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FOR PROPOSED CLOSURE OF
MYRTLE BEACH AFB, SOUTH CAROLINA

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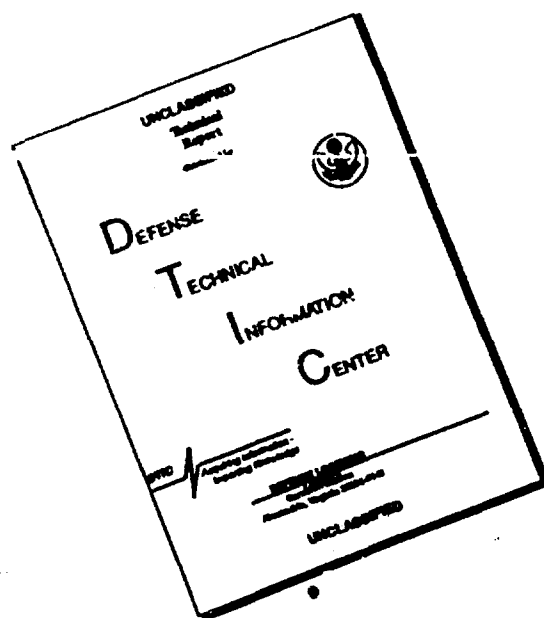
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PRELIMINARY DRAFT

ENVIRONMENTAL IMPACT STATEMENT

FOR PROPOSED CLOSURE OF

MYRTLE BEACH AIR FORCE BASE,

SOUTH CAROLINA

United States Air Force

May 1990

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COVER SHEET

DRAFT ENVIRONMENTAL IMPACT STATEMENT
PROPOSED CLOSURE OF MYRTLE BEACH AIR FORCE BASE,
SOUTH CAROLINA

- a. **Responsible Agency:** U.S. Air Force
- b. **Proposed Action:** Closure of Myrtle Beach Air Force Base (AFB), South Carolina
- c. **Written comments and inquiries on this document should be received by TBS and directed to:**
Director of Environmental Planning, AFRCE-BMS/DEP, Norton AFB, San Bernardino,
California 92409-6448.
- d. **Designation:** Draft Environmental Impact Statement (DEIS)
- e. **Abstract:** During the late summer of 1989, the Air Force began a thorough review of its force structure, property, and facility requirements needed to support national security policy and future fiscal realities. As a result of this review process, the Secretary of Defense, on 29 January 1990, announced his proposal to close or realign a number of military bases. Myrtle Beach AFB, South Carolina, has been identified as a candidate for closure by early 1993. Prior to closure decisions, studies of strategic, operational, budgetary, fiscal, environmental, and local economic consequences are required under Title 10 USC 2687. In accordance with the National Environmental Policy Act (NEPA), the results of the environmental study are described in this DEIS, which includes analyses of community setting, land use and aesthetics, transportation, utilities, hazardous materials, geology and soils, water resources, air quality, noise, biological resources, and cultural and paleontological resources. Alternatives to closure of Myrtle Beach AFB analyzed in this DEIS include closure of Davis-Monthan AFB, Arizona, England AFB, Louisiana, and no action. If a decision is made to close any of these bases, a second EIS will be prepared to cover the final disposition/reuse of the excess property. After base closure, but prior to final decisions on reuse, a caretaker force would be established to provide maintenance of buildings, grounds, and essential utility systems, and to restrict access to the base.

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SUMMARY

PURPOSE AND NEED

During the late summer of 1989, the Air Force began a thorough review of its force structure, property, and facility requirements needed to support national security policy and future fiscal realities. As a result of this review process, the Secretary of Defense, on 29 January 1990, announced his proposal to close or realign a number of military bases. Myrtle Beach Air Force Base (AFB), South Carolina, has been identified as a candidate for closure by early 1993. Prior to closure decisions, studies of strategic, operational, budgetary, fiscal, environmental, and local economic consequences are required under Title 10 USC 2687. In accordance with the National Environmental Policy Act (NEPA), the results of the environmental study are described in this Draft Environmental Impact Statement (DEIS). If a decision is made to close Myrtle Beach AFB, a second EIS will be prepared to cover the final disposition/reuse of the excess property. After base closure, but prior to final decisions on reuse, a caretaker force would be established to provide maintenance of buildings, grounds, and essential utility systems, and to restrict access to the base.

SCOPE OF STUDY

The Air Force initiated the scoping process on 9 February 1990 with the publication in the *Federal Register* of the Notice of Intent to prepare an EIS to address impacts of the proposed closure of Myrtle Beach AFB, South Carolina. A public scoping meeting was held on 15 March 1990 in Myrtle Beach, South Carolina. This meeting was conducted to solicit public comments and to identify environmental concerns related to the possible closure actions. Comments were also invited on the environmental issues that should be analyzed in subsequent studies on the final disposition/reuse of base properties. The scope of study for this EIS was based on the results of the public scoping process, discussions with public officials, past experience with programs of a similar nature, and the requirements of NEPA.

According to the Council on Environmental Quality regulations for implementing NEPA, "The NEPA process is intended to help public officials make decisions that are based on understanding environmental consequences, and take actions that protect, restore, and enhance the environment" (40

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CFR 1500.1). The focus of this EIS is, therefore, on evaluation of impacts to the environment associated with the proposed action and its alternatives. In order to provide the context in which impacts to the environment may occur, discussions of potential changes to community setting, land use and aesthetics, transportation, and community utility services are included in the EIS. In addition, issues related to current and future management of hazardous materials are discussed. Impacts to the natural or physical environment are evaluated for the following resource categories: geology and soils, water resources, air quality, noise, biological resources, and cultural and paleontological resources. These impacts may occur as a direct result of base closure or as an indirect result of changes to the community or changes in hazardous material management practices.

CHANGES TO THE LOCAL COMMUNITIES

Base closure would cause changes in the support community for Myrtle Beach AFB.

Community Setting. It is estimated that the closure of Myrtle Beach AFB would result in a decrease in personal income of approximately \$112 million and a decrease in local spending of approximately \$124 million annually. These changes are expected to result in the loss of a total of approximately 5,800 jobs. Total expected population outmigration would be about 17,000. It has been estimated that the housing vacancy rate in Myrtle Beach would increase about 6 percent and that Horry County Public Schools would lose about 800 students.

Land Use and Aesthetics. Existing land use patterns, which are driven by noise and aircraft accident potential, may change because of the reduction of these impacts. Zoning would not be immediately changed. Administration of the Fort Fisher Air Force Recreation Area would be transferred to another military installation in the region.

Transportation. Reductions in base-related traffic should have a positive impact on local roadways. Roadways in the Myrtle Beach area should not be adversely affected by increased truck traffic for transporting equipment.

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Utilities. The solid waste stream would be reduced in the long term, which would increase the lifespan of the landfill. Reduced water and energy consumption would have a positive impact. Wastewater reduction should have an insignificant impact on the new Schwartz Wastewater Treatment Plant.

HAZARDOUS MATERIALS

The Installation Restoration Program is independent of closure and will not be affected. Base closure would significantly reduce hazardous materials storage, use, and possible spills and accidents -- all positive impacts. Positive impacts are expected from clean-up of hazardous materials such as asbestos, oil/water separators, underground and aboveground storage tanks, and radioactive materials.

IMPACTS TO THE PHYSICAL ENVIRONMENT

Impacts to the physical environment associated with closure of Myrtle Beach, Davis-Monthan, or England AFBs are summarized in Table S1. Under the no action alternative, Myrtle Beach AFB would remain active. The 354th Tactical Fighter Wing and other Tactical Air Command (TAC) and non-TAC units currently assigned to the base would not be inactivated or relocated. The base structure would be maintained at its current level. The no action alternative would not alleviate growing fiscal constraints nor allow for the necessary streamlining of current or programmed force structure.

The no action alternative would not substantially affect geology, soils, air quality, water resources, or the noise environment in the area. However, reductions in air emissions and noise expected with the base closure proposed action would not be realized. The existing program for maintenance of base forested areas would continue to benefit wildlife habitat onbase. Any existing disturbance of wildlife by aircraft operations and other base activities would continue; this disturbance is likely to be minor. The potential for loss or disturbance of natural habitat by future construction or other base activities would remain.

Table S1
Impacts to the Physical Environment Associated With Closure of
Myrtle Beach AFB, Davis-Monthan AFB, and England AFB

Resource Category	Impacts of Base Closure		
	Myrtle Beach AFB	Davis-Monthan AFB	England AFB
Geology and Soils	• No impact on geologic resources underlying the base. • Positive effects from reduced disturbance of soil and a reduction in soil contamination potential from storage and spills of hazardous materials.	TBS	TBS
Water Resources	• Positive impacts on surface and groundwater resources through reduction of the risk of contamination from spills and stormwater runoff. • Reduced use of groundwater for water supply expected to have an insignificant positive impact on groundwater resources. • Reduction in water quality effects from discharge of wastewater effluent due to reduced flows to wastewater treatment plants.	TBS	TBS
Air Quality	• Air pollution emissions would be significantly reduced, resulting in a positive impact.	TBS	TBS
Noise	• Noise from aircraft and motor vehicles would be significantly reduced, resulting in a positive impact. Myrtle Beach Jetport would continue operations and therefore continue producing noise, although with smaller noise contours than currently exist.	TBS	TBS
Biological Resources	• Base closure would have a positive impact on wildlife onbase. • Vegetation would be maintained at a minimal level by the caretaker program. • Disturbance of wildlife would be reduced. • An onbase habitat maintenance program would likely cease, reducing the quality of wildlife habitat.	TBS	TBS

Table S1 Continued, Page 2 of 2

Resource Category	Impacts of Base Closure		
	Myrtle Beach AFB	Davis-Monthan AFB	England AFB
Cultural and Paleontological Resources	• Closure expected to have no impacts on cultural or paleontological resources. Sites potentially eligible for the NRHP would be maintained.	TBS	TBS

1.0 PURPOSE AND NEED FOR ACTION

1.1 INTRODUCTION

The Department of Defense has a continuing policy to identify facilities, property, and installations that are no longer essential to support current or programmed force structure. During the late summer of 1989, the Air Force began a thorough review of its force structure, property, and facility requirements needed to support national security policy and future fiscal realities. As the Air Force went through the process of determining how best to scale its assets to the threat environment and fiscal constraints, it found that existing Air Force property use is not always maximized. In addition, the perceived reduced Soviet military threat has provided the opportunity to consider scaling down United States military force structure. As a result, the Secretary of Defense, on 29 January 1990, announced his proposal to close or realign a number of military bases. Myrtle Beach Air Force Base (AFB), South Carolina, has been identified as a candidate for closure. Closure of Davis-Monthan AFB, Arizona, and England AFB, Louisiana, have been identified as reasonable alternatives to closure of Myrtle Beach AFB.

Base closure is defined as the inactivation of all flying and support units, and the transferral of all personnel and equipment. No construction or demolition activities are planned as part of the proposed closure action. A caretaker team will be established in the event of closure to provide efficient maintenance to prevent deterioration of buildings, perform minimal maintenance of grounds, maintain water supply and other utility system maintenance, and to provide adequate base security. The installation would remain under Air Force control within a secured boundary.

During 1990, the Air Force will address closure and realignment options along with the strategic, operational, budgetary, fiscal, environmental, and local economic consequences of the potential closure of Myrtle Beach AFB as required by Title 10 USC 2687. In accordance with the National Environmental Policy Act (NEPA), the decision on whether or not to proceed with the closure of Myrtle Beach AFB will not be made without an analysis of the environmental consequences of the proposal. As part of this environmental study process, the Air Force will prepare an Environmental Impact Statement (EIS) to assess the potential environmental impacts of the possible closure of Myrtle Beach AFB and alternatives. If a decision is made to close the base, a second EIS will be completed to cover the final disposition/reuse of the excess property.

1.2 SCOPING PROCESS

The Council on Environmental Quality (CEQ) regulations implementing NEPA require an early and open process for determining the scope of issues related to the proposed action. The Air Force initiated this process with the publication of a Notice of Intent to prepare an EIS for the proposed closure action in the *Federal Register* on 9 February 1990. Soon after, written requests were sent by the Air Force to the responsible federal, state, and local agencies to submit their concerns and issues to be analyzed in the EIS. On 15 March 1990, a public scoping meeting was conducted at the Convention Center in Myrtle Beach, South Carolina, to solicit comments and identify concerns related to the closure of Myrtle Beach AFB. Comments were also invited on the environmental issues that should be analyzed in subsequent environmental studies on the final disposition/reuse of base property.

1.2.1 Summary of Scoping Issues

The following issues and concerns were identified either at the scoping meeting for proposed closure of Myrtle Beach AFB or in written statements received before or after the meeting. Comments that are related to environmental issues are presented first, followed by general comments.

- No direct impact on soils is expected as all the land under Myrtle Beach AFB has been developed and altered.
- Water quality would be affected negatively and not monitored frequently.
- Toxic/hazardous substances might be emitted into the atmosphere from hazardous waste sites onbase.
- Impact on the sensitive ecological balance of the wetlands surrounding the base should be investigated.
- Impacts on the biological life and land affected by hazardous sites onbase should be investigated.
- Study the endangered species, fish and wildlife, and floodplain areas affected by base closure.

- Investigate cleaning up hazardous/toxic sites onbase.
- Asbestos in most of the older buildings would have to be removed before the base is closed.

General Comments

- A significant impact on the intellectual resources of the community would occur with the closure of the base.
- Investigate the future of the buildings and land as educational, medical, and business institutions.
- Conduct an encroachment study.
- Heavy industrial facilities may be installed in base facilities, resulting in environmental pollution.
- The low country wetlands and southern tobacco/rice farms may be transformed to industrial zones in order to attain economic stability if the base closes.
- Civilian aviation may be adversely affected.
- Surrounding highways may become polluted as chemicals and hazardous materials are transported offbase.
- Investigate loss of economic activity, the short- and long-term effects on the economy, collapse of local businesses, the short- and long-term effects on utility costs, and the loss of tax revenues if Myrtle Beach AFB is closed.
- Base closure would result in increased unemployment, loss to businesses offbase, and loss of highly skilled technical employees onbase.
- A significant increase in water and electric infrastructure service costs may occur with base closure.

- Highway and traffic patterns may be affected by potential reuse.
- Hospitals dependent on base personnel may be affected; local hospitals may become overburdened with the closure of the base hospital.
- Adverse impacts to existing water, sewer, gas, and other utility systems may occur.
- Reuse of the base as a prison may detract from tourism.
- Loss of services from Myrtle Beach AFB may create hardships for military retirees.
- Base closure may result in the closure of educational institutions, lowering of educational opportunities, and lower the standard of education as teachers may leave and others may not be attracted to the area.
- There may be a decrease in apartment rentals, an increase in housing vacancies, and lower real estate values with closure of the base.
- Base housing may be converted to low-income housing that would not be properly maintained.
- Loss of military dependents who attend community schools would result in a decrease of government funding for these schools.
- Base should be reused for thoroughbred horse racing, or to accommodate other needs of the Air Force.

1.2.2 Issues Beyond the Scope of this EIS

Concerns and issues regarding impacts that would be caused by the disposal of the facilities or their reuse were also expressed in the public scoping meeting and through written comments received during the comment period. Issues that were identified that are beyond the scope of this EIS include the following:

- Environmental impacts of Myrtle Beach AFB reuse.
- Socioeconomic impacts on local communities including changes in jobs, population, school enrollments, housing, income, property values, tax revenues, and other local economic activities resulting from disposition or reuse of base facilities.
- Continuation of the Installation Restoration Program (IRP) activities. The IRP sites are addressed only to the extent that they are related to the closure action.
- The potential environmental impacts that may occur at the receiving bases.

1.2.3 Related Environmental Studies

Other studies recently completed or being conducted by federal, state, or local agencies that are closely related to the proposed closure of Myrtle Beach AFB include the following:

- In addition to this EIS, the Air Force is conducting five other studies as required by Title 10 USC 2687. These are:
 - A strategic study that will address the changing global military power base and examine the interplay between force structure, national defense policy, and power projection requirements. This study will also address the impact of reducing conventional, strategic, and space systems as the threat to national security is reduced.
 - An operational study that will address the operational environment of aircraft and identify special operational characteristics, restricted areas, military operating areas, zoning, range-use rights, joint military/civilian use, and other significant operational issues. It will also include all tenant units and joint service missions, supported or needing replacement if the decision is made to close the installation.
 - A budgetary study that will determine current year programmed dollar costs and savings associated with the relocation or retirement of the aircraft and the inactivation or relocation of associated operations and support units.

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- A fiscal study that will use the budget evaluation as a springboard, and analyze past, present, and future costs and savings associated with the retirement of aircraft and the inactivation or relocation of associated operational and support units. Costs of closing and savings will be detailed through a life-cycle cost model.
- A local economic consequences study that will address the direct payroll loss to the immediate community and the secondary payroll impact on local businesses caused by the loss of military personnel, dependents, and civilian workforce. In addition, the study will examine the effects on the local real estate market and schools from a loss of personnel. If data are available, the study will address losses to other local industries that depend on the base. The study will also cover projected growth in the community and the potential for reuse, both interim and long-term, if available.
- Separate environmental documents will be prepared for the relocation of Air Force units to Moody AFB, Georgia, MacDill AFB, Florida, and Langley AFB, Virginia.
- Separate environmental documents will be prepared for changes in the management and use of Military Operating Area, Restricted Area, and Military Training Route airspace.

1.3 RELEVANT FEDERAL, STATE, AND LOCAL STATUTES, REGULATIONS, AND GUIDELINES

Federal:

- NEPA: Requires consideration of environmental impacts in federal decision making.
- President's CEQ regulations: Implement the NEPA process.
- Endangered Species Act of 1973: Conserves ecosystems for the use of endangered or threatened species.

- **National Historic Preservation Act:** Protects districts, buildings, sites, and objectives significant to American history.
- **Clean Water Act:** Reduces water pollution and the discharge of toxic and waste materials into all waters.
- **Clean Air Act:** Reduces air pollution dangerous to public health, crops, livestock, and property.
- **Resource Conservation and Recovery Act:** Regulates the disposal of hazardous waste.
- **Federal Insecticide, Fungicide, and Rodenticide Act:** Controls the application of pesticides to provide greater protection to humans and the environment.
- **Comprehensive Environmental Response Compensation and Liability Act, as amended by the Superfund Amendments and Reauthorization Act:** Provides for liability, compensation, clean-up, and emergency response for hazardous substances released into the environment and the clean-up of inactive hazardous waste disposal sites.
- **Toxic Substance Control Act:** Regulates commerce and protects human health and the environment by requiring testing and use restrictions on certain chemical substances and for other purposes.
- **Intergovernmental Review of Federal Programs, Executive Order 12372:** Provides the opportunity for consultation by state and local governments of federal financial assistance or direct federal development.

Air Force:

- **Environmental Impact Analysis Process (AFR 19-2):** Gives specific procedural requirements for Air Force implementation of the NEPA.
- **Pollution Abatement and Environmental Quality (AFR 19-1):** States policies and assigns responsibilities for the development of an organized, integrated, and multidisciplinary environmental protection program to ensure the Air Force, at all

levels of command, conducts its activities in a manner that protects and enhances environmental quality.

- **Environmental Pollution Monitoring (AFR 19-7):** Sets up environmental pollution monitoring program for Air Force installations.
- **Interagency and Intergovernmental Coordination of Land, Facility, and Environmental Plans, Programs, and Projects (AFR 19-9):** Requires intergovernmental and interagency coordination.
- **Conservation and Management of Natural Resources (AFR 126-1):** Provides policies, procedures, and functional responsibilities for managing and conserving soil, water, forest, fish, wildlife, and outdoor recreation resources on Air Force lands.
- **Natural Resources Land Management (AFR 126-2):** Provides for development, improvement, maintenance, and conservation of real property in Department of Defense installations.

State:

- **South Carolina Antiquities Act:** Establishes a committee to oversee the preservation of archaeological sites and materials; establishes a permitting process and enforcement procedures.
- **South Carolina Pollution Control Acts of 1971 and Amendments:** Establish an authority to adopt water and air standards, issue permits, and conduct hearings.
- **South Carolina Air Pollution Control Regulations:** Provides air and water pollution standards and establish permitting procedures.
- **South Carolina Ambient Air Quality Standards:** Define emissions standards, monitoring requirements, and testing and air pollution control technology requirements.

