005

Ms. Keitha Dattilo-Bain  
Department of the Air Force  
45 CES/CEV  
1224 Jupiter Street, MS 9125  
Patrick AFB, FL 32925-3343

RE: Department of the Air Force – Final Draft Environmental Assessment for the 920th Rescue Wing Beddown, Patrick Air Force Base – Brevard County, Florida.  
SAI # FL200509131508C

Dear Ms. Dattilo-Bain:

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 referenced final draft environmental assessment (EA).

The St. Johns River Water Management District (SJRWMD) and Florida Department of Environmental Protection (DEP) note that the proposed project includes the construction of new facilities and renovation of existing facilities along the Banana River near Rescue Road. The proposed improvements will require an environmental resource permit (ERP) from the SJRWMD. Every effort should be made to maximize the treatment of stormwater runoff from the project site, as area stormwater ultimately discharges to the Banana River Aquatic Preserve, designated Outstanding Florida Waters under subsection 62-302.700(9)(h), *Florida Administrative Code (F.A.C.)*, and afforded a high level of protection under sections 62-4.242(2) and 62-302.700, *F.A.C.* Please be advised that the ERP applicant will be required to demonstrate compliance with SJRWMD water quantity, water quality, and wetland rules and regulations in accordance with Chapter 40C-4, *F.A.C.*, and the SJRWMD Applicant's Handbook. Due to the proximity of the Banana River Aquatic Preserve, special consideration will need to be given to the protection of this important resource during the design, construction, and implementation phases. For further information, please contact Ms. Michelle Reiber, Supervising Regulatory Scientist, in the Palm Bay service center at (321) 676-6615 or [mreiber@sjrwmd.com](mailto:mreiber@sjrwmd.com).

Based on the information contained in the draft EA and the enclosed state agency comments, the state has determined that, at this stage, the referenced project is consistent with the Florida Coastal Management Program (FCMP). The applicant must, however, address the concerns identified by the SJRWMD and DEP prior to project implementation. The state's

"More Protection, Less Process"

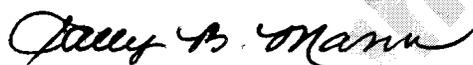
Printed on recycled paper.

Ms. Keitha Dattilo-Bain  
October 12, 2005  
Page 2 of 2

continued concurrence with the project will be based, in part, on the adequate resolution of any 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.

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: Geoffrey Sample, SJRWMD

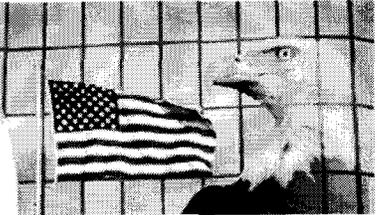
Florida State Clearing House



# Florida

Department of Environmental Protection

*'More Protection. Less Process'*



Categories

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Project Information	
<b>Project:</b>	FL200509131508C
<b>Comments Due:</b>	10/04/2005
<b>Letter Due:</b>	10/13/2005
<b>Description:</b>	DEPARTMENT OF THE AIR FORCE - FINAL DRAFT ENVIRONMENTAL ASSESSMENT FOR THE 920TH RESCUE WING BEDDOWN, PATRICK AIR FORCE BASE - BREVARD COUNTY, FLORIDA.
<b>Keywords:</b>	USAF - 920TH RESCUE WING BEDDOWN, PATRICK AFB - BREVARD
<b>CFDA #:</b>	12.200
Agency Comments:	
<b>E. CENTRAL FL RPC - EAST CENTRAL FLORIDA REGIONAL PLANNING COUNCIL</b>	
No Comment	
<b>BREVARD -</b>	
No Comment	
<b>COMMUNITY AFFAIRS - FLORIDA DEPARTMENT OF COMMUNITY AFFAIRS</b>	
<b>STATE - FLORIDA DEPARTMENT OF STATE</b>	
No Comment/Consistent	
<b>ENVIRONMENTAL PROTECTION - FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION</b>	
Every effort should be made to maximize the treatment of stormwater runoff from the proposed construction project, as area stormwater ultimately discharges to the Banana River Aquatic Preserve, designated Outstanding Florida Waters (OFW) under subsection 62-302.700(9)(h), F.A.C., and afforded a high level of protection under sections 62-4.242(2) and 62-302.700, F.A.C. The environmental resource permit applicant may be required to demonstrate that the proposed stormwater system meets the design and performance criteria established for the treatment and attenuation of discharges to OFWs, pursuant to Chapter 40C-4, F.A.C., and the SJRWMD Applicant's Handbook.	
<b>ST. JOHNS RIVER WMD - ST. JOHNS RIVER WATER MANAGEMENT DISTRICT</b>	
This project includes the construction of a complex to serve the 920th rescue group, which is currently stationed at PAFB. The construction of new facilities or reconstruction of existing facilities is proposed along the Banana River Lagoon near Rescue Road to serve this purpose. The proposed improvements will require an environmental resource permit (ERP) from SJRWMD. During the review of the ERP the applicant will be required to demonstrate compliance with SJRWMD water quantity, water quality, and wetland rules and regulations. Due to the proximity of the Banana River Lagoon Aquatic Preserve, special consideration will need to be given to the protection of this important resource during the design, construction, and implementation phases. Please contact Michelle Reiber, Supervising Regulatory Scientist, in the Palm Bay service center at (321) 676-6615 or mreiber@sjrwmd.com if there are any questions.	

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.

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COUNTY: BREVARD  
SCH- USAF - PK  
2005 - 9405

DATE: 9/13/2005  
COMMENTS DUE DATE: 10/4/2005  
CLEARANCE DUE DATE: 10/13/2005  
SAI#: FL200509131508C

MESSAGE:  
PLEASE EXPEDITE COMMENTS - 10/4/05

STATE AGENCIES	WATER MNGMNT. DISTRICTS	OPB POLICY UNIT	RPCS & LOC GOVS
COMMUNITY AFFAIRS	ST. JOHNS RIVER WMD		
ENVIRONMENTAL PROTECTION			
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 - FINAL DRAFT ENVIRONMENTAL ASSESSMENT FOR THE 920TH RESCUE WING BEDDOWN, PATRICK AIR FORCE BASE - BREVARD COUNTY, FLORIDA.

**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

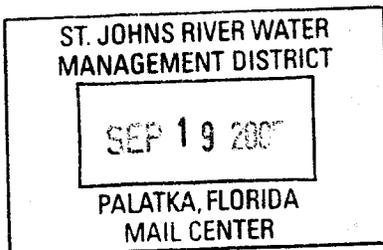
**EO. 12372/NEPA Federal Consistency**

- |  |   |
|--|---|
| <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 Lama R. Karaman, Deputy SHPD

Date: 9-15-05 9.15.2005  
X: 2005-7288



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