- **South Carolina National Pollutant Discharge Elimination System Permit Regulations:** Identify permit requirements, schedules, and monitoring.
- **South Carolina Water Classification Standards:** Establish standards for water quality.
- **South Carolina Hazardous Waste Management Act of 1978:** Establishes a state board to oversee establishment of rules and regulations for hazardous waste management.
- **South Carolina Hazardous Waste Management Regulations:** Establish standards for hazardous waste, storage, transportation, and disposal of various types of waste.
- **South Carolina Guidelines for Waste Disposal Permits:** Establish permitting procedures for different types of waste disposal.
- **South Carolina Coastal Zone Management Act of 1977:** Establishes a state council to oversee protection and safe development of coastal zones.

Local:

- No local statutes or regulations pertain to the base closure process.

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2.0 ALTERNATIVES INCLUDING PROPOSED ACTION AND SUMMARY OF IMPACTS

2.1 INTRODUCTION

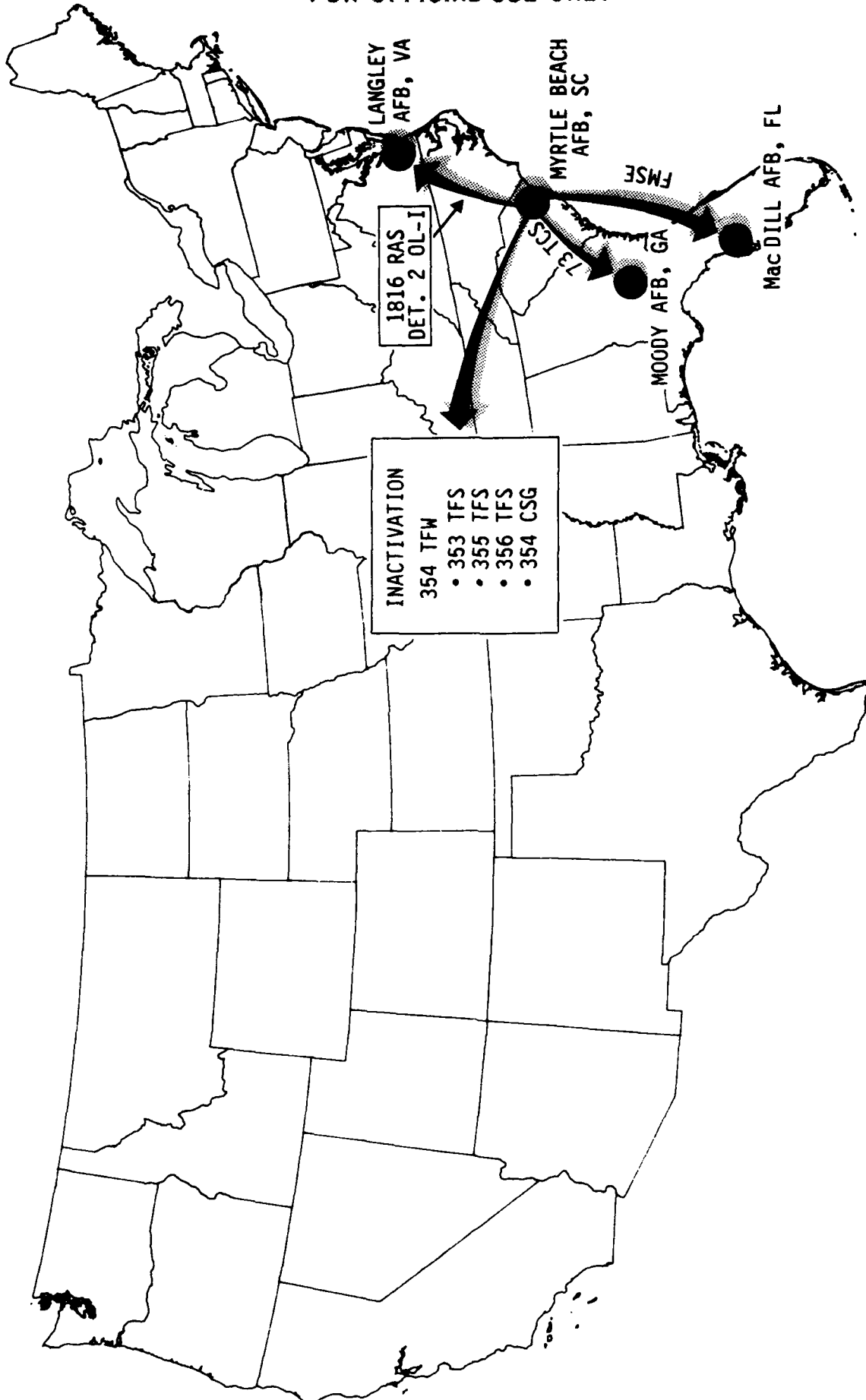
The perceived reduction in the Soviet military threat has provided the opportunity to consider scaling down the United States force structure. Growing fiscal constraints on the U.S. Government mandate efficient consolidation of the nation's force structure and the elimination or retirement of weapon systems no longer required to support national policy. The Department of Defense is, therefore, studying the closure of numerous military installations across the United States, including Myrtle Beach Air Force Base (AFB), South Carolina.

2.2 DESCRIPTION OF THE PROPOSED ACTION

The proposed action is to close Myrtle Beach AFB by the beginning of fiscal year 1993. Closure of Myrtle Beach AFB would involve the inactivation or relocation of the following units (Figure 2.2-1):

- Inactivation of 354th Tactical Fighter Wing (TFW). Its assets (primarily 72 A-10A aircraft) would be retired, made available for foreign military sales, and/or used to modernize the Forward Air Control (FAC) force.
- Relocation of the Southwest Asia Fuels Mobility Support Equipment (FMSE) Storage facility to MacDill AFB, Florida.
- Relocation of 73rd Tactical Control Squadron (TCS) to Moody AFB, Georgia.
- Relocation of the 1816 Reserve Advisor Squadron, Detachment 2, OL-1 to Langley AFB, Virginia.
- Inactivation of all remaining Myrtle Beach AFB support units, as appropriate.

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FIGURE 2.2-1 RELOCATION OR DEACTIVATION OF UNITS FROM MYRTLE BEACH AFB, SOUTH CAROLINA

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- Relocation of tenant units to other bases or deactivation of various tenant units with their assets absorbed into units at other locations.

The mission of the 354th TFW is to maintain the capability to deploy worldwide and to provide Close Air Support and anti-armor operations in a low, medium, or high threat environment; to execute tactical fighter missions; and to destroy enemy forces and equipment by using the A-10 aircraft equipped with a 30-millimeter cannon, Maverick air-to-ground missiles, and a wide range of other conventional munitions.

The 354th TFW consists of three flying squadrons: the 353rd, 355th, and 356th Tactical Fighter Squadrons, with 24 A-10s each. Other organizations within the wing include the 354th Air Base Operability Squadron, 354th Aircraft Generation Squadron, 354th Civil Engineering Squadron, 354th Component Repair Squadron, 354th Combat Support Group, 354th Comptroller Squadron, 354th Equipment Maintenance Squadron, 354th Medical Group, 354th Mission Support Squadron, 354th Security Police Squadron, 354th Services Squadron, 354th Supply Squadron, and 354th Transportation Squadron.

The Southwest Asia FMSE storage area is located at Myrtle Beach AFB. The FMSE is operated by the 354th Supply and Transportation Squadrons. The purpose of FMSE is to provide mobile fuels support for contingency operations in southwest Asia. If Myrtle Beach AFB is closed, the fuels support equipment and responsibility will be transferred to the 56th Supply and Transportation Squadrons at MacDill AFB, Florida, where an existing FMSE storage area is presently maintained. This will permit joint use of personnel, equipment, and facilities.

Myrtle Beach AFB is also the home of the 73rd Tactical Control Squadron (TCS), a FAC Post that provides radar surveillance and air weapons control. The 73rd TCS would be relocated to Moody AFB, Georgia, to allow for increased utilization of tactical air control assets.

Tactical Air Command (TAC) tenant units at Myrtle Beach AFB include Operating Location of the 1st Combat Support Group and Detachment 354 of the 4400th Management Engineering Squadron. Both of these units would be inactivated by the proposed action.

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Major tenant (non-TAC) units at Myrtle Beach AFB include the 2066th Communications Squadron; the 301st Field Training Unit; the 1816th Reserve Advisor Squadron; Detachment 3, 3rd Weather Squadron; Detachment 2105, Air Force Office of Special Investigation; and Detachment 217, Air Force Commissary Service. Most of these units would probably be inactivated as a result of the proposed action, but actual dispositions are yet to be determined by their owning commands. Known unit disposition for Myrtle Beach AFB is shown in Figure 2.2-1.

Manpower Drawdown Schedule. Total manpower positions currently authorized for Myrtle Beach AFB are 3,263 military and 479 civilians. The proposed schedule for manpower drawdown, as a result of the base closure, is shown in Figure 2.2-2.

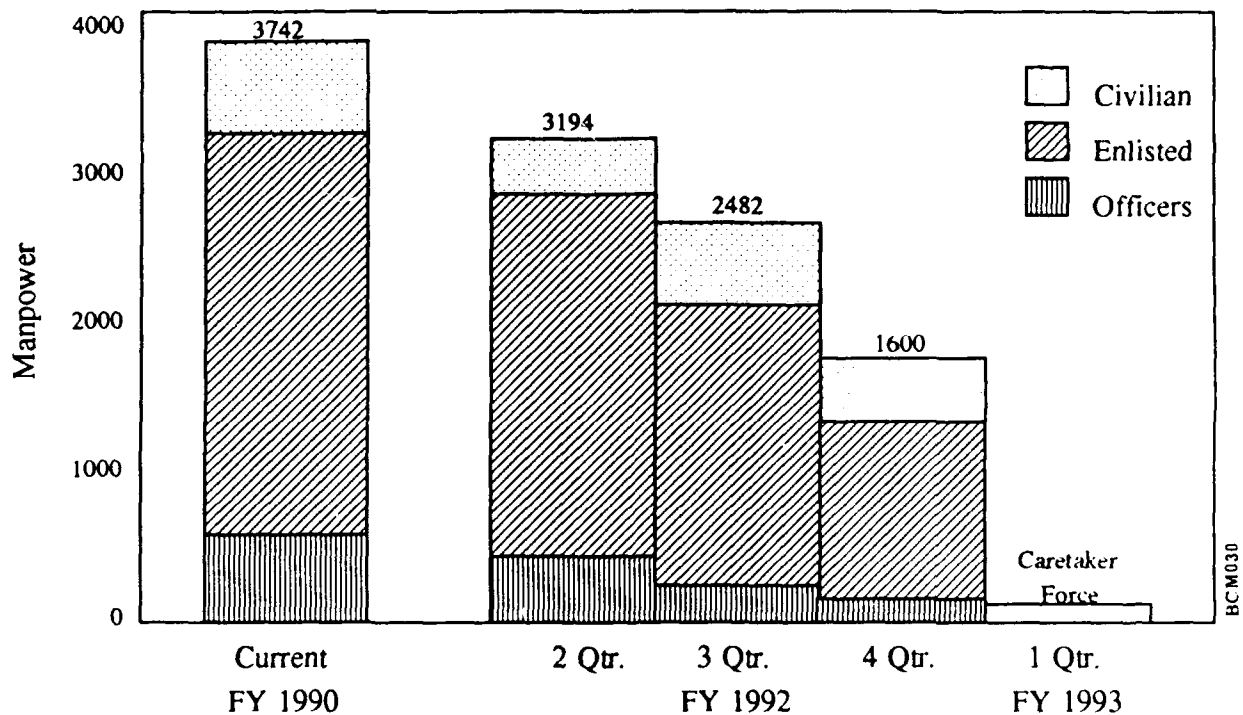


FIGURE 2.2-2 MANPOWER DRAWDOWN SCHEDULE FOR THE PROPOSED CLOSURE OF MYRTLE BEACH AFB, SOUTH CAROLINA

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05/21/90**2.3 ALTERNATIVE 1, DAVIS-MONTHAN AFB, ARIZONA**

Under this alternative, removal of A-10 aircraft from and closure of Davis-Monthan AFB, Arizona, would be studied. Further details TBS.

2.4 ALTERNATIVE 2, ENGLAND AFB, LOUISIANA

Under this alternative, removal of A-10 aircraft from and closure of England AFB, Louisiana, would be studied. Further details TBS.

2.5 NO ACTION ALTERNATIVE

Under the no action alternative, Myrtle Beach AFB would remain active. The 354th TFW and other TAC and non-TAC units currently assigned to the base would not be inactivated or relocated. The base structure would be maintained at its current level. The no action alternative would not alleviate growing fiscal constraints nor allow for the necessary streamlining of current or programmed force structure.

The No Action Alternative would not substantially affect the surrounding community based on existing base operational and environmental conditions. The Myrtle Beach area population, employment, housing, education, and community services would continue current trends. Land use and aesthetics at Myrtle Beach AFB and near base areas would remain unchanged, at least for the near future. Transportation and utility patterns and trends would also remain unchanged. Local and state planning documents for utilities, transportation, and other service facilities, based on existing and projected future conditions (which include Myrtle Beach AFB), would continue to be valid and should adequately address potential growth-related impacts.

Under the no action alternative, potential contamination due to the use, storage, and disposal of hazardous materials/wastes at Myrtle Beach AFB would be minimized by adhering to approved plans and applicable regulations. Hazardous materials would continue to be used at Myrtle Beach AFB in daily operation activities. Hazardous wastes would also be generated, collected, stored, and disposed

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of as currently directed by the Hazardous Waste Management Plan for Myrtle Beach AFB. Regulated underground storage tanks would continue to be inspected, maintained, monitored, tested, and removed in accordance with the Underground Storage Tank Management Plan approved for Myrtle Beach AFB and the South Carolina Underground Storage Tank Control Regulations. The two Treatment, Storage, and Disposal Facilities (TSDFs) at Myrtle Beach AFB would continue to operate under their approved Resource Conservation and Recovery Act permits. Cleanup of contaminated Installation Restoration Program sites would continue to proceed in accordance with approved plans.

The no action alternative would not substantially affect geology, soils, air quality, water resources, or the noise environment in the area. However, reductions in air emissions and noise expected with the base closure proposed action would not be realized. The existing program for maintenance of base forested areas would continue to benefit wildlife habitat onbase. Any existing disturbance of wildlife by aircraft operations and other base activities would continue; this disturbance is likely to be minor. The potential for loss or disturbance of natural habitat by future construction or other base activities would remain.

If Myrtle Beach AFB were to remain open, the 1990 Airport Revenue Bond issue would help finance expansion of the passenger terminal and other facilities at the Myrtle Beach Jetport. As described in Section 4.1.1.1, base closure would probably preclude issuance of this bond as the Jetport may not be able to afford to service the bond debt and provide the services currently rendered to the Jetport by Myrtle Beach. The bond issue supports terminal expansion from the present 55,000 square feet to 150,000 square feet. A construction project at this site would have potential impacts on the physical and biological environment that are considered secondary impacts of the no action alternative. The total amount of disturbed area during construction would be approximately triple the area of expansion, or approximately 300,000 square feet. The resulting area of exposed soil would be subject to erosion unless erosion control measures were used diligently. Much of the area to be disturbed is currently paved, landscaped, or otherwise changed from the natural state. It is likely, however, that some of the mixed pine-hardwood forest surrounding the terminal, and the wildlife habitat provided by the forest, would be lost. No wetlands occur in the natural areas immediately surrounding the terminal. Construction equipment would emit air pollutants and exposed areas would be a source of fugitive dust. Construction equipment and activities would generate considerable

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noise, although it is doubtful that this would cause a significant increase over existing aircraft noise levels for nearby residential areas.

2.6 ALTERNATIVES ELIMINATED FROM FURTHER CONSIDERATION

Two alternatives were investigated but were eliminated from further consideration. These are:

Remove A-10s From Overseas Bases. There are across-the-board drawdowns proposed for aircraft in Europe. These drawdowns are currently part of the Conventional Forces in Europe (CFE) negotiations. These proposed CFE reductions will be in addition to, not instead of, continental United States drawdowns. The strategic location of the A-10 squadron in Alaska eliminates it as a candidate for an alternate closure location.

Remove A-10s From Myrtle Beach AFB; Backfill the Base With a New Mission. Because of budget constraints and resultant force structure reductions, the time frames and dollars necessary to support a replacement mission at Myrtle Beach AFB will not be available. This, in addition to the military construction requirements for a new mission, precludes this alternative.

2.7 SUMMARY OF ENVIRONMENTAL IMPACTS

A complete summary of changes to the local community, changes in hazardous materials management practices, and impacts to the physical environment is provided in the Summary and Table S1. Detailed discussions are provided in Chapter 4.0, Environmental Consequences.

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3.0 AFFECTED ENVIRONMENT

Chapter 3.0 provides descriptions of the environmental context and affected environment at Myrtle Beach Air Force Base (AFB), South Carolina; Davis-Monthan AFB, Arizona; and England AFB, Louisiana. Within the section on each base, discussions of the environmental setting or context are provided first. The parameters of the local community, community setting, land use and aesthetics, transportation, and utilities are detailed because changes in these conditions may cause impacts to the physical environmental resources. Issues relating to the current treatment of hazardous materials are also discussed. Baseline environmental conditions are organized within the following resource categories: geology and soils, water resources, air quality, noise, biological resources, and cultural and paleontological resources.

3.1 MYRTLE BEACH AIR FORCE BASE, SOUTH CAROLINA

Myrtle Beach AFB comprises 3,793 acres in southeastern Horry County, South Carolina (Figure 3.1.1-1). The base is incorporated in the City of Myrtle Beach and is near Grand Strand, a popular beach resort extending from the North Carolina border south to Georgetown, South Carolina. Communities within the vicinity of the base include North Myrtle Beach, Atlantic Beach, Ocean Forest, Surfside Beach, Garden City, Murrells Inlet, Burgess, Socastee, and Pine Island (Figure 3.1.1-2).

The Myrtle Beach area experiences warm temperate climatic patterns which are moderated by the maritime effects of the Atlantic Ocean. The weather is typical of subtropical humid zones, with hot summers and mild winters. The mean annual temperature is approximately 64°F, with summers averaging 79°F and winters averaging 47°F. Annual precipitation averages 49.5 inches, the majority of which falls from June through September. Snowfall is rare and usually of short duration. Prevailing winds are from the south-southwest, with highest wind speeds in the summer, averaging 10 miles per hour. Hurricane season is primarily from August through November, although hurricanes may occur throughout the year.

The Myrtle Beach area is within the Sea Island subdivision of the Atlantic Coastal Plain physiographic province. The region is characterized by relatively flat-lying topography and northeast-southwest

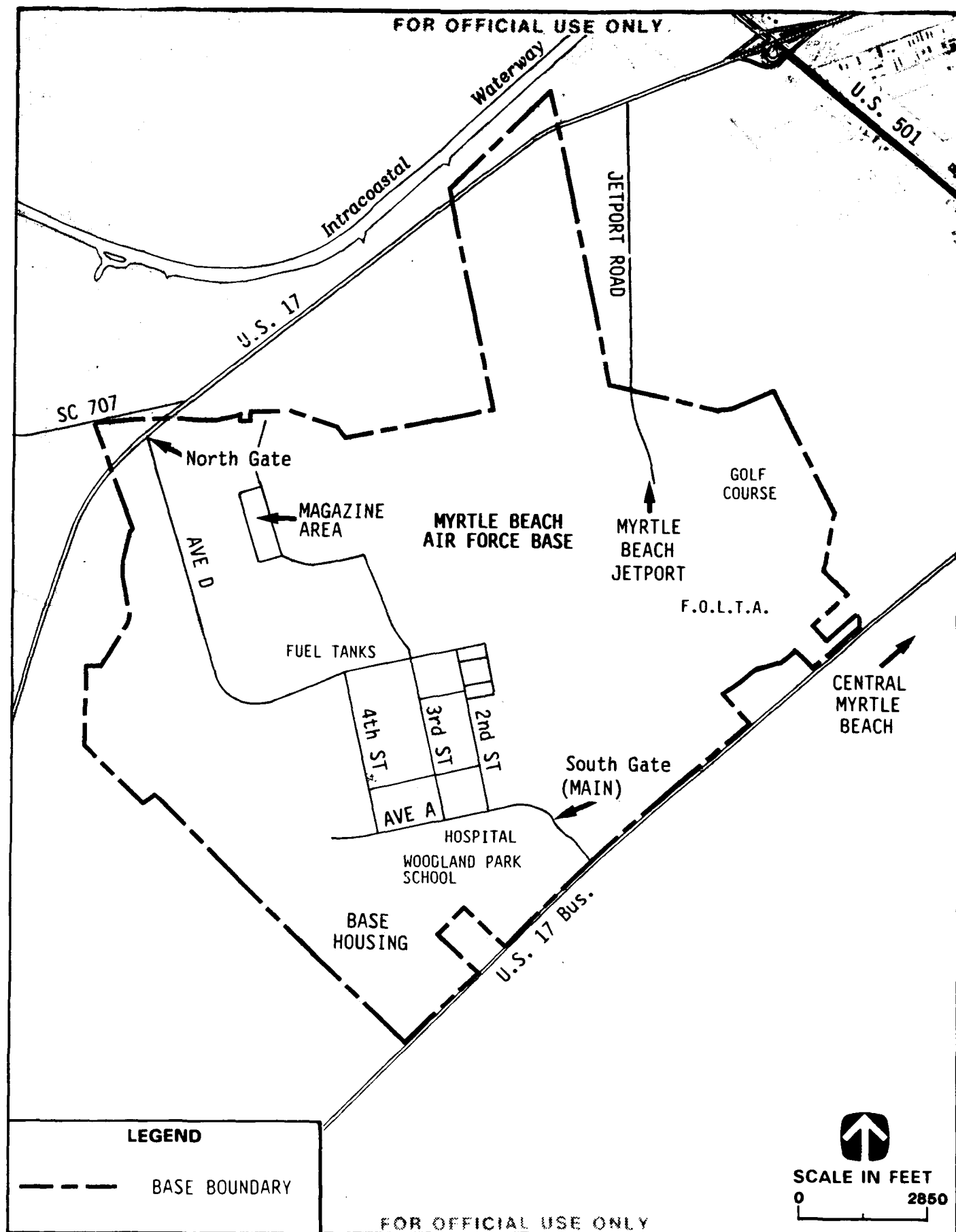


FIGURE 3.1.1-2 MYRTLE BEACH AFB, SOUTH CAROLINA AND VICINITY

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trending terraces separated by ridges and wave-cut scarps. Elevations range from mean sea level (MSL) to a maximum of approximately 30 feet.

Myrtle Beach AFB was activated as the Army Air Corps Airfield in June 1940. The field served as a firing, gunnery, and bombing range. On December 7, 1941, the 112th Observation Squadron was deployed at the base to defend the coastline. The 79th Fighter Squadron began gunnery training in May 1942, and 11 months later (4,451 bombing missions later) the 17th, 31st, 310th, 323rd, and 345th Bombardment groups were training there.

The base was designated Myrtle Beach Army Field on November 8, 1943, and, when the war ended, it housed the National Guard, Civil Air Patrol, and U.S. Military Academy organizations. On November 1, 1947, the expedient demobilization of the Armed Forces forced closure of the base, which was turned over to the City of Myrtle Beach to serve as a municipal airport.

On May 8, 1954, the Myrtle Beach Municipal Airport was offered to the Air Force by city officials. The 727th Aircraft Control and Warning Squadron then occupied the base. Soon after, the 4434th Air Base Squadron attained housekeeping unit status until July 25, 1956, when it was replaced by the 342nd Fighter Day Wing. The 342nd Fighter Day Wing was then inactivated in November 1956, and the 354th Fighter Day Wing took over the installation. On July 1, 1958, the Fighter Wing became a Tactical Fighter Wing (TFW).

Since 1958, the 354th TFW has served as the host unit of Myrtle Beach AFB, with the exception of two periods of overseas deployment. Between April 1968 and June 1970, the 354th TFW was transferred to Kusan Air Base in Korea. During this time, the 113th TFW took over control of the base. Between October 1972 and May 1974, the wing was deployed to Korat Royal Thai AFB, Thailand.

During its first years as host at Myrtle Beach AFB, the 354th TFW was equipped with F-100D fighter aircraft. From 1970 to 1972, the wing transitioned to the new A-7D Corsair II tactical fighter. In 1977 and 1978, the A-7D aircraft were transferred to Air National Guard units, and the 354th TFW was equipped with A-10A close air support aircraft, which the wing still operates today.

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On July 9, 1975, joint military and civilian use of the Myrtle Beach AFB runway commenced with the formal opening of Piedmont Airlines terminal facilities on the northeast side of the base. Today, Myrtle Beach Jetport, served by eight commercial airlines, continues to share use of Myrtle Beach AFB's runway.

3.1.1 Local Community

3.1.1.1 Community Setting

Population and Employment. The population of Myrtle Beach and Horry County fluctuates greatly due to the influx of tourists during the summer months, but estimates of permanent population for these areas are approximately 30,000 and 156,800 for Myrtle Beach and Horry County, respectively. During peak vacation periods, the Grand Strand area's population swells to nearly 500,000. Air Force-related population in the Myrtle Beach area consists of 3,300 active military personnel, their 8,000 dependents, and 8,000 military retirees.

The Myrtle Beach area has seen significant population growth over the past few decades as the area's economy has changed from agricultural-based to industry-, tourist-, and services-related. Projections call for the population of Myrtle Beach to reach 85,927 by the year 2000, a 5.5-percent annual increase, while Horry County is expected to reach a population of 225,800 in the year 2000, a 3-percent average annual growth rate over the next 10 years.

Myrtle Beach AFB is the single largest employer in Horry County, with 3,300 active duty military personnel and 900 civilian employees. Tourism is the largest private-sector employer in the county, providing 33,000 jobs. Construction and manufacturing employs 6,500 people, while 4,000 are working in the agricultural and wood product industries.

The seasonal nature of employment in the tourism industry makes it difficult for Myrtle Beach to develop a stable and skilled labor force. Permanent employment in the area mainly consists of skilled professional and administrative workers. The predominance of the tourism industry, infrastructure deficiencies, and a largely seasonal and rural labor force all acted to inhibit development of the manufacturing sector.

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Nearly 80 percent of the job openings in the Grand Strand area are filled by workers from Horry County. Projections call for employment to grow by 5.5 percent a year for the next 15 years. The firms expected to see the greatest growth over the next decade are retail and service companies, which could account for 65 percent of nonagricultural employment by the year 2007.

Housing. The housing market in Myrtle Beach and Horry County has a high percentage of vacant and seasonal units. A majority of housing construction over the last 2 decades consists of condominiums and "second homes." Although income in Myrtle Beach exceeds that in surrounding communities, the tourism industry has led to a high demand for seasonal model units, resulting in a shortage of year-round apartment units for rent.

The value of real estate has escalated between 10 and 15 percent per year during the last 2 decades because of inflation and increased demand for resort property. Rising land costs, construction costs, and interest rates, in conjunction with an ever-diminishing amount of undeveloped land, have all contributed to increasing housing costs.

As for military housing, Myrtle Beach AFB provides enough dormitories, mobile homes, and single-family homes to accommodate 3,800 people, consisting of 1,600 active duty personnel and 2,200 dependents. The number of military personnel, military dependents, and civilian Air Force employees living offbase is 2,500.

Education. At Myrtle Beach AFB, the Department of Defense (DOD) operates a number of educational programs ranging from child care to college-level academic courses. In addition, the base education center administers professional military classes.

The Air Force provides day care and preschool services through its Child Development Center. Woodland Park Elementary School offers education from grades kindergarten to 8 to military families living onbase, and can accommodate up to 800 pupils. There are also numerous public and private elementary schools in the area. Currently, 800 children of military families living offbase attend these schools.

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The 300 students living onbase who attend Socastee High School, which is 3 miles from the base, are provided bus transportation. Students living offbase may attend other high schools in the area.

Currently, 900 adult students use the base education center to pursue undergraduate and graduate studies. Among the colleges offering courses through the center are the Air University, the University of South Carolina, St. Leo College, Webster University, and Horry-Georgetown Technical College.

Community Services. Myrtle Beach AFB maintains a 25-bed hospital that provides both inpatient and outpatient services. The hospital is equipped to handle emergencies, and the base operates a walk-in clinic for minor illnesses. In addition, the base also has a dental clinic. These facilities are available for use by active duty personnel, their families, military retirees, and other eligible people.

If the base hospital cannot provide the medical services needed, care is available in local medical clinics and hospitals through the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS). The Grand Strand General Hospital in Myrtle Beach is one such facility and is equipped to handle medical emergencies.

There are over 7,000 military retirees living in the Myrtle Beach area. They, together with retirees who choose to vacation in the area, are entitled to use many of the facilities at Myrtle Beach AFB. Retired military personnel are eligible for medical and dental care and use of the base exchange, commissary, credit union, and various recreational facilities. Myrtle Beach AFB maintains its own fire department, operated by the 354th Civil Engineering Squadron. The base's fire, security, and hospital personnel respond to emergencies in the areas around the base and support local fire and police departments.

The Myrtle Beach area contains a wide variety of recreational opportunities, including a large number of golf courses, fishing and camping sites, and various aquatic activities on its beach and shoreline areas. Moderate temperatures allow for extensive use of these facilities year-round.

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Myrtle Beach AFB provides the following services to the Myrtle Beach Jetport:

- Air traffic controllers and control tower;
- Runway and airfield maintenance;
- Navigation aids;
- Utilities;
- Crash, Fire, Rescue personnel, facilities, and equipment; and
- Security personnel, facilities, and equipment (installation).

The Horry County Department of Airports is currently planning an \$11 million bond issue (1990 Airport Revenue Board Issue) to finance expansion of the passenger terminal and other facilities at the Jetport.

3.1.1.2 Land Use and Aesthetics

Existing Land Use Patterns. Myrtle Beach AFB is within the city limits of Myrtle Beach in an area of diverse land use known as the Grand Strand. The city has adopted a comprehensive plan and zoning ordinance; however, the base is exempt from their provisions. Although commercial and residential development dominate the Grand Strand region, the largest proportion of the area is undeveloped. In contrast, the area within the city limits is intensely developed.

Figure 3.1.1-3 (TBS) shows existing land use on Myrtle Beach AFB and in the surrounding area. Myrtle Beach AFB covers approximately 3,793 acres, 1,150 acres of which are unimproved woodland or shrubs. Approximately 1,038 acres are improved. This area includes the runways, taxiways, and other associated features. An additional 515 acres contain hangars, offices, and other buildings. Another 1,090 acres, adjacent to the runways and between improved and unimproved lands, are kept in a semi-improved state; that is, native vegetation is controlled and maintained.

Land use surrounding Myrtle AFB is predominantly commercial, residential, and undeveloped. Adjacent to the base along Route 17 and Route 17 Bypass are irregularly developed commercial properties. North and south of the base are residential communities mixed with some commercial development. Directly east of the base is Myrtle Beach State Park, and the Atlantic Ocean is less than

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0.5 mile from the base perimeter. In contrast to the land development within the City of Myrtle Beach, land to the west and northeast is relatively undeveloped and consists primarily of woodland.

Land Use Policies and Plans. The *Commander's Long Range Facility Improvement Plan* contains a future land use map, environmental and development constraints, and goals and objectives of the Capital Improvements Program, which are designed to provide policy guidelines for future base development and facility siting. For planning purposes, Myrtle Beach AFB established eight functional land use categories, as follows:

- Mission: areas that operate and maintain aircraft;
- Administrative: facilities that house personnel, headquarters, legal, and other support functions;
- Community: facilities such as commissary, exchange, and other used that support social needs of military families;
- Housing: accommodations for families, unaccompanied personnel, temporary personnel, and visitors;
- Base Support/Industrial: storage of supplies, maintenance of base facilities and utility systems;
- Medical: facilities for medical, dental, and pharmaceutical support;
- Outdoor Recreation: areas used for athletics, camping, fishing, and other recreational activities; and
- Open Space: areas that provide buffers between base facilities and preserve environmentally sensitive areas.

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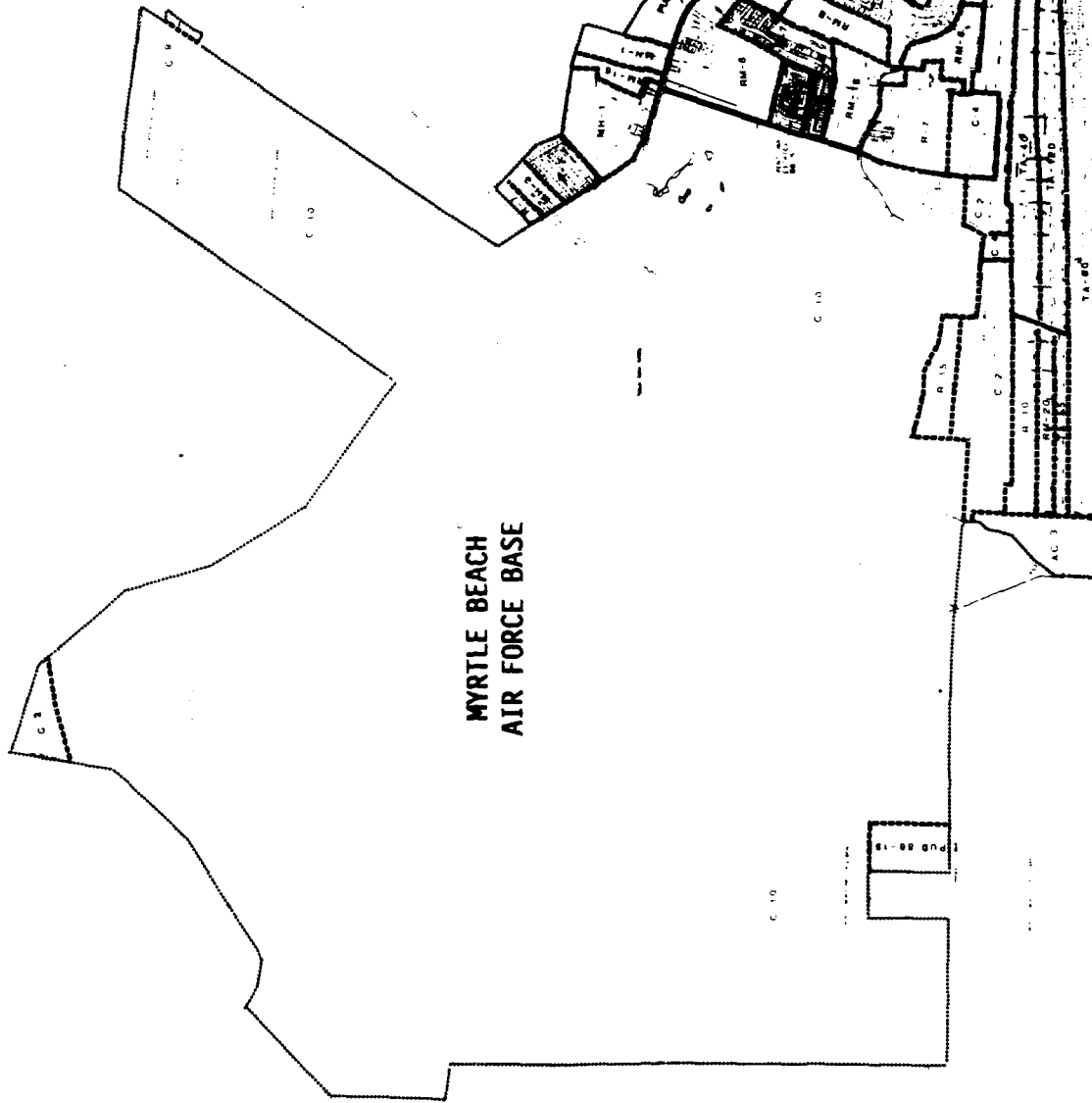
The goals and objectives of the Myrtle Beach area are identified in the *Comprehensive Plan for the Myrtle Beach Area*; however, the document has not been updated since 1979 and may not adequately reflect the interests and intent of the Myrtle Beach community. Areas adjacent to the base outside the Myrtle Beach city limits are established by the 1983 Horry County Land Use Plan.

Zoning and Other Regulations. Zoning regulations for Myrtle Beach AFB and the surrounding area are controlled by the City of Myrtle Beach. The base is zoned C-10 (military district). This zone is intended to provide a military/light industrial district within the city, where military land uses and their related support activities can be accommodated without being affected or affecting unrelated land uses. Figure 3.1.1-4 shows the City of Myrtle Beach zoning map for the vicinity of Myrtle Beach AFB. Zoning in the adjacent surrounding areas is described below.

Northwest area C-2 (Highway Commercial); Northeast area C-9 (Commercial Trade); East area R-7 (One Family Residential), southeast of area R-7 is MH-3 (Mobile Home Single Family), and southeast and east of R-7 is MH-1 (Mobile Home Park); Southeast area RM-8 (Single Family Residential/Multi Family Residential), south of RM-8 is PUD (Planned Unit Development) and RM-16 (Medium Density Multi Family Residential), and south of is that C-4 (Neighborhood Commercial), and west of C-4 is C-2, west of that C-4; Southwest area C-2, north of which is R-15 (One Family Residential), southwest of which is Myrtle Beach State Park, which lies in county territory, and north of PUD. All other areas surrounding the base are undeveloped open space lands that are not zoned.

There are some existing conflicts or potential conflicts between land uses surrounding Myrtle Beach AFB and aircraft accident hazards and noise levels generated by military aircraft operations. There is commercial recreational development in the south Clear Zone, and the resort area of Springmaid Beach lies in the south Accident Potential Zone (APZ) 1 (Section 3.1.3.4, Figure 3.1.3-3). U.S. 17 and the Intracoastal Waterway lie in the north APZ 1, and industrial development along U.S. 501 lies in the north APZ 2. Residential areas west of the northern end of the runway (Section 3.1.3.4, Figure 3.1.3-3) lie within the 65 and 70 day/night sound level (L_{dn}) contours for the runway, and residential areas east of the runway and north of the Jetport terminal lie within the 65 L_{dn} contours.

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AIR FORCE BASE

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SCALE IN FEET
0 3080

Source: City of Myrtle Beach Zoning Map, 1989.

FIGURE 3.1.1-4 EXISTING ZONING, MYRTLE BEACH AFB, SOUTH CAROLINA AND VICINITY

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Aesthetics and Visual Resources. The visual attributes of the Myrtle Beach area are fairly typical of Atlantic coastal communities. The northern part of the South Carolina coast, which includes Horry County and part of northern Georgetown County, borders on Long Bay and contains comparatively fewer salt marshes, estuaries, and barrier islands than the other coastal regions. The Horry County section, including the Myrtle Beach planning area, is dominated by broad sandy beaches that are interrupted by small tidal creeks and swashes.

Numerous tree species predominate in the Myrtle Beach area which, as an aesthetic feature, act to beautify developed and undeveloped land. However, a tree protection ordinance has not been adopted by the city but maps have been prepared that show areas of significant tree cover. These maps are used to monitor future large-scale forest and tree removal. Examples of prevalent trees are live oak, southern magnolia, willow oak, sweetgum, blackgum, wild cherry, pecan, and dogwood. The city is named for the southern waxmyrtle, a native evergreen shrub with fragrant berries and flowers.

Of special importance are the types of vegetation found along the beaches and in wetland areas. Not only do these plants play an ecological role in maintaining the natural environmental balance, they also contribute to the visual aesthetics of the community.

3.1.1.3 Transportation

Transportation Systems. The principal roadways serving Myrtle Beach AFB and vicinity are shown on Figure 3.1.1-5. U.S. 17 Business provides access to the Main Gate/Visitors Center (South Gate) entrance. U.S. 17 provides access to the North Gate, as does State Highway 707, which merges with U.S. 17 from the west near the North Gate. The Main Gate and North Gate intersections are signalized. Other principal highways in the study area include U.S. 501 and State Highway 544 located north and south of Myrtle Beach AFB, respectively. Jetport Road provides access from Highway 17 at a T intersection controlled by a stop sign on Jetport Road.

Commercial air passenger and cargo services are provided to the Myrtle Beach area through the Myrtle Beach Jetport, which shares the Myrtle Beach AFB runway (Figure 3.1.1-6). General aviation facilities in the area include the Grand Strand Airport in North Myrtle Beach, and the Conway-Horry County Airport 4 miles west of the City of Conway (Figure 3.1.1-7).

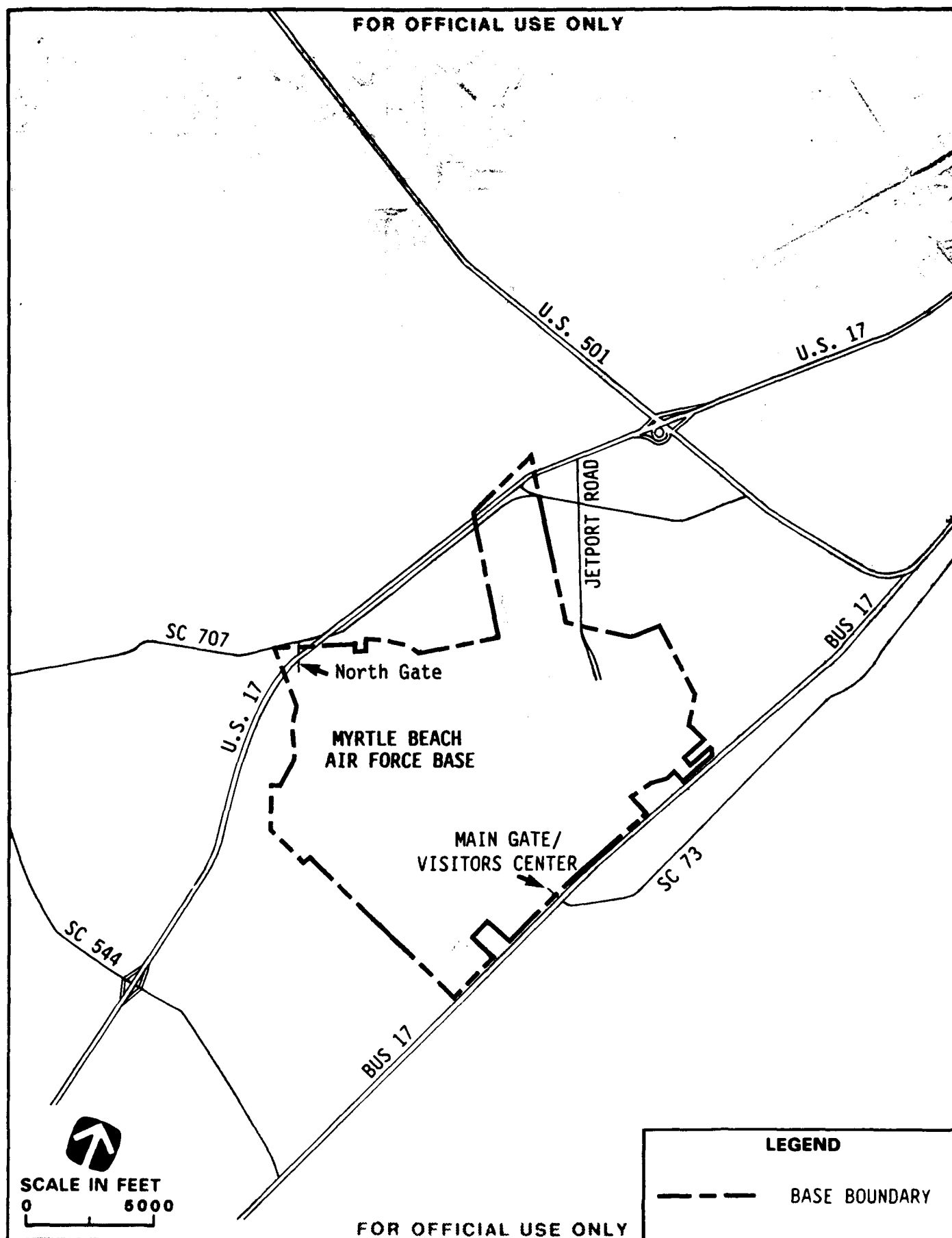


FIGURE 3.1.1-5 PRINCIPAL ROADWAYS SERVING MYRTLE BEACH AFB, SOUTH CAROLINA

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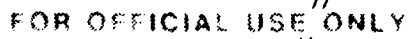


FIGURE 3.1.1-6 EXISTING FACILITIES, MYRTLE BEACH AFB/JETPORT, SOUTH CAROLINA

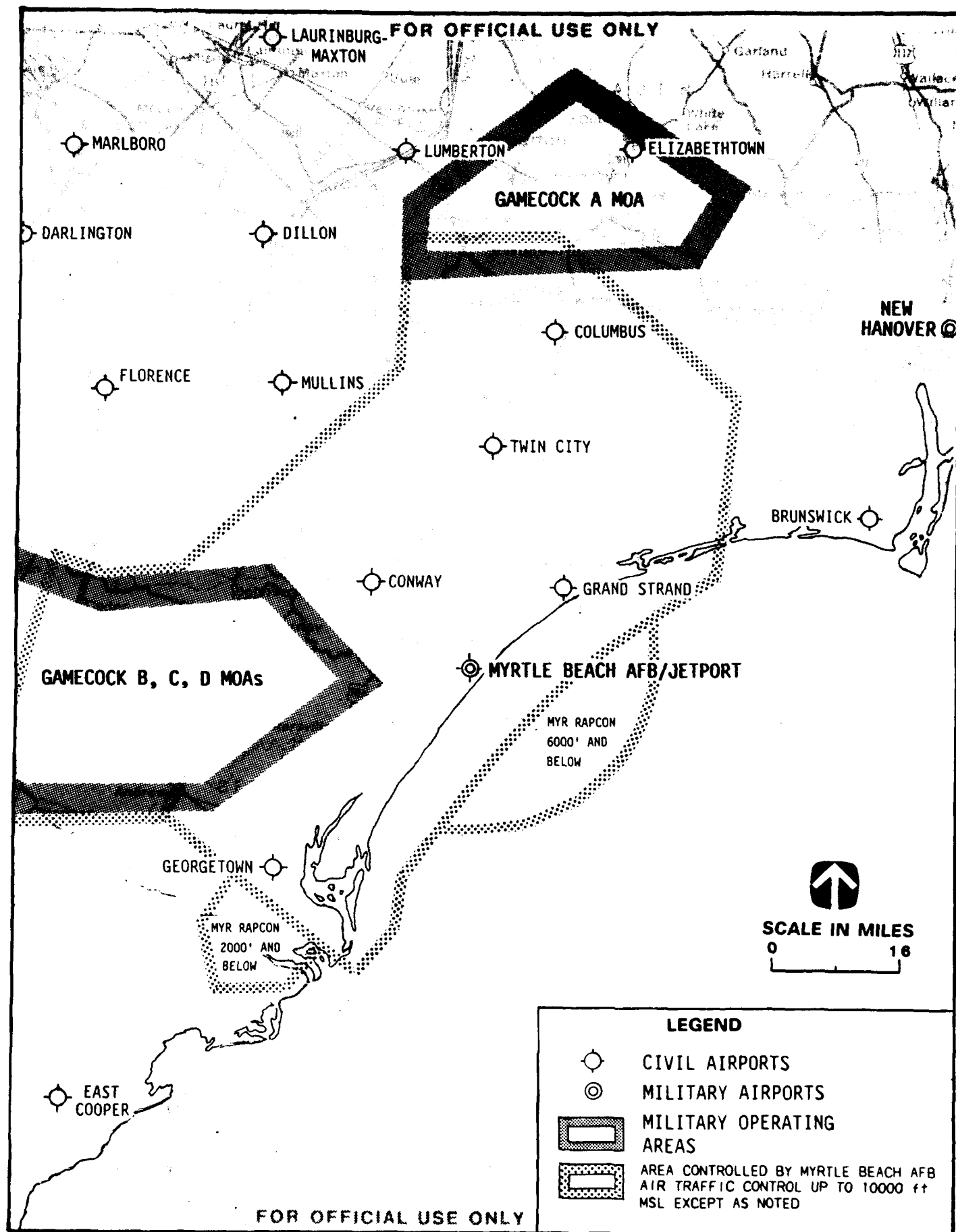


FIGURE 3.1.1-7 AIRPORTS AND AIRSPACE SURROUNDING MYRTLE BEACH AFB, SOUTH CAROLINA

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Rail service to Myrtle Beach is provided by Waccamaw Coastline Railroad Company. This railroad currently provides only freight service. Mid Atlantic Railroad operates a rail line from Chadborn, North Carolina, to Conway, South Carolina, where Waccamaw Coastline operates the rail service to Myrtle Beach. Myrtle Beach AFB does not utilize this railway service, and the railway would not be used for any closure-related transportation. The nearest railway passenger service is approximately 70 miles away in Florence, South Carolina, and is operated by Amtrak.

Ground Traffic. Traffic volume for the principal roadways serving the Myrtle Beach AFB area is shown in Table 3.1.1-1. Traffic volume is presented as average annual daily traffic (AADT), defined as the total volume passing a point or segment of a highway facility, in both directions, for 1 year, divided by the number of days in the year (Transportation Research Board 1985). Traffic analysis, including calculation of volume-to-capacity ratios and level of service (LOS), normally focuses on peak traffic hours. Calculation of volume-to-capacity ratios and LOS on an average daily basis is not very meaningful and therefore is not standard practice. Data on peak-hour traffic volumes are not available for the project area. Therefore, the evaluation of traffic volume and capacity for the Myrtle Beach AFB area was estimated. Capacity has been expressed as the theoretical maximum volume of traffic that pass a given point under ideal conditions (no weather constraints, level roadway, and adequate design speed). Twenty-four hour maximum roadway volume is presented in Table 3.1.1-1 for principal roadways in the vicinity of Myrtle Beach AFB. As can be seen in this table, current volume is well below capacity on all of these roadways. Normally, traffic flows freely on these roadways. Occasional congestion occurs within the vicinity of the Main Gate and North Gate during morning and afternoon peak hours. Heaviest traffic flow is experienced during summer weekends and holidays, causing extensive traffic jams along U.S. 501.

It is estimated that Myrtle Beach AFB generates approximately 9,300 vehicle trips per day. Assuming a 60/40 Main Gate/North Gate split, base-related traffic contributes approximately 5,600 vehicle trips (19%) to total daily traffic on U.S. 17 Business at the Main Gate, and approximately 3,700 vehicle trips (10%) to total daily traffic on U.S. 17 at the North Gate.

Table 3.1.1-1

Traffic Volume on Roadways Serving Myrtle Beach AFB

Road Segment	1989 Annual Average Daily Traffic (AADT)	Number of Lanes (one-way)	Maximum Capacity ¹
U.S. 17 Business South Carolina 73 to S-236	28,895	2	96,000
U.S. 17 South Carolina 707 to U.S. 501	37,837	2	96,000
State Highway 707 South Carolina 544 to U.S. 17	14,821	1	48,000
U.S. 501 S-992 to U.S. 17	49,369	2	96,000
State Highway 544 U.S. 17 to U.S. Highway 17 Business	14,103	1	48,000
State Highway 73 U.S. 17 Business to S-825	12,088	1	48,000
Jetport Road U.S. 17 to S-15	4,590	1	48,000

Note: ¹Maximum theoretical 24-hour capacity based on 2,000 vehicles per hour, per lane.

Source: South Carolina Department of Highways and Public Transportation, 1990.

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Air Traffic. Myrtle Beach AFB is a joint use facility in which land is leased to the Myrtle Beach Jetport, a commercial aviation airport. Under an existing joint use agreement, civil aircraft operations are permitted on the Myrtle Beach AFB runway provided that these operations do not conflict with military use. The Myrtle Beach AFB airfield contains a single 9,500-foot runway with a north-south (17/35) orientation, approximately 286,450 square feet of ramp/apron area, a navigational and instrument flight system (Radar Approach Control facility), control tower, and related utilities. The Myrtle Beach Jetport consists of 55,000 square feet of terminal and related facilities and 387,000 square feet of ramp/apron area. Through a letter of agreement with the Federal Aviation Administration's (FAA) Jacksonville Air Route Traffic Control Center, Myrtle Beach AFB maintains air traffic control responsibility below 10,000 feet MSL for all aircraft departing or arriving at the base or jetport.

A majority of the operations conducted at the airport are military (approximately 70 percent), with civil aircraft activity limited to scheduled air carrier jet and commuter turboprop operations (approximately 30 percent). Table 3.1.1-2 shows the operations by major aircraft categories/types for the airfield in 1989. The data are based on approximately 28,436 total aircraft operations, where one operation equals one aircraft arrival and departure.

The A-10 Thunderbolt II is the most operated aircraft at the airfield, with commuter turboprops second, air carrier jets third, transient military and military helicopters fourth, and military Aero Club aircraft (light single-engine airplanes) last. As the predominant user of airspace, A-10s will usually depart under visual flight rules (VFR) to the northeast, west, or southwest at 1,600 feet MSL altitude. Under instrument flight rules (IFR), the A-10s depart stereotyped flight plan routes to the north, west, or southwest at 3,000 MSL and proceed to flight level (FL) 200 (20,000 feet MSL altitude) enroute to various training areas. Air carriers usually depart the base to the west to Florence, South Carolina, or northwest to Wilmington, North Carolina. The air carriers lowest file altitude is FL 200 and they depart at relatively high climbing rates, usually above 10,000 feet within 20 miles of the airport.

In addition to providing air traffic control for the base and the Myrtle Beach Jetport, Myrtle Beach AFB is responsible for controlling a large area of airspace under 10,000 feet MSL in northeastern

Table 3.1.1-2

**Air Traffic History, Myrtle Beach AFB
1989 Calendar Year**

Aircraft Type		Number of Operations
354th TFW A-10s		18,853
Myrtle Beach AFB Aero Club Misc.		919
<u>Commercial Operations:</u>		
Piedmont/U.S. Air	737-200	1250
	737-300	1261
	737-400	674
	BAC-111	39
	F-28	10
	C-9	322
American Airlines	ATR-42	9
	727-100	617
	Misc.	69
American Eagle	Misc.	356
Eastern Atlantic/Metro	Misc.	1232
Atlantic S.E.	Misc.	1497
Bank Air	Misc.	772
Mountain Air	Misc.	244
Pelican Air	Misc.	305
Tempus Air (Charter)	Concair 580	7

Source: U.S. Department of the Air Force, Aircraft Traffic History, 1989.

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South Carolina and southeastern North Carolina (Figure 3.1.1-7). The Jacksonville Air Route Traffic Control Center receives transfers of all aircraft climbing above 10,000 feet MSL.

Conflict between Myrtle Beach AFB air operations and civilian air traffic is moderate. Conflict between Myrtle Beach AFB and Jetport air traffic is prevented through a Joint Use Agreement (JUA) that limits commercial flights to a daily number that does not interfere with military operations. The existing JUA limits commercial flights to 30 per day. Actual present operations are 25 to 27 per day. An amended JUA is currently being implemented that will raise the limit to 46 commercial lights per day, a level that is still considered to not interfere with Myrtle Beach AFB air operations requirements. Traffic enroute to Grand Strand Airport in North Myrtle Beach (Figure 3.1.1-7) passes over Myrtle Beach AFB at an altitude of approximately 3,000 to 10,000 feet MSL. This presents a potential for conflict between this traffic and Myrtle Beach AFB Jetport traffic. In addition, flight restriction is imposed around Conway Airport (Figure 3.1.1-7) that requires no flying below 3,000 feet MSL within 3 miles of the airport to avoid congestion due to considerable pilot training activity. This buffer requires minor modifications on the approach to the Myrtle Beach AFB/Jetport runway.

Myrtle Beach AFB is responsible for scheduling the use of four Military Operating Areas (MOAs), which are used for air-to-air combat training. These MOAs are shown on Figure 3.1.1-7 and are listed below.

Name	Area	Altitude Block
Gamecock A	585 sq mi	7,000' MSL to FL 200
Gamecock B	253 sq mi	10,000' MSL to FL 180
Gamecock C	676 sq mi	100' AGL to 10,000' MSL
Gamecock D	800 sq mi	10,000' MSL to FL 230

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The three A-10 squadrons at Myrtle Beach AFB use several special use airspace areas that are not scheduled by Myrtle Beach AFB. The restricted areas (Designated R) are airspace above air-to-surface ranges and are used for weapons delivery, close air support, and surface attack tactics training. These restricted airspaces, which lie outside the coverage of Figure 3.1.1-7, are listed below.

Airspace	USWG Agency (Scheduler)	Approximate Distance From Myrtle Beach AFB
R-3002	Ft. Benning, GA	110 miles
R-3005	Ft. Stewart, GA	90 miles
R-3007E (Townsend)	Savannah ANG, GA	110 miles
R-5306A (BT9/11)	Marine Corps Air Station-Cherry Pt.	100 miles
R-5306D (Golf 10)	Marine Corps Air Station-Cherry Pt.	100 miles
R-5311	Ft. Bragg, NC	90 miles
R-5314 (Dare County)	Seymour Johnson AFB, NC	150 miles
R-6002 (Pointsett)	Shaw AFB, SC	45 miles

3.1.1.4 Utilities

Water Supply. Drinking water for Myrtle Beach AFB is pumped from four deep wells and one shallow groundwater well. (The 73 TCS receives its water supply from the City of Myrtle Beach.) The base water is treated as necessary to meet Environmental Protection Agency (EPA) drinking water standards.

For fiscal year 1989, 210,335,000 gallons were generated by the five wells at the base. A more detailed discussion of the groundwater use and surface water supply in the Myrtle Beach area is presented in Section 3.1.3.2.

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Wastewater Treatment. Wastewater generated at Myrtle Beach AFB is collected by the base-maintained sewer system and transported offsite via Grand Strand Water and Sewer Authority-owned and maintained sewerlines to the Schwartz Wastewater Treatment Plant for processing. (An exception to this is the approximately 34,000 gallons per month generated by the 73 Tactical Control Squadron (TCS) and the base golf course, which are serviced by the City of Myrtle Beach Wastewater Treatment Plant.) Approximately 0.7 million gallons per day (MGD) (annual average) of wastewater is generated by the base and treated at the Schwartz plant. This represents approximately 16 percent of the annual average flow of wastewater treated at the Schwartz plant.

The Schwartz Wastewater Treatment Plant has existing capacity to treat 8.6 MGD of wastewater to the secondary treatment level, and is currently being upgraded to handle 11.6 MGD. The plant treats an annual average flow of 4.38 MGD, with summer and winter being the peak high flow period (6 MGD) and low flow period (4-5 MGD) respectively. January is the lowest flow month treating 3.0 MGD; July is the peak highest flow month treating 6.2 MGD.

The City of Myrtle Beach provides wastewater treatment for military personnel and base civilian employees who reside in the city's service area. The Myrtle Beach Wastewater Treatment Plant has existing capacity to treat 17.0 MGD of wastewater to the secondary treatment level. Wastewater flow to the plant fluctuates between a low of 1 MGD to a peak of 15 MGD; annual average daily flow at the plant is 8.9 MGD.

Solid Waste. Myrtle Beach AFB has used five separate onbase landfills for disposal of solid hazardous and nonhazardous waste. These landfills are discussed further in Section 3.1.2.2, Installation Restoration Program Sites. Since 1974, all municipal solid waste generated on the base has been removed from the base by a private contractor and disposed of at the Horry County Landfill near Conway. Approximately 98,000 cubic yards of nonhazardous wastes were generated by the base last year.

A small amount of medical wastes (approximately TBS pounds per day) are generated by the base hospital and incinerated.

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Energy. The Santee Cooper Power Company provides power to Myrtle Beach AFB through a substation located on the west side of the base. The substation produces 4,206,055 kilowatt-hours per month (kWh/mo). The base owns all the facilities and handles distribution of power throughout the base, except for navigational aids equipment. A direct supply is provided by Santee Cooper to all navigational aids facilities (five each) and a small number of other facilities. Table 3.1.1-3 shows the electrical power usage for the navigational aids facilities and other direct supply base facilities, excluding residences. Total electric power use at Myrtle Beach AFB is approximately 10 megawatts per year, which is similar to the power used by a middle-sized industry.

The South Carolina Electric and Gas Company supplies natural gas to the Myrtle Beach area. Natural gas facilities were installed at Myrtle Beach AFB in FY 1989 and delivery started in FY 1990. During the period October 1989 through January 1990, the base used an average of 2,826,000 cubic feet of natural gas.

Table 3.1.1-3

**Electrical Power Usage by Myrtle Beach AFB
Facilities Supplied Directly by Santee Cooper
(kWh/mo)**

Facility	Usage
Navigational Aids	1,500
Facility Campground	1,767
73 TCS	33,232
North Gate House	2,662
Golf Course & Miscellaneous	36,150

3.1.2 Hazardous Materials

The handling of hazardous materials and the cleanup and disposal of hazardous wastes at Myrtle Beach AFB are subject to a number of federal and state regulations and guidelines administered and enforced by the EPA, the South Carolina Department of Health and Environmental Control (DHEC), and the Air Force.

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The major applicable regulations and guidelines for hazardous waste/materials relevant to the closure of Myrtle Beach AFB include:

The Resource Conservation and Recovery Act (RCRA). Under RCRA, the EPA defines which wastes are hazardous and sets standards for treatment, storage, and disposal. RCRA is the basic law for the regulation and management of hazardous waste, and underground storage tanks.

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Under CERCLA, the EPA establishes the procedures for responding to hazardous substance releases to the environment. The DOD manages and coordinates its own CERCLA activities consistent with criteria, guidelines, and rules under Section 120 of CERCLA promulgated by EPA. The DOD program is known as the Defense Environmental Restoration Program. The goals of the program are to identify, investigate, conduct research and development, and cleanup contamination from hazardous substances, pollutants, and contaminants. The Air Force has instituted the Installation Restoration Program (IRP) under the guidelines of the Defense Environmental Restoration Program for the purpose of assessing and controlling migration of environmental contamination that may have resulted from past operations and disposal practices on Air Force facilities. The IRP is funded by the Defense Environmental Restoration Account, which is an annual appropriation to deal with CERCLA response actions.

The Superfund Amendments and Reauthorization Act (SARA). This act reauthorizes CERCLA and establishes a variety of requirements relating to the level of cleanup for remedial actions. SARA also establishes directives for selecting permanent remedies, meeting state requirements, and establishes the role of the state in the cleanup process. In addition, the Act codified the Defense Environmental Restoration Program.

South Carolina Underground Storage Tank Control Regulations (SCUSTCR). The SCUSTCR (Sections R.61-92.1 through R.61-92.11) are state-enacted regulations, based on federal laws, regulations, and guidelines, which prescribe standards applicable to the use, closure, and reuse of underground storage tank facilities.

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05/21/90**3.1.2.1 Hazardous Waste Management - TBS****3.1.2.2 Installation Restoration Program Sites**

The comprehensive IRP was implemented by the DOD to identify, report, and correct potential environmental deficiencies that could result in groundwater contamination and migration of contaminants beyond DOD installation boundaries. The IRP serves as the basis for response actions on Air Force installations under the provisions of CERCLA, as clarified by Executive Order 12316. The IRP was originally developed as a four-phase program:

- Phase I - Initial Assessment/Records Search;
- Phase II - Confirmation and Quantification;
- Phase III - Technology Base Development; and
- Phase IV - Operations/Remedial Actions.

The objectives of Phase I, Initial Assessment/Records Search, were to identify and, based on oral and written information, assess past disposal sites. The potential hazard to human health or the environment as a result of direct contact, contaminant migration, or contaminant persistence was assessed using a rating system that considered factors such as site characteristics, waste characteristics, potential for contamination, and waste management practices. Phase I was conducted at Myrtle Beach AFB from June 29 through July 2, 1981. Table 3.1.2-1 lists the 15 sites that were identified as potential sources of contamination and recommended for follow-on Phase II Confirmation and Quantification studies.

The objectives of Phase II, Confirmation and Quantification, were to investigate the most likely pathways for contamination from a site and to confirm the presence or absence of contamination along those pathways. Upon confirmation of contamination, the magnitude and extent were further investigated. The results were then quantitatively evaluated.

Table 3.1.2-1
Summary Ranking of Potential
Contamination Sources

Rank	Site Name	Period of Operation
1	Weathering Pit #2	1979-1981
2	Myrtle Beach Pipeline Corp.	1981 ¹
3	POL Bulk Fuel Storage Area	1963-1967 ¹
4	Flightline Contaminated Area	1977 ¹
5	Landfill #3	
6	Fire Training Areas #1 & #2	1955-1964
7	Weathering Pit #1	1973-1978
8	Fire Training Area #3	1965-1969
9	Landfill #4	1968-1972
10	Underground Waste Chemical Storage	1978-present
11	Landfill #1	1955-1960
12	Landfill #2	1960-1964
13	Landfill #5	1973-1974
14	Radioactive Vault	1959
15	Fire Training Area #4	1970-1981

Note: ¹Spill or date of observation.

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Phase II, Confirmation Studies, was initiated in October 1982, and completed in October 1983 at Myrtle Beach AFB. A new site, the Pipeline Spill Area, was added to the original 15 Phase I sites and evaluated during Phase II confirmation studies for a total of 16 sites. Eleven potential contaminant source areas were identified in the Phase II studies, but since some of the sites were contiguous, they were grouped together (Figure 3.1.2-1) to form eight source areas:

- Fire Training Areas #1 and #2;
- Landfill #3/Weathering Pit #2;
- Fire Training Area #3;
- Weathering Pit #1;
- Petroleum, Oil, and Lubricants (POL) Fuel Spill Area;
- Flightline Area;
- Landfills #1 and #4; and
- Pipeline Spill Area.

A Long Term Monitoring Stage I Remedial Investigation was initiated in 1987 to confirm and further assess the IRP sites evaluated in the 1982-1983 Phase II Confirmation Studies. The objectives of the Long Term Monitoring Stage I Program were to recommend remedial activities for seriously contaminated sites, and to develop and install a long-term monitoring program for less seriously contaminated sites. The field program was conducted from November 1987 through December 1989 and included soil gas surveys, a well inventory and integrity survey, a groundwater/tidal effects study, surface and subsurface soil and water sampling and analysis, measurement of water levels, and a borehole and monitor well installation. Seven of the Phase II sites (the Pipeline Spill Area was not evaluated and is currently undergoing remediation) plus the automotive gasoline (MOGAS) Storage Tank Area and the active Fire Training Area #4 were investigated in this study. Table 3.1.2-2 identifies the investigative activities conducted at each of the nine sites.

The Fire Training Areas #1 and #2 were open areas where waste fuel, oils, and solvents were poured onto the ground, ignited, and then extinguished as part of firefighting training exercises. Areas #1 and #2 were operated from 1955 to 1964. The Phase II Confirmation Study groundwater samples indicated low concentrations of benzene, chloroform, toluene, and ethylbenzene.

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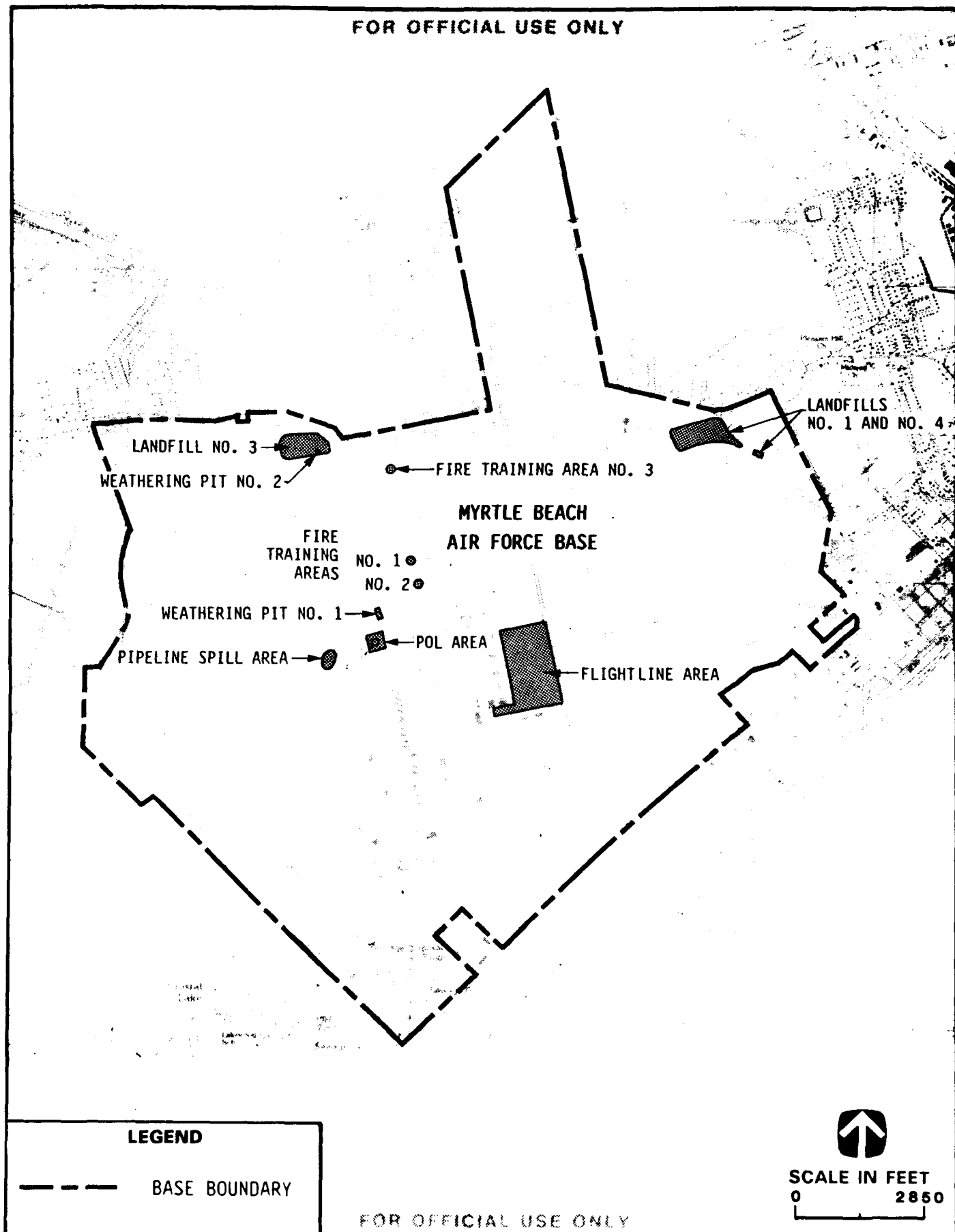


FIGURE 3.1.2-1 INSTALLATION RESTORATION PROGRAM (IRP) SITES, MYRTLE BEACH AFB, SOUTH CAROLINA

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Table 3.1.2-2
Investigative Activities for Each IRP Site
Myrtle Beach AFB

Investigative Activities	FTA #1 and #2	LF #3/WP #2	FTA #3	WP #1	POL	LF #1 and #4	FLA	MOGAS	FTA #4
# of Existing Wells (1)	7	11	5	10	5	6	2	0	0
# of New Wells	1	1	3	3	0	1	1	3	1
Total # of Wells	8	12	8	13	5	7	3	3	1
Total Footage of New Wells (0)	17.5	16.5	75.5	76	0	16	17	48.5	16
# of Existing Borings	5	3	2	5	1	5	0	0	0
# of New Borings	1	0	0	0	0	0	0	2	0
Total # of Borings	6	3	2	5	1	5	0	2	0
Footage of Old Borings (0)	50	30	22	53	7	50	0	0	0
Footage of New Borings (0)	12	0	0	0	0	0	0	17	0
Total Footage of Borings (0)	62	30	22	53	7	50	0	17	0
# of Surface Water (SW) Locations	0	2	1	0	1*	1	1	2**	0
# of NPDES/ECAMP Locations	0	1	0	0	0	0	0	0	0
Total # of SW Locations	0	3	1	0	1	1	1	2	0
# of Soil Surveys	0	0	0	0	0	0	0	1	1
# of Probes	0	0	0	0	0	0	0	26	26
Tidal Effects Survey									
# of Wells Sampled	2	4	0	0	0	0	1	0	0
# of Surface Water Locations		1					1		

(1) Does not include damaged or lost wells

* Includes SW-7

** Includes SW-5 and SW-6

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Landfill #3 was operated as a trench and cover operation with no burning during the period from 1964 to 1968. The landfill was closed in 1968. In 1976, trenches were constructed perpendicular to the existing ditches for the disposal of grease and scum from the base anaerobic digesters. The trenches were approximately 3 feet deep with 18 inches of material from the digesters placed in them. The trenches were then closed and the site regraded. Weathering Pit #2, located along the southeast border of Landfill #3, was constructed to expose spent fuel filters and other sorbent materials soaked in petroleum products to the open air and sunlight. Weathering Pit #2 was used during the period from 1979 to 1982 and received unknown quantities of waste oils, solvents, and paint strippers. Sampling conducted during the initial Phase II study suggested that the shallow water table in areas hydraulically downgradient of these contaminant sources had received varying degrees of groundwater quality degradation. Contaminants detected included benzene, toluene, ethylbenzene, chloroform, chloroethylene, methylene chloride, 1,2-dichloroethane, trans-1,2-dichloroethane, chlorobenzene, and 1,1-dichloroethane.

Weathering Pit #1 located near the POL Fuel Spill Area was used for the same purpose as Weathering Pit #2 during the period from 1973 to 1978. Phase II study sampling detected low to moderate levels of organic compounds in the shallow water table. Contaminants included benzene, ethylbenzene, toluene, and trans-1,2-dichloroethane.

The POL fuel spill occurred between Tank 41103 and a 50,000-gallon tank that was adjacent to it. Approximately 10,000 gallons of JP-4 leaked in the area between 1963 and 1967. Only low concentrations of benzene, ethylbenzene, chlorobenzene, and toluene were detected in the shallow groundwater.

Landfill #1 was a trench, burn, and cover operation in the northeastern portion of the base, encompassing approximately 9 acres. Trenches were normally constructed approximately 16 feet in width and averaged 5 to 10 feet deep. Landfill #1 operated from 1955 to 1960 after which the landfill was closed and the base golf course was constructed over it. Landfill #4 was constructed on top of an area that served as a sand borrow pit and operated as a trench and fill landfill with no burning of trash. Low levels of contaminants were detected in the shallow and deep monitoring wells sampled during the Phase II study. Contaminants included benzene, toluene, trans-1,2-dichloroethane, and chlorobenzene at this site.

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Contamination in the Flightline Area, adjacent to Building 358, was encountered during a pump test conducted in 1977 by the South Carolina Water Resources Commission. The chemical nature and quantity of the contaminants was not documented but the suspected source was the POL area. During the 1983 Phase II study, analysis of groundwater samples in this area detected only low levels of chloroform and 1,2-dichloroethane from a shallow monitoring well.

The MOGAS Storage Tank was drained and abandoned in 1983 after discovery of a leak and related soil contamination. The Stage I Remedial Investigation was to investigate and determine the magnitude and extent of the contamination.

Fire Training Area #4 is an active training site used for staging firefighting training exercises on the base. Sampling has not been conducted at this site and, as previously mentioned, the Stage I Remedial Investigation was to investigate and determine the magnitude and extent of any contamination.

The IRP Long Term Monitoring Stage I Draft Technical Report (February 1990) findings and recommendations are summarized in Table 3.1.2-3.

3.1.2.3 Hazardous Materials Storage and Handling

Hazardous materials are used and temporarily stored at the various industrial operations throughout the Myrtle Beach AFB. Table 3.1.2-4 lists the industrial operations utilizing hazardous materials; Appendix D-3 lists the waste storage and accumulation points, waste material generated/handled, and the estimated annual quantity.

Myrtle AFB operates both as a generator of hazardous waste and a Treatment, Storage, and Disposal Facility (TSDF). A Hazardous Waste Management Plan (January 1988) has been developed and implemented to ensure compliance with RCRA requirements for the installation. Hazardous wastes generated at various locations are stored at an accumulation point in or adjacent to the work place prior to being turned over to the Defense Reutilization and Marketing Office (DRMO). Storage in the accumulation point is temporary and must not exceed 90 days from the time the waste begins to

Table 3.1.2-3

Summary of Findings and Recommendations Myrtle Beach Air Force Base

Site	Hydrology	Contaminants	Site Category	Future Recommendations
FTA #1 and #2	1 well was installed downgradient. Garden plot irrigation may be recharging surficial aquifer. Ground water flow direction in the surficial aquifer is to the N, E, and S.	Ground water: Total lead*	II	Replace GM-8 and sample wells GM-3,4,5,6, 7,8,9 and MW-101 to monitor for total and dissolved lead.
LF #3WP #2	1 well was installed. Ground water flow patterns not adequately characterized.	Ground water: Benzene* and total chromium* (elevated chromium was detected in an upgradient well).	II	- Replace GM-14 and 41. Install new well pair N edge of landfill, install one shallow well to the north and one shallow well to the east of the new well pair, and add surface water location then sample all locations for volatiles and chromium. - Investigate WP #2 to characterize the wastes then fill it in. - Regrade and seed the landfill. - Conduct risk assessment and feasibility study.
FTA #3	3 wells were installed. Ground water flow direction in surficial aquifer changes depending on the seasonal high water table. GM series wells may be acting as conduit between the water table aquifer and the shallow artesian zone.	Ground water: Benzene*, chlorobenzene*, styrene*, TCE*, and vinyl chloride*.	II	- Install additional wells and add surface water location then sample all the locations for volatiles and semivolatiles. - Conduct pump test to determine hydraulic connection between shallow and deep sands. - Conduct risk assessment and an analysis of remedial alternatives.
WP #1	3 wells were installed. Ground water flow direction in the surficial aquifer is adequately characterized but not in the shallow artesian zone. GM series wells may be acting as a conduit between the surficial aquifer and the shallow artesian zone.	Ground water: Benzene*, toluene, ethylbenzene, 1,2, 1,3, 1,4-dimethylbenzene, chlorobenzene, 1,2, 1,3, 1,4-dichlorobenzene, TCE, 1,2-dichloroethane, vinyl chloride*, and total lead*.	II	- Investigate active WP, Entomology Building, discarded drums in ditch and the waste oil tank area as potential new source areas. - Install additional wells and sample for volatiles, semivolatiles, and lead to determine extent of contamination and to monitor lead levels in MW-107. - Conduct pump test to determine hydraulic connection between shallow and deep sands. - Conduct risk assessment and feasibility study when sufficient data are available.
LF #1 and #4	1 well was installed. Golf course lakes and irrigation may be affecting ground water flow patterns and water	No evidence of contaminants at elevated levels.	I	No further IRP activity required.

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Site	Hydrology	Contaminants	Site Category	Future Recommendations
ROL	No new wells were installed. Ground water flow direction adequately characterized. Extent of contamination not determined.	Ground water: 1,2; 1,3; 1,4-dimethyl benzene, 1,3; 1,4-dichlorobenzene, benzene, ethylbenzene, and xylene.	II	• Install new wells and surface water location then continue to monitor all locations for volatiles and lead.
MOGAS	3 wells were installed. Site hydrogeology inadequately characterized.	Ground water and surface water: Benzene*, toluene*, ethylbenzene*, xylene, 1,4-dichlorobenzene*, and total and dissolved lead.	II	• Remediate free product in surficial aquifer. • Install new wells and sample all locations to characterize better the site hydrogeology and flow patterns. • Investigate potential source areas near the background well MW-111. • Conduct risk assessment and feasibility study when sufficient data are available.
FLA	1 well was installed. Ground water divide seems to be located at this site.	No elevated levels of contaminants in ground water or surface water for GM well network. Lead* above MCL in MW-110.	II	• Shift focus of IRP work to Bldg. 324 and include GM-37, GM-38, and MW-110 in that network. • Continue to monitor lead contamination in wells GM-37, GM-38, and MW-110 and all MW wells installed by Law Engineering for the Solvent Cleaning Area by sampling these wells and the surface water locations for total and dissolved lead.
FTA #4	1 well was installed. Hydrogeology inadequately characterized. Ground water flow direction can not be determined without additional wells installed.	Ground water: Low levels of TPH and total lead. Soils: TPH near industrial background level of 100 ppm.	II	• Install new wells to better characterize the site hydrogeology and GW flow patterns, then sample all locations for volatiles, semivolatiles, TPH, and lead to determine the nature and extent of potential contamination. • Continue to monitor the site during the course of the active fire training activities.

• These compounds exceeded Federal or state environmental standards for Drinking Water

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Table 3.1.2-4

Industrial Operations Utilizing Toxic/Hazardous Materials

Shop Name	Location (Bldg. No.)
<u>354th CRS</u>	
Machine Shop ¹	352
Metals Processing	352
Electric Shop	352
Structural Repair	352
Non-Destructive Inspect (NDI) ¹	352
Wheel & Tire Shop ¹	352
Engine Shop ¹	324
Pneudraulics Shop ¹	324
Aero Repair Shop	352
<u>354th EMS</u>	
Aircraft Ground Equipment Repair (AGE) ¹	320
Non-power AGE shop	324
Fuels System Repair	328
Corrosion Control ¹	355
Armament Shop ¹	505
Missile Maintenance ¹	581
Munitions Equipment Maintenance ¹	580
Conventional Munitions Maintenance	587
<u>354th Trans. Sqdn.</u>	
Paint Shop ¹	514
Refueling Maintenance ¹	516
Welding Shop ¹	514
Battery Shop ¹	514
General Maintenance ¹	514
<u>38th ARRS, Det. 11, MAC</u>	
Helicopter Maintenance Shop ¹	359
<u>354th CES</u>	
Entomology Shop ¹	220/562
Heating Shop	220
Liq. Fuels/Maintenance Shop ¹	220
Paint Shop ¹	217
Plumbing Shop ¹	220
Power Production ¹	220
Refrigeration Shop	220
Structural Maintenance	221
Welding Shop	221

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Shop Name	Location (Bldg. No.)
<u>Base Hospital</u>	
Hospital Lab ¹	114
Hospital Operating Room ¹	114
Medical X-ray Lab ¹	114
Dental Lab	334
<u>Other Areas</u>	
Photo Lab ¹	502
Fuels Lab ¹	518
Small Arms Range ¹	544
Auto Hobby Shop ¹	255
Radar Maintenance	364
Precision Measurement Equipment Lab (PMEL)	519
Electronic Countermeasure (ECM) Shop	325
AGE Vehicle Maintenance	454
Base Service Station ¹	200

NOTE: ¹These shops were visited during the base survey since they were designated by base personnel as utilizing toxic/hazardous materials in quantities that could pose a potential for groundwater contamination.

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accumulate. Satellite accumulation points are also operated to store up to 55 gallons of hazardous waste and up to 1 quart of extremely hazardous waste indefinitely prior to transfer to the DRMO.

Two locations store hazardous waste for more than 90 days and are TSDFs regulated under 40 CFR Part 264: (1) Waste Fuels Storage Area, Fac #89008 and (2) DRMO Storage Area, Building 526. Although listed as a Storage Facility in Appendix D-3, the Supply Open Storage Area, Building 208, is not covered under this regulation since polychlorinated biphenyls (PCBs) are not covered under EPA or DHEC hazardous waste regulations and are therefore exempt from this requirement. The DRMO administers annual contracts for hazardous waste disposal services and maintains all records and shipping manifests related to disposal activities. The DRMO is responsible for all hazardous materials except for the categories listed below, cited in the Defense Environmental Quality Program Policy Memorandum (DEQPPM) 80-5, and other categories afforded special handling, i.e., waste petroleum products, PCB transformers, and waste oil generated at the base service station and auto hobby shop.

- "Toxicological, biological, radiological, and lethal chemical warfare materials which, by U.S. law, must be destroyed."
- "Municipal type garbage, trash, and refuse resulting from residential, commercial, agricultural, and community activities, which the facilities engineer or public works officer routinely collects."
- "Contractor generated materials which are the contractor's responsibility for disposal under the terms of the contract."
- "Refuse and other discarded materials which result from mining, dredging, construction, and demolition operations."
- "Unique wastes and residues of a nonrecurring nature which research and development programs generate."

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Waste petroleum products are given to Fuels Management Branch, Building 515, and are stored in the Waste Petroleum Storage Area, Facility No. 89008 across from Building 515. Inventories of the Waste Petroleum Storage Area tanks are monitored by Fuels Management personnel and disposed of through DRMO or contracting.

Waste oils generated by the Base Service Station and the Auto Hobby Shop are stored in tanks located in Building 200 and Building 255. Disposal of waste oil is accomplished under a contract between these facilities and DHEC-licensed waste oil disposers.

A variety of chemicals are also used at Myrtle AFB to control pest infestations and ground foliage. A list of the pesticides and herbicides stored on the base is presented as part of Appendix D under the Chemical, Drum, and Small Container Storage Area category. Approximately 500 gallons and 3,000 pounds of assorted insecticides and herbicides in containers ranging in size from 5-gallon cans to 55-gallon drums are stored at the Entomology Storage Area, Building 552.

3.1.2.4 Aboveground and Underground Storage Tanks

Myrtle Beach AFB has 156 steel storage tanks (aboveground and underground) that are used or have been used for storing jet fuel, fuel oil, diesel fuel, gasoline, used oil, and liquefied petroleum gas (LPG). Tank sizes range from 150 to 1,050,000 gallons. Appendix D-2 lists the size, location, substance stored, and building served for each of these tanks.

Jet fuel (JP-4) is stored in aboveground tanks located in the POL bulk fuel storage area (POL Tank 1: 1,050,000 gallons and POL Tank 2: 420,000 gallons) and in one 1,050,000-gallon storage tank owned by the Myrtle Beach Pipeline Company and located at the onbase Myrtle Beach Pipeline Storage facility. Two aboveground 1,000-gallon tanks at Building 21103 and one underground 2,000-gallon tank at Building 322 also store JP-4. The bulk storage tanks at both the POL facility and the Myrtle Beach Pipeline Storage facility are surrounded by earthen dikes that contain the volume of the storage tank with 1 foot freeboard.

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Heating fuels (No. 1, No. 2, and No. 5 fuel oils) are stored in 90 steel tanks ranging in size from 100 gallons to 20,000 gallons. Each fuel oil tank is adjacent to the building it is intended to serve; 18 of the tanks are underground.

Fifty-five tanks ranging in capacity from 150 to 25,000 gallons store other petroleum products such as MOGAS, diesel fuel, and LPG. Sixteen of the 22 MOGAS storage tanks, 2 of the 16 diesel tanks, and 1 of the 17 LP gas tanks are underground. The remaining storage tanks include five aboveground waste fuel tanks (two 10,000-gallon, one 5,000-gallon, and two 1,000-gallon) located at Building 89008 and used to store waste oil and contaminated fuels.

Myrtle Beach AFB has an approved Underground Storage Tank Management Plan (1988) that outlines the activities necessary to maintain and manage the base underground storage tanks (USTs) in an environmentally safe and responsible manner. The plan was prepared in accordance with the SCUSTCR R.61-62 and RCRA, as amended in 1984 (Title 40 CFR Parts 280.1 through 280.3). Table 3.1.2-5 shows the five-phase underground tank management scheme for Myrtle Beach AFB.

Physical testing of tanks (Phase III) is performed when inventory review methods, environmental and/or mechanical signs, or hazard ranking indicate potential leaks. Testing and monitoring methods are variable and a thorough evaluation is required to determine the most cost-effective method, applicable to each site, which satisfies SCUSTCR requirements. Available leak detection methods include volumetric, nonvolumetric, in-tank monitoring, and leak effects. If leaks are indicated or suspected, the Environmental Coordinator (DEEV) conducts the preliminary Site Assessment for each tank, ensures pretesting/monitoring considerations are addressed, and provides recommendations on testing and monitoring methods. The Chief, Liquid Fuels Section (DEMM) supervises UST testing done by subordinate elements.

3.1.2.5 Asbestos

Myrtle Beach AFB has completed an Asbestos Inventory Survey of approximately 90 percent of the base buildings (excluding housing units); approximately 75 percent of those buildings surveyed have been sampled. Results indicate an estimated 150 facilities as having friable asbestos-containing materials that pose a threat for releasing airborne asbestos fibers. A Base Asbestos Plan is currently

Table 3.1.2-5
 Five-Phase Underground Tank
 Management Scheme
 Myrtle Beach AFB

Phase I Data Gathering	Phase II Data Analysis	Phase III Physical Testing	Phase IV Corrective Action	Phase V Maintenance
Inventory Control (recordkeeping)	Inventory Reconciliation and Analysis	Environmental Assessment (sampling, groundwater monitoring)	Remedial Action	Maintenance and Monitoring
Tank Inventory Survey	Priority Assessment and Ranking	Tank Testing	Tank Abandonment	
Regulatory Review			New Tank Design	

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being prepared to establish policies and procedures for asbestos contamination abatement. Decisions to remove damaged friable asbestos materials are based on the degree of risk to facility occupants, use of the facility, and cost-effectiveness. Friable asbestos-containing materials are also to be removed or encapsulated when the opportunity exists during minor construction or repairs. Friable asbestos-containing materials that are not damaged or subject to potential disturbance and therefore not posing a potential health threat will be left in place.

3.1.2.6 Polychlorinated Biphenyls

Myrtle Beach AFB has tested all transformers onbase for PCBs. A hazardous waste management survey conducted in April 1987 indicated 9 PCB and 39 PCB-contaminated transformers were in use at the base. These transformers have been scheduled for replacement or for flushing the contaminated fluid until the PCB concentration level is below 50 parts per million (ppm). Out-of-service transformers and equipment contaminated with at least 50 ppm PCBs are stored in the PCB Storage Facility, Building 208. The DRMO is responsible for initiating the necessary paperwork and procedures to effect disposal of PCB or PCB-contaminated transformers/capacitors.

3.1.2.7 Radon

The Radon Assessment and Mitigation Program (RAMP) Initial Screen Survey, conducted in 1988 for Myrtle Beach AFB, indicated a low probability for the existence of elevated indoor radon levels. The low probability category was assigned to installations where none of the structures sampled were statistically found to have radon concentrations greater than 4 picocuries per liter (pci/l). A follow-on RAMP Detailed Assessment Survey is not required.

3.1.2.8 Radioactive Materials

No radioactive wastes are permanently stored on the base; however, two radio tubes were placed in a concrete vault constructed adjacent to the taxiway in 1959 near Building 11605. The vault is not now indicated as a radioactive site and the status of the two radio tubes is unknown.

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05/21/90**3.1.2.9 Ordnance**

A variety of types of weapons and ammunition are stored at the base's magazine area (Section 3.1, Figure 3.1.1-2). The total net explosive weight of the ordnance stored in the 12 storage structures of the magazine is 121,300 pounds. This ordnance represents a hazard to base personnel, particularly those working in or near the magazine area. In addition, ordnance carried on military aircraft operating out of the base represents a small hazard to the public safety of the surrounding community.

3.1.3 Physical Environment**3.1.3.1 Geology and Soils**

Geology. The Myrtle Beach area is underlain by approximately 1,400 feet of unconsolidated and semi-consolidated coastal plain deposits which rest uncomfortably on a metamorphic and crystalline rock basement. These deposits strike in a generally northeast-southeastward direction, dip gently seaward, and thicken in a southeastward direction. In ascending order, geologic units of the Upper Cretaceous period which occur in the Myrtle Beach area include the Middendorf, Black Creek, and Pee Dee formations. These units represent a sequence from three adjacent depositional environments: the basal Middendorf Formation was deposited under fluvial conditions; the Black Creek unit was formed in an estuarine setting; and the Pee Dee Formation was deposited in an open marine shelf. All three of these units become considerably thinner and outcrop in the upper Coastal Plain, west of Myrtle Beach.

The geologic units that overlie the Cretaceous deposits include the Pliocene Duplin and Bear Bluff formations; the Pleistocene Waccamaw, Canepatch, and Socastee formations; and the Holocene undifferentiated unit.

Soils. Surface soils on Myrtle Beach AFB are classified primarily as Socastee Backbarrier sediments. These are moderately permeable, fine-grained soils. The eastern edge of the base consists of Myrtle Beach sediments, which are highly permeable, coarse-grained soils. Based on soil survey maps by the Horry County Soil Conservation Service, soils in the project area have been described as occurring

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in nearly level areas and consisting of very poorly drained to poorly drained soils with a loamy surface layer and a clay-like subsoil.

3.1.3.2 Water Resources

Groundwater. The Myrtle Beach area of Horry County is underlain by four main aquifer systems: the lowermost stratigraphic unit of the Middendorf (or Tuscaloosa) Formation, the Black Creek, the Pee Dee, and the combined shallow water table and artesian systems. These aquifers, except for the Middendorf which contains salty water, are known to contain water that is generally acceptable for domestic supplies, although some treatment may be required to reduce levels of undesirable constituents such as iron and sulfur. Table 3.1.3-1 shows the typical water quality for the Black Creek, the Pee Dee, and the water table aquifer systems.

The Middendorf aquifer system (within the Middendorf Formation) contains salty water (250 milligram per liter [mg/l] or more of chloride) throughout all of the Grand Strand and possibly all of Horry County and has not been developed as a groundwater supply.

The Black Creek Formation, which lies above the Middendorf Formation, contains the Black Creek aquifer system which is the most important source of groundwater in Horry County, providing municipal, industrial, and domestic water supplies. The Black Creek aquifer system is an artesian (confined) system hydraulically separated from the subadjacent Middendorf system.

Within the Pee Dee Formation, the Pee Dee aquifer system is typically artesian in nature and is probably capable of producing large quantities of groundwater. This aquifer system is occasionally used in conjunction with the subadjacent Black Creek system as a potable water source. Because of the variable quality of the groundwater within the Pee Dee system (often being inferior to that of the underlying Black Creek system), development tends to be fairly localized.

Groundwater is the principal source of water for Myrtle Beach AFB and domestic, public supply, and industrial use in Horry and Georgetown counties. However, the City of Myrtle Beach uses surface water from the Intracoastal Waterway to supply all of its drinking water needs, and the City of Georgetown uses surface water from the Pee Dee River to supply part of its needs. Records on the

Table 3.1.3-1

**Typical Ground Water Quality for Aquifer Systems
Beneath the Myrtle Beach Area of South Carolina**
(All concentrations in milligrams per liter,
unless otherwise specified)

	MBAFB No. 3		Eagle Nest Golf Course,		Myrtle Beach Air Force		Myrtle Beach Air Force	
	Well Ho-226, Black Creek Aquifer System*	33 39 38 78 56 53 760 512-756	Well Ho-286 Peedee Aquifer System*	33 53 25 78 56 38 132 unknown	Base, Well Ho-350, Bldg. 514, Water Table System, Upper Tertiary/Lower Quaternary**	Base, Well Ho-350, Bldg. 514, Water Table System, Upper Tertiary/Lower Quaternary**	Bldg. 690, Water Table Aquifer System***	
Well Data								
Latitude (deg/min/sec)		33 39 38		33 53 25		33 40 54		33 39 25
Longitude (deg/min/sec)		78 56 53		78 56 38		78 56 18		32
Depth (feet)		760		132		42		unknown
Screened Interval (feet)		512-756		unknown		32-42		
Ground Water Quality								
pH (std. units)		8.6		7.8		6.9		7.0
Specific Conductance (umhos/cm)		1,071		430		324		218
Dissolved Solids		531		276		224		132
Hardness (as CaCO ₃)		12		270		140		--
Alkalinity (as CaCO ₃)		551		221		148		--
Bicarbonate (HCO ₃)		563		270		180		93
Fluoride (F)		2.8		0		0.2		0.1
Chloride (Cl)		79		14		18		20
Sulfate (SO ₄)		1.3		2.8		0.4		2
Sodium (Na)		280		8.3		15		12
Potassium (K)		3.7		0.6		1.5		0.4
Calcium (Ca)		5.0		100		51		30
Iron (Fe)		<0.4		6.1		10		2.7
(dissolved)								
Manganese (Mn)		--		0		0.1		--
Silica (SiO ₂)		14		7.3		33		13

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* From Zack, 1980, pgs. 9 and 14

** From Zack, 1977, pgs. 54, 55, 90, and 92

*** From Draft Environmental Impact Statement, Grand Strand Region, South Carolina; EPA, 1977, pgs. 2-21

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quantity of water used in the area are incomplete; however, a water use study completed by the South Carolina Water Resources Commission (SCWRC) in 1975 indicates that the estimated average daily pumpage of groundwater from about 100 municipal and other public supply wells and industrial wells was approximately 10 MGD. The peak water demand (approximately 13 to 16 MGD) occurs in the summer months on the Grand Strand.

The Black Creek aquifer constitutes the most important source of groundwater throughout Horry County, and is used for municipal, industrial, and domestic supplies. Almost all of the higher capacity wells (i.e., 100,000 gallons per day [gpd] or more) and many low capacity wells in the Myrtle Beach Area are completed into the Black Creek aquifer. These wells are screened primarily in the sand-rich zones that are situated throughout a 300- to 800-foot-depth interval. As shown in Figure 3.1.3-1, there are at least six wells within Myrtle Beach AFB boundaries, and at least 12 wells located adjacent to base boundaries that draw upon the Black Creek aquifer system. Table 3.1.3-2 contains a listing and detailed description of the water wells shown in Figure 3.1.3-1. A number of private domestic wells may also use the Black Creek aquifer in the vicinity of Myrtle Beach AFB; however, their locations and depths have not been well documented since they do not require groundwater use permits.

Development of the Pee Dee aquifer system for domestic supplies tends to be localized, with more widespread use being primarily related to irrigation. This aquifer could probably supply as much water as the Black Creek aquifer; however, large capacity wells have not been developed into the Pee Dee aquifer system because of the variable groundwater quality.

The shallow artesian and water table aquifer system is thought to be tapped by many domestic wells throughout the area for the relatively large volumes of acceptable water. Figure 3.1.3-1 shows at least one drinking water well located at Myrtle Beach AFB and two wells used for landscape irrigation located at the Myrtle Beach Civil Jetport, which are completed in the water table aquifer system at depths of 30 to 50 feet.

Within the boundaries of the Myrtle Beach AFB, there are seven deep wells (completed to a depth of 400 feet or more) and two shallow wells (completed to a depth of 45 feet or less) that are used for land irrigation or drinking water purposes. Myrtle Beach AFB wells No. 1, 3, 5, 103 (Myrtle Beach AFB

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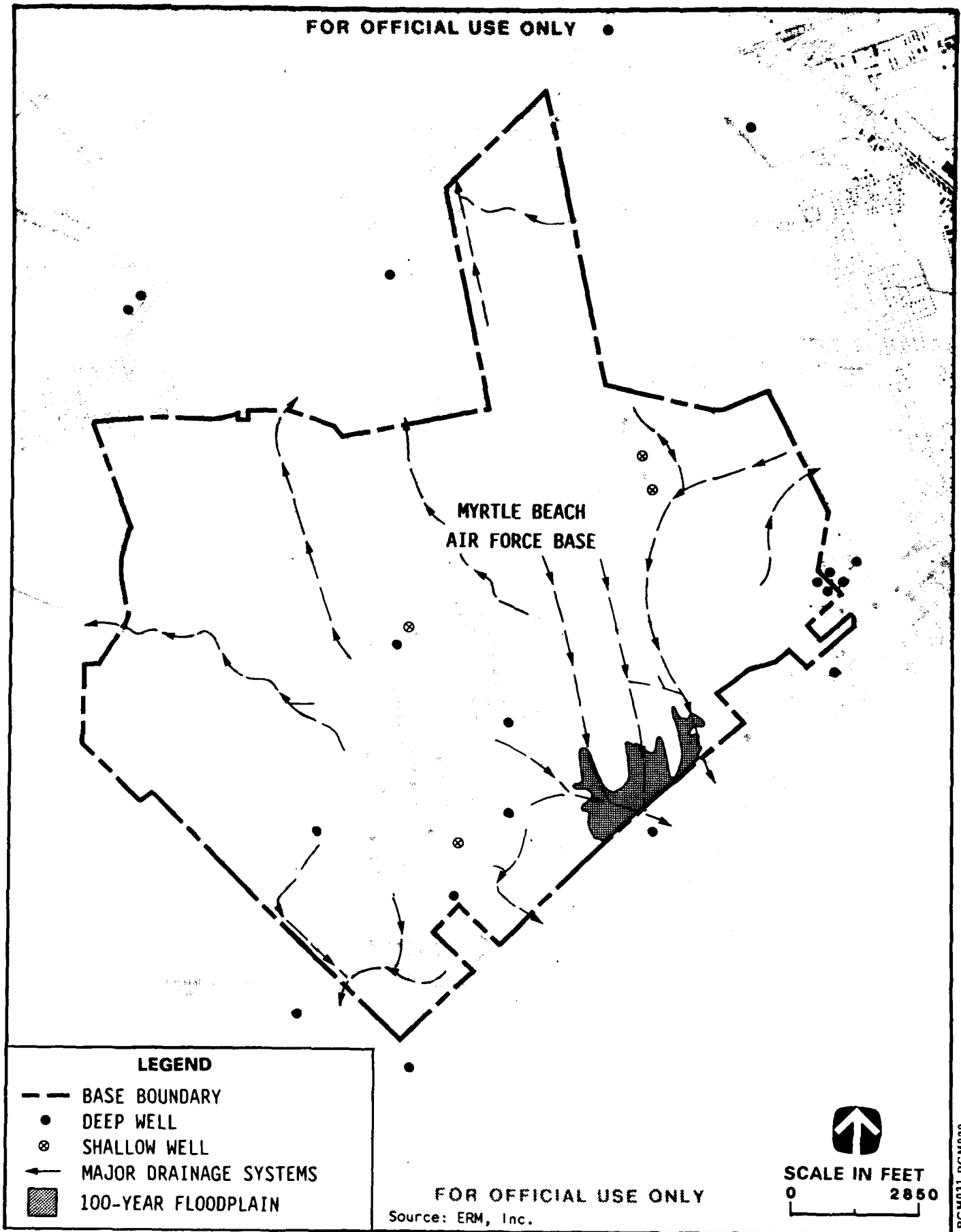


FIGURE 3.1.3-1 SURFACE WATER DRAINAGE AND WELLS, MYRTLE BEACH AFB,
SOUTH CAROLINA

Table 3.1.3-2
Myrtle Beach AFB and Surrounding Area Water Well Information

SCWRC Well References	Well Use	Total Depth (ft)	Screened Interval (ft)	Approximate Pumping Rate (x 100 gpd)
6T-11	P.S.	746	308-638	691
6T-c1	P.S.	462	NA	288
6S-t2	P.S.	421	NA	79
6S-t3	P.S.	463	NA	288
6S-k1	P.S.	416	NA	30
5S-y1	P.S.	630	NA	576
5S-y2	P.S.	584	398-584	260
5S-y3	P.S.	674	NA	778
5S-y4	P.S.	575	NA	720
5S-y5	NA	572	506-560	NA
5S-y8	NA	214	108-214	NA
6T-al	P.S.	718	NA	748
6T-bl	P.S.	760	512-756	5328
6T-b4	P.S.	787	553-787	5760
6T-b3	NU	NA	NA	NA
6S-u2	P.S.	632	350-632	5212
6T-v1	P.S.	794	100-790	7344
NA	P.S.	NA	NA	NA
NA	NA	804	403-707	NA
NA	NA	42	32-34	NA
NA	P.S.	32	unknown	NA
MB Jetport 1	IRRIG.	35	unknown	NA
MB Jetport 2	IRRIG.	35	unknown	NA

NU - No longer in use

NA - Not Available

P.S. - Public Supply

IRRIG. - Landscape Irrigation

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No. 2 replacement well), and the low fluoride well are currently being used for public drinking water on the base. Myrtle Beach AFB well No. 6 is a new public supply well but is not in use at this time. Myrtle Beach AFB well No. 2 is no longer in use.

Surface Water. The Intracoastal Waterway and the Waccamaw and Pee Dee rivers provide the principal drainage within the Grand Strand and near-westward areas. Drainage flows southwestward into Winyah Bay. Figure 3.1.3-1 shows the base surface water features and drainage patterns. Drainage emanating from the northern and western portions of Myrtle Beach AFB enters the Intracoastal Waterway via small drainage ditches. The southern and eastern parts of Myrtle Beach AFB and along coastal margins of the Grand Strand are drained by small streams that flow directly to the Atlantic Ocean and discharge via swash channels and inlets. Extensive tidal marshlands are found along the coast and extend as much as 25 miles up the larger rivers. Fresh to brackish-water swamps and bogs are also common throughout the inland plains, especially in areas adjacent to small streams. These conditions, along with the potential for flooding during storms, have led to the development of an extensive system of man-made drainage ditches.

Monthly surface water samples are collected at various stations along the Intracoastal Waterway by the South Carolina DHEC. Sampling Station A is upgradient of Myrtle Beach AFB at Little River Inlet, Station B is adjacent to Myrtle Beach AFB, and Station C is downgradient from Myrtle Beach AFB at Bucksport Landing. Water quality data for 1988 for these three sampling stations are presented in Appendix D. Above the saltwater interface, the water in the Intracoastal Waterway is usually soft, generally of good quality, and suitable for domestic and general industrial use at all times, providing it is treated for iron when necessary.

Except for water supplied by the City of Myrtle Beach to the 73 TCS, Myrtle Beach AFB is self-sufficient using onbase groundwater wells. Since the summer of 1988, the City of Myrtle Beach has treated surface water from the Intracoastal Waterway for their primary source of public drinking water. Previously, Myrtle Beach acquired its drinking water from approximately 20 deep wells throughout the city. The water supply wells are maintained as a backup to the present system in case of an emergency.

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South Carolina DHEC has primary regulatory responsibility for maintaining water quality in the Myrtle Beach AFB area. The Water Classification and Standards System (South Carolina DHEC 1985), under Regulation 68, sets forth the authority for the assignment of stream classifications for all state waters and the adoption of applicable standards. These standards are subject to periodic review, or on an interim basis where circumstances warrant. The existing standards applicable to the classified waters adjacent to Myrtle Beach AFB are summarized as follows:

- Coastal areas of Horry and Georgetown counties are classified "SA," i.e., total saltwaters suitable for propagation, survival, and harvesting of shellfish for market purposes.
- The Intracoastal Waterway from its confluence with the Waccamaw River to a point where chloride concentrations exceed 250 mg/l (approximately where Route 17 crosses the Waterway) is classified "A," i.e., water suitable for direct contact use.
- Unnamed tributaries that may originate seasonally on the base, but do not possess individual classifications, must meet the classification standards of the receiving waters.

While there are no streams or rivers on Myrtle Beach AFB, many drainage ditches exist. A number of these ditches carry water at all times because of the depth of the ditch and the high water table in the area. Several ditches, which run past base industrial areas and are potentially exposed to sources of contamination, empty into either the Atlantic Ocean or Intracoastal Waterway. To comply with the requirements of the Clean Water Act, Myrtle Beach AFB applied for and was issued a National Pollutant Discharge Elimination System (NPDES) Permit, No. SC0002097, on July 1, 1983, which required four of these ditches to be monitored quarterly. An additional five ditches are also monitored quarterly to ensure that no pollutant discharges occur undetected. Sampling results for the 1988 NPDES sites are included as Appendix D-1.

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05/21/90**3.1.3.3 Air Quality**

The South Carolina DHEC regulates and monitors for compliance with South Carolina Ambient Air Quality Standards (AAQS) and the federal National Ambient Air Quality Standards (NAAQS) under authority of the EPA.

Existing Regional Air Quality. Air quality in Horry County and the Myrtle Beach AFB area is in attainment with the State of South Carolina AAQS and the NAAQS for all criteria pollutants, including total suspended particulates (PM10), sulfur oxides (SO_x), carbon monoxide (CO), nitrogen oxides (NO_x), ozone (O₃), and lead (Pb). Only ambient concentrations of total suspended particulates (TSP) and lead have been monitored in the Myrtle Beach area by the South Carolina DHEC. The results of this monitoring, and corresponding state and national standards, are shown in Table 3.1.3-3. Horry County has never had an air pollution episode alert or an air stagnation warning.

Air Pollutant Emission Sources. The air pollutant emission sources at Myrtle Beach AFB are listed in Table 3.1.3-4. The major sources of air emissions are transportation and aircraft activities. As expected from transportation sources, CO comprises the largest percentage of pollutants, followed by hydrocarbons (HC) and NO_x. Approximately 932 tons of CO, 557 tons of HC, and 134 tons of NO_x were emitted by the base in 1988. Table 3.1.3-5 shows the estimated emissions resulting from both civil and military aircraft flying operations at Myrtle Beach AFB/Jetport. Table 3.1.3-6 shows the comparison of emissions data at Myrtle Beach AFB and various sources in Horry County. As can be seen in Table 3.1.3-6, the base emits from 4 percent to 90 percent of the criteria air pollutants in the county, depending on pollutant.

3.1.3.4 Noise

The airfield at Myrtle Beach AFB is a joint-use facility for both military and civil air traffic operations. The civil airport terminal and related facilities, located east of the runway, is owned and operated by the Horry County Department of Airports. Although improvements have been made in recent years, modern jet aircraft still generate levels of noise that may result in both direct effects (e.g., annoyance or public health effects) and indirect effects (e.g., land use) to the surrounding community. The land use effects from noise produced by Myrtle Beach AFB airfield operation are

Table 3.1.3-3

**Criteria Air Pollutant Concentrations
Horry County, South Carolina**

Pollutant	Averaging Time	1987 Concentration	<u>Ambient Air Quality Standards</u>	
			South Carolina	National
Ozone	1 hour	NM	0.12 ppm 235 $\mu\text{g}/\text{m}^3$	0.12 ppm
Carbon Monoxide	8 hour	NM	9 ppm 10 $\mu\text{g}/\text{m}^3$	9 ppm
	1 hour	NM	35 ppm 40 $\mu\text{g}/\text{m}^3$	35 ppm
Nitrogen Dioxide	Annual Average	NM	0.05 ppm 100 $\mu\text{g}/\text{m}^3$	0.053 ppm
Sulfur Dioxide	Annual Average	NM	0.03 ppm 80 $\mu\text{g}/\text{m}^3$	0.03 ppm
	24 hour	NM	0.14 ppm 365 $\mu\text{g}/\text{m}^3$	0.14 ppm
	3 hour	NM	0.05 ppm	-
PM ₁₀	24 hour	NM	150 $\mu\text{g}/\text{m}^3$	150 $\mu\text{g}/\text{m}^3$
	Annual Geometric Mean	NM	50 $\mu\text{g}/\text{m}^3$	50 $\mu\text{g}/\text{m}^3$
Total Suspended Particulates (TSP)	Annual Geometric Mean	32 $\mu\text{g}/\text{m}^3$	75 $\mu\text{g}/\text{m}^3$	None
Lead	Quarterly Arithmetic Mean	0.01 $\mu\text{g}/\text{m}^3$	1.5 $\mu\text{g}/\text{m}^3$	1.5 $\mu\text{g}/\text{m}^3$

NM = Not Measured

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Table 3.1.3-4

Air Pollutant Emissions From
Myrtle Beach AFB, South Carolina, for Calendar Year 1988

Source	Pollutant (Tons/Yr)				
	TSP	CO	SOx	NOx	HC
A. Incinerators	.075	.078	.0098	.014	.058
B. Firefighting .11	.49	.00033	.0036		.28
C. Heating & Power Production					
1. Fuel Oil/LP	.62	1.6	47	6.5	.23
2. Gasoline	.00097	.59	.00079	.015	.19
3. Diesel	.097	.017	.09	1.4	.11
D. Surface Coating	0	0	0	0	9.8
E. Aerospace Ground Equipment					
1. JP-4	.21	.64	.039	2.9	.2
2. Diesel	.12	.37	.11	1.7	.11
3. MOGAS	.41	249	.33	6.4	9.3
F. Fuel Evaporation Losses (transfer and storage)					
1. BX Gas Station	0	0	0	0	9.1
2. Supply Gas Station	0	0	0	0	2.2
3. Tank Farm Aircraft	0	0	0	0	56
G. Aircraft Flying Operations	4.2	628	11	107	461
H. Aircraft Ground Operations					
1. Engine Runups	.00094	.31	.019	.17	.082
2. TRIMS/Power	.0016	.54	.034	.3	.15
I. Motor Vehicles	1.3	.5	.06	7.6	8.5
TOTAL:	7.2	932	59	134	537

Table 3.1.3-5

**Estimated Current Aircraft Operations Emissions
At Myrtle Beach AFB/Jetport
(tons per year)**

Source	CO	NO _x	HC	SO _x	Particulates
Military Aircraft ¹	628	107	461	11	4.2
Commercial Aircraft ²	228	80	116	9.2	5.3
Total	856	187	577	20.2	9.5

NOTES: ¹Based on Air Pollution Emission Inventory for CY88, Myrtle Beach AFB, South Carolina (January 1989).
 ²Based on 1987 commercial aircraft operations in "Environmental Assessment for Amendment of the Joint Agreement on MBAFB" (LPA Group 1989).
 See Table 3.1.3-3.

Table 3.1.3-6

**Comparison of Myrtle Beach AFB and
Major Point Source Pollutant Emissions for 1988
Horry County, South Carolina**

Source	Pollutant (Tons/Yr)			
	Particulate	CO	SO _x	NO _x
APAC Carolina Co. ¹ Plant 9, Loris, S.C.	227		24	2
Grainger Generating ¹ Station, Conway, S.C.	95	110	12,326	3,832
T.S. Ragsdale Co. ¹ Conway, S.C.	4	6	--	385
Myrtle Beach AFB ^{2,3}	7	932	59	134

NOTES:

¹EPA, National Air Data Branch 1990.²Over 90 percent of the emissions reported for Myrtle Beach AFB were from mobile sources such as aircraft flying operations, motor vehicles, and aerospace ground equipment operating within or out from the base.³Air Pollution Emissions Inventory, Myrtle Beach AFB, 1989.

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addressed in Section 3.1.1.2; the direct effects for current aircraft operations at Myrtle Beach AFB (military and civil) are discussed below.

Noise results are expressed in terms of average L_{dn} using decibels (dB) on an A-weighted scale as units. The L_{dn} is the average noise level over a 24-hour period. Figure 3.1.3-2 presents maximum A-weighted sound levels of common noise sources. The A-scale gives an approximation of the human ear's response to noise and also correlates with a person's judgment of the loudness of a noise event. L_{dn} values are used by the EPA, the U.S. Department of Housing and Urban Development (HUD), and the DOD to describe noise exposure. In calculating L_{dn} levels, noise levels from aircraft operations that occur between 10 P.M. and 7 A.M. are artificially increased by 10 dB. This weighting reflects the added intrusiveness of nighttime noise events attributable to the fact that community background noise levels typically decrease about 10 dB at night. At Myrtle Beach AFB, however, the airfield is closed between midnight and 6:00 A.M., and no military operations are conducted before 7:00 A.M.

The existing noise conditions at Myrtle Beach AFB were recently determined by the Air Force Engineering and Service Center and base operations and maintenance personnel. Noise levels generated by aircraft activities at Myrtle Beach AFB were estimated using the NOISEMAP computer model (Version 5.2). This version of NOISEMAP is one of two models approved by the FAA for airport noise modeling. The model incorporates a comprehensive set of computer routines for calculating noise exposure contours around airports. The FAA has certified that the model provides contours that are essentially identical to those provided by Version 3.9 of the FAA's own Integrated Noise Model.

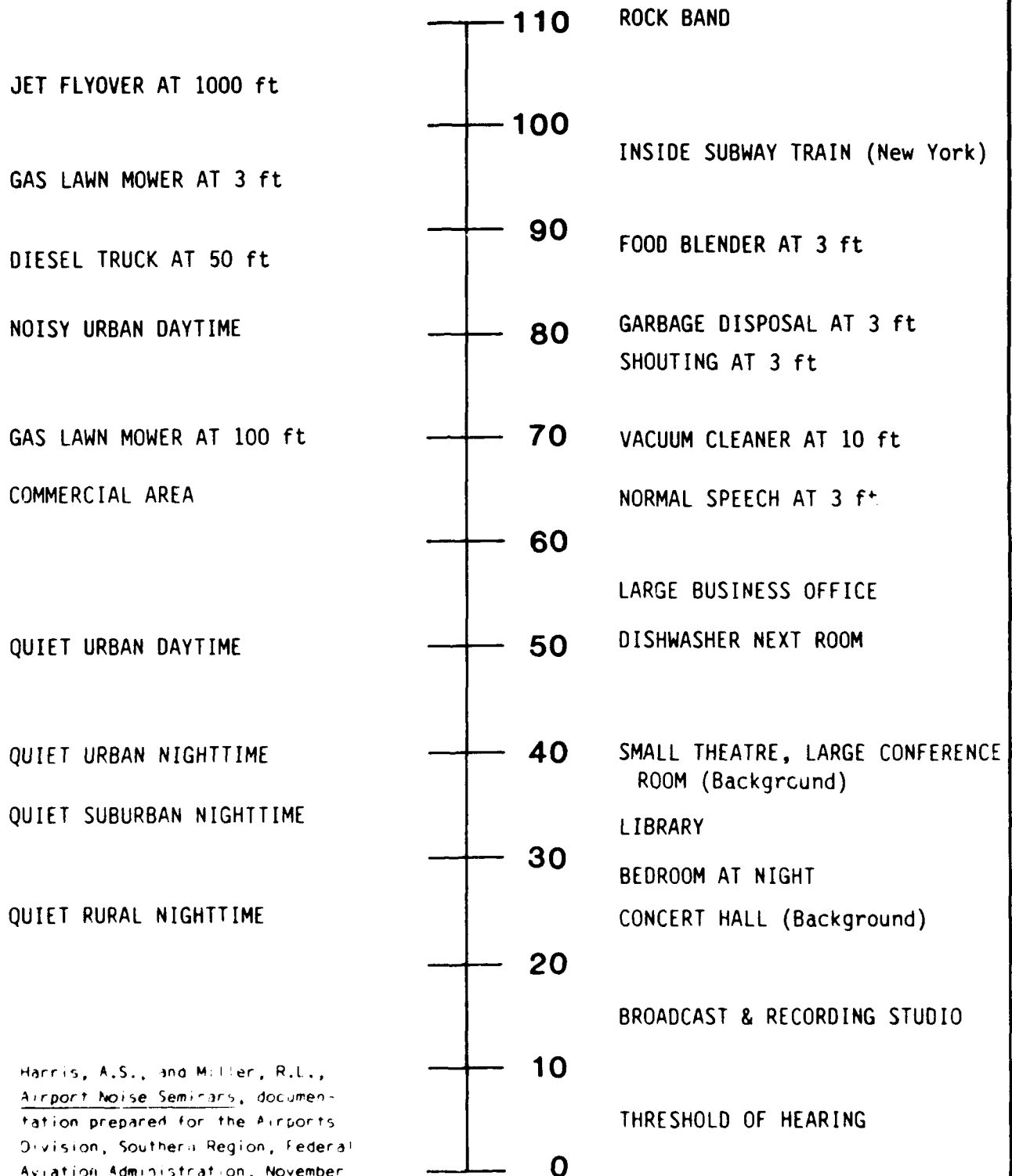
The noise levels estimated by NOISEMAP for the Myrtle Beach AFB study were based on current aircraft noise and performance data and aircraft operational data. In addition, aircraft noise data were obtained for typical thrust settings used on takeoff, landing, level flight, and when conducting closed patterns and low pass training operations. Aircraft performance data define takeoff roll, rate of climb, altitude and speeds at different distances from takeoff, etc. Aircraft operational data included runway utilization rates; prototypical flight track descriptions and utilization rates; level and mix of aircraft operations; and day-night split of operations (by aircraft type). Also included in the noise analysis were engine testing and maintenance procedures conducted at various stationary locations.

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COMMON OUTDOOR
NOISE LEVELS

NOISE LEVEL
dB(A)

COMMON INDOOR
NOISE LEVELS



Source: Harris, A.S., and Miller, R.L.,
Airport Noise Seminars, document-
ation prepared for the Airports
Division, Southern Region, Federal
Aviation Administration, November
1977.

FIGURE 3.1.3-2 COMMON ENVIRONMENTAL SOUND LEVELS, IN dBA

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The NOISEMAP model calculates L_{dn} values in decibels and plots a map (isopleth) of the noise "footprint." Figure 3.1.3-3 depicts the noise environment estimated by the NOISEMAP model for current Myrtle Beach AFB and Jetport aircraft operations. Noise contours are plotted with a minimum L_{dn} value of 65 dB since studies have determined that the percentage of persons highly annoyed increases rapidly above this level. TBS acres lie within the 65 L_{dn} contour.

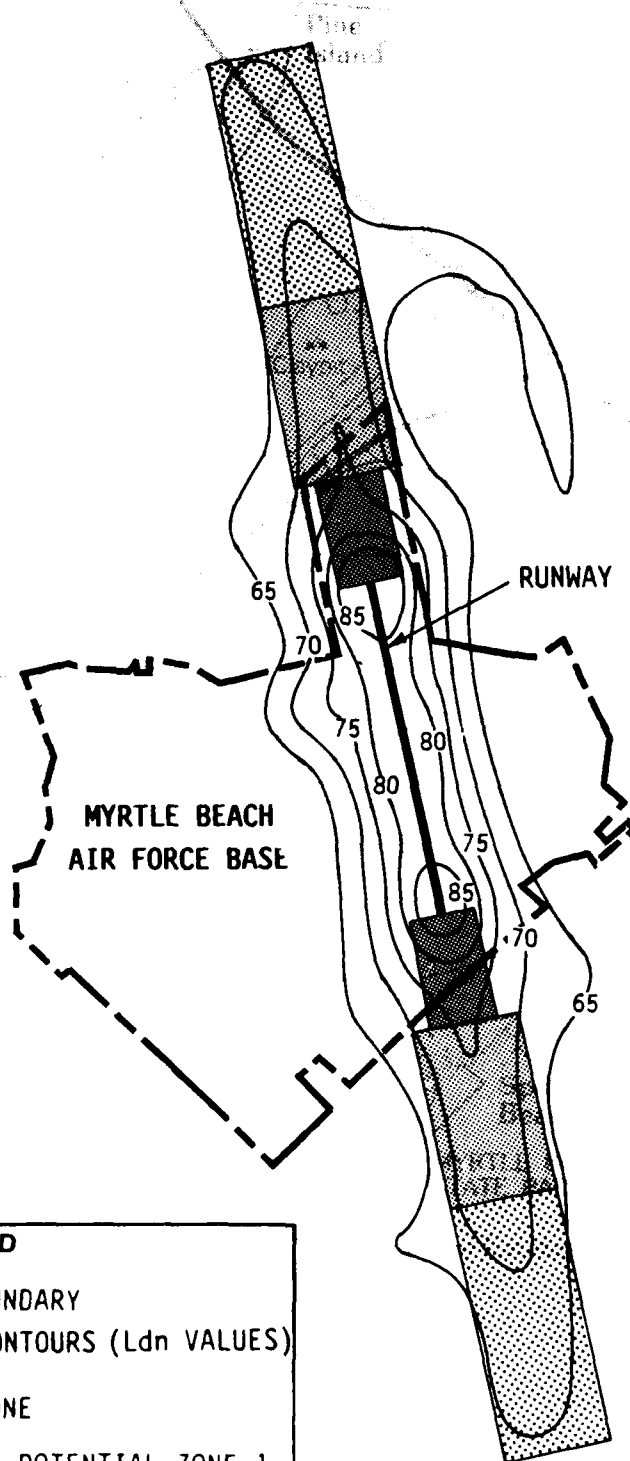
Another important noise source in the Myrtle Beach area is vehicular traffic. Noise monitoring data are not available for the Myrtle Beach AFB vicinity. However, L_{dn} levels of 60 to 65 dBA were estimated for the segments of U.S. 17 and U.S. 17 Business adjacent to the base (outside the runway noise contours), using the FAA noise model STAMINA and current traffic volumes for these roadways (Section 3.1.1.3).

3.1.3.5 Biological Resources

Vegetation. Since establishment of Myrtle Beach AFB in the early 1940s, man's activities have been the primary influence on vegetative patterns within the installation boundaries. Habitat types onbase are primarily limited to disturbed or maintained, grassy or mixed herbaceous areas, mixed pine-hardwood forest, and scattered areas of palustrine wetlands. The base covers approximately 3,793 acres, 1,553 acres of which are developed land and consist of nonnatural land uses such as buildings, runways, parking lots, etc. There are seven managed fish ponds onbase which vary in size from 0.5 to 5 acres, totaling nearly 16 acres. Approximately 1,150 acres are undeveloped woodland or shrub-scrub habitat. The remaining 1,090 acres are adjacent to runways and between improved and unimproved land, and are kept in a semi-improved state. Vegetation in these areas is maintained at heights between 3 and 8 inches.

Mixed herbaceous areas at Myrtle Beach AFB may contain a variety of grasses, goldenrod (*Solidago* spp.), asters (*Asteraceae*), broomsedge (*Andropogon virginicus*), and in moister soils, sedges (*Carex* spp., *Cyperus* spp., and *Scirpus* spp.). Since vegetation height in these areas is typically maintained, species diversity is relatively low. Field surveys in these areas have not been conducted; consequently, species composition is only speculative.

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LEGEND

- BASE BOUNDARY
- 75— NOISE CONTOURS (Ldn VALUES)
- CLEAR ZONE
- ACCIDENT POTENTIAL ZONE 1
- ▨ ACCIDENT POTENTIAL ZONE 2

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FIGURE 3.1.3-3 NOISE CONTOURS AND ACCIDENT POTENTIAL ZONES, MYRTLE BEACH AFB, SOUTH CAROLINA, 1990

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Forested areas on base are typically mixed pine-hardwood forests, consisting of loblolly pine (*Pinus taeda*), long-leaf pine (*P. palustris*), turkey oak (*Quercus laevis*), southern red oak (*Q. falcata*), post oak (*Q. stellata*), poplar (*Populus* sp.), and sweetgum (*Liquidambar styraciflua*). Common understory species are red bay (*Persea borbonia*), sweetbay (*Magnolia virginiana*), American holly (*Ilex opaca*), and wax myrtle (*Myrica cerifera*). Frequently encountered herbaceous species in mixed pine-hardwood forests are Virginia chain-fern (*Woodwardia virginica*), netted chain-fern (*W. aerolata*), royal fern (*Osmunda regalis*), poison ivy (*Toxicodendron radicans*), and cane (*Arundinaria gigantea*). Common vines are yellow jessamine (*Gelsemium sempervirens*), Virginia creeper (*Parthenocissus quinquefolia*), muscadine (*Vitis rotundifolia*), catbriar (*Smilax* sp.), and honeysuckle (*Lonicera japonica*). These forests have been timbered in the past, with little or no management until 1968, at which time the U.S. Department of Agriculture, Soil Conservation Service assisted in preparing a conservation plan. This plan recommended timber harvesting, prescribed burning, and drainage ditch construction in order to improve wildlife habitat.

Wetlands. The U.S. Fish and Wildlife Service's (USFWS) National Wetland Inventory (NWI) map indicates a total of TBS wetland area scattered throughout the base, the majority of which are classified as Palustrine Systems. There are three major types of palustrine wetlands: emergent, scrub-shrub, and forested wetland. By definition, Palustrine Systems include "all nontidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses or lichens, and all such wetlands that occur in tidal areas where salinity, due to ocean-derived salts is below 0.5 parts per hundred (pph). This system also includes areas lacking such vegetation, but with all of the following characteristics: (1) area less than 20 acres; (2) wave-formed or bedrock shoreline features lacking; (3) water depth in the deepest part of basin less than two meters at low water; and (4) salinity due to ocean-derived salts less than 0.5 pph" (Cowardin et al. 1979). Both emergent and forested palustrine wetlands have been mapped on base. Although species surveys of the palustrine wetlands have not been conducted, emergent wetlands are typically dominated by herbaceous vegetation, including certain grasses, cattails, rushes, and sedges. In the Southeast, palustrine forested wetlands that are flooded only briefly during the growing season are characterized by sweet gum, loblolly pine, tulip poplar (*Liriodendron tulpiifera*), beech (*Fagus* sp.), sycamore (*Platanus occidentalis*), hickory (*Carpa* sp.), and various oaks. These areas contain pine, oak, and some bald cypress (*Taxodium distichum*).

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The NWI map indicates two types of Riverine Systems on Myrtle Beach AFB -- tidal and lower perennial wetlands. The Riverine Systems include all wetlands and deepwater habitats contained within a channel, except those habitats with water-containing ocean-derived salts in excess of 0.5 pph, or wetlands dominated by trees, shrubs, persistent emergents, emergent mosses, or lichens. The lower perennial wetlands onbase are constructed ditches which typically contain 1 to 2 feet of water. The "tidal wetland" is also a man-constructed feature which shows little or no tidal influence. The USFWS's NWI Myrtle Beach map was prepared primarily by stereoscopic analysis of high altitude aerial photographs. In most cases, there is no ground-truthing of mapped wetlands.

If land use onbase changed so that any of the "wet" areas would be affected, jurisdictional wetlands would need to be identified and their upper boundaries delineated. The USFWS, EPA, Department of the Army, and Soil Conservation Service have developed a technique for identifying and delineating jurisdictional wetlands. Based on their mandatory technical criteria for wetland identification, wetlands possess three essential characteristics: hydrophytic vegetation, or wetland indicator species; hydric soils; and wetland hydrology. The three technical criteria are mandatory and must all be met for an area to be identified as a wetland (Federal Interagency Committee for Wetland Delineation 1989).

Wildlife. Habitat management onbase has been sporadic since the Soil Conservation Service management plan was recommended in 1968. Two acres of permanent wildlife food plots were sown in bicolor lespedeza (Lespedeza sp.) and white clover (Trifolium repens) to provide forage and habitat diversity. Over the years there has been selective timber harvesting and prescribed burning, but because of limited manpower and funds, these practices have not always been implemented on a regular basis. Consequently, the majority of habitat onbase is of poor quality. No extensive population surveys have been conducted in the past and data on species occurrence onbase are extremely limited. Species that have been reported or are most likely to occur onbase are the gray squirrel (Sciurus carolinensis), white-tailed deer (Odocoileus virginianus), raccoon (Procyon lotor), Virginia opossum (Didelphi virginiana), house mouse (Mus musculus), great blue heron (Ardea herodias), mallard (Anas platyrhynchos), northern bobwhite (Colinus virginianus), killdeer (Charadrius vociferus), and various songbirds, turtles, frogs, and snakes. The managed freshwater ponds have been stocked with largemouth bass (Micropterus salmoide), bluegill (Lepomis macrochirus), and redear sunfish (L. microlophus).

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Threatened and Endangered Species. Federal and state-listed endangered or threatened animals and plants (50 CFR 17.11 and 17.12, January 1, 1989) addressed in this section were derived from the following sources:

- The South Carolina Wildlife and Marine Resources Department (SCWMRD) lists of threatened and endangered plants and animals in South Carolina (where appropriate for the Myrtle Beach area);
- SCWMRD Heritage Trust tracking list (March 1990) of species documented in Horry County; and
- A letter dated 14 March 1990 from Roger L. Banks, U.S. Department of the Interior, Fish and Wildlife Service, Charleston, South Carolina.

Federally Listed Threatened or Endangered Species. Of the federally listed threatened and endangered plant or animal species, only the American alligator (Alligator mississippiensis) has been documented within installation boundaries in the past. Additional federally listed animal species potentially occurring on or near the base are listed in Table 3.1.3-7. None of these species has been seen or is known to occur on the base.

The American alligator, listed as threatened because of its similarity of appearance to the American crocodile (Crocodylus acutus), inhabits freshwater rivers, lakes, swamps, and marshes, occasionally entering brackish or salt water. Their range in the coastal plain extends south from the Albemarle Sound into southern Florida. Alligators occur periodically in ponds and ditches on base, but have not been documented in recent years.

Federally listed endangered, threatened, and status review plant species (i.e., species under review for possible listing) that may occur in the vicinity of the Myrtle Beach AFB are summarized in Table 3.1.3-8.

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Table 3.1.3-7

**Federally Listed Animal Species That May Occur
In the Myrtle Beach AFB Area**

Common Name	Scientific Name	Status	Onbase Potential
Florida manatee	<u>Trichechus manatus</u>	endangered	Documented in Myrtle Beach coastal waters
red-cockaded woodpecker	<u>Picoides borealis</u>	endangered	Known in Horry County; nest in pine trees
peregrine falcon	<u>Falco peregrinus</u>	threatened/ endangered	unlikely
wood stork	<u>Mycteria americana</u>	endangered	common in coastal South Carolina
piping plover	<u>Charadrius melodus</u>	endangered	unlikely
Bachman's warbler	<u>Vermivora bachmanii</u>	endangered	unlikely
Kirtland's warbler	<u>Dendroica kirtlandii</u>	endangered	unlikely
bald eagle	<u>Haliaeetus leucocephalus</u>	endangered	unlikely
American alligator	<u>Alligator mississippiensis</u>	threatened	Observed onbase
loggerhead sea turtle	<u>Caretta caretta</u>	endangered	Common in South Carolina coastal waters
Kemp's ridley sea turtle	<u>Lepidochelys kempii</u>	endangered	Uncommon in South Carolina coastal waters
green sea turtle	<u>Chelonia mydas</u>	threatened	Uncommon in South Carolina coastal waters
leatherback sea turtle	<u>Dermochelys coriacea</u>	endangered	Occur in South Carolina coastal waters

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State-Listed Threatened and Endangered Species. The South Carolina Nongame and Endangered Species Conservation Act (Chapter 15, 50-15-10 et seq.) provides that endangered species or subspecies of wildlife indigenous to South Carolina should be afforded protection in order to maintain, and to the extent possible, enhance their numbers. Additionally, it is unlawful to take, deal in, or transport species on the state list. At present, only animal species are officially listed by the SCWMRD. There is no official threatened and endangered plant list and no state-mandated legislation providing protection to species of state concern. No state-listed animals or state-concern plants have been documented on Myrtle Beach AFB. Officially listed threatened and endangered animal species that occur in the vicinity of the base are listed in Table 3.1.3-9.

3.1.3.6 Cultural and Paleontological Resources

A cultural resources inventory was conducted by the Carolina Archeological Services (CAS) for Myrtle Beach AFB in 1979. The survey included surface inspection, subsurface testing, deep auguring, and a historical structures survey. Approximately 91 percent (3,400 acres) of Myrtle Beach AFB, including all of the undeveloped portions of the base, was investigated. A total of 14 archaeological sites, as well as 17 isolated artifact finds, were recorded. Of these, four military structures and one late historic complex were considered to have exceptional educational and contextual value which would make them eligible for nomination to the National Register of Historic Places (NRHP).

Prehistoric Resources. Twelve of the 14 archaeological sites recorded on the base contain the remains of prehistoric occupations, ranging in age from the Middle Archaic to Woodland periods. The sites consist of sparse lithic and/or ceramic scatters which appear to be badly disturbed by subsequent historic occupation and erosion. None of the prehistoric sites were identified as having sufficient integrity and research potential to qualify for the NRHP.

Historic Resources. Four of the archaeological sites contain historic components representing mid-19th to early-20th century homesteading activities. These sites are not considered historically important because they have been destroyed by subsequent development or lack stratigraphic integrity.

Table 3.1.3-8

Federally Listed Endangered, Threatened, and Status Review Plant Species That May Occur in the Myrtle Beach AFB Area

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status</u>	<u>Comments on Habitat Characteristics</u>
*Vahl's Fimbry	<i>Fimbristylis perpusilla</i>	SR	Occurs along alluvial borders of pineland ponds.
*Schweinitz' sunflower	<i>Helianthus schweinitzii</i>	SR	Inhabits clearings and borders of upland woods in the coastal plain and piedmont of South Carolina
*Carolina lilaeopsis	<i>Lilaeopsis carolinensis</i>	SR	In coastal plains, found in shallow freshwater pools, ditches, marshes, and muddy shores.
pondberry	<i>Lindera melissifolia</i>	E	Found in boggy margins of cypress-gum ponds, swamps, and sandy sinkholes in the coastal plain.
lysimachia	<i>Lysimachia asperulaefolia</i>	E	Endemic to the coastal plain of North and South Carolina in moist sand areas of savanna-pocosin ecotones and shrub bogs.
*Godfrey's sandwort	<i>Minuartia godfreyi</i>	SR	Occurs in seepage areas, wet woodlands clearings of flatwoods, and adjacent ditches in the coastal plain.
Canby's dropwort	<i>Oxypolis canbyi</i>	E	Rare in bogs on the coastal plain.
Carolina grass-of-	<i>Parnassia caroliniana parnassus</i>	SR	An inhabitant of coastal plain savannahs, bogs, and flatwoods.
*chaff-seed	<i>Schwalbea americana</i>	SR	Found in moist to dry pinelands, oak woodlands, and seasonally wet pine savannahs.
Cooley's meadowrue	<i>Thalictrum cooleyi</i>	E	Inhabits open marsh areas and savannah borders of low woods.

Note: Comments on habitat characteristics based on Godfrey and Wooten 1979, 1981; Sutter et al. 1987.

* Species have been documented in Horry County, South Carolina.

Table 3.1.3-9
Official State-Listed Threatened and Endangered Animal Species
Potentially Occurring in the Vicinity of Myrtle Beach AFB

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status</u>	<u>Comments</u>
*black bear	Ursus americanus	T	In the coastal plain it occurs in large tracts of swamp, pocosins, and flatwoods.
golden eagle	Aquila chrysaetos	E	A rare fall transient and winter visitor in South Carolina.
ipswich sparrow	Passerculus sandwichensis princeps	E	Restricted to sand dune habitat along the Atlantic east coast.
swallow-tailed kite	Elanoides forficatus	E	An uncommon breeding summer resident which inhabits heavy woodlands, river bottoms, and cypress lagoons.
Cooper's hawk	Accipiter cooperii	T	An uncommon winter resident that inhabits dense woods and adjacent edges.
*osprey	Pandion haliaetus	T	Commonly breed on or near the coast, but rare in winter.
*least tern	Sterna albifrons	T	A fairly common summer resident along the coast where it nests on beaches and dredge spoil islands.

Notes: T = Threatened

E = Endangered

* Species have been documented in Horry County.

Species lists and occurrence: Personal communication, 9 April 1990, Katherine Boyle, Data Manager, S.C. Heritage Trust Program, SCWMRD, South Carolina.

Comments: Radford et al. 1968; Potter et al. 1990; and Webster et al. 1985.

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The CAS historical resources survey resulted in the identification of four standing structures and one late historic complex at Myrtle Beach AFB believed to have potential for listing on the NRHP. The one nonmilitary structure of the group is an extensively modified shed used by the Civilian Conservation Corps (CCC) during the 1930s and now integrated as part of the family camping area of Myrtle Beach AFB. This structure, and three mortared heating troughs and a pumphouse built by the CCC, are considered to have sufficient integrity of setting, feeling, and association to merit eligibility to the National Register.

The other three structures and historic complex identified in the survey are military in nature and origin: one prefabricated metal aircraft hangar (Butler hangar) and two concrete Norden bomb sight vaults, considered as a single structural type; and the original World War II aircraft parking and cantonment area. Since the time of the original study in 1980, however, the Butler hangar was determined by the base and State Historic Preservation Officer (February 27, 1989) to have no historical value. The two Norden bomb sight vaults are currently under limited use but appear to have local associational and educational significance and integrity which would qualify them as properties eligible for the National Register. The historic complex is the extensive remnants of the World War II aircraft parking (revetment) and the original cantonment area of Myrtle Beach General Bombing and Gunnery Range. The revetment system is well-mapped and generally well-preserved; however, the cantonment area is unevenly preserved and less documented. The World War II complex has undergone modification of varying degrees over the years, but still displays integrity of setting and association with significant historical events to be considered eligible for the National Register. Formal evaluations and determinations of NRHP eligibility have not yet been completed.

Paleontological Resources. The geologic sequence in the Myrtle Beach area consists of Pre-Cretaceous crystalline rocks overlain by some 1,200 feet of sands, clays, sandstones, marls, and calcareous limestones. Fossil-bearing units include the late Miocene Duplin Formation, the Pliocene Bear Bluff Formation, and the Pleistocene Waccamaw Formation. Of these, the Duplin Formation is perhaps the most productive, as it contains abundant, well-preserved fossils rich in Ostrea and Pecten species. In the generalized stratigraphy of Horry County, the fossiliferous formations occur at depths of at least 50 feet below the surface. There are no surface bedrock exposures in the vicinity of the beach and therefore, no paleontological localities on the base.

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3.2 DAVIS-MONTHAN AIR FORCE BASE, ARIZONA - TBS

3.3 ENGLAND AIR FORCE BASE, LOUISIANA - TBS

4.0 ENVIRONMENTAL CONSEQUENCES

This chapter discusses the environmental consequences associated with the closure of either Myrtle Beach Air Force Base (AFB), South Carolina; Davis-Monthan AFB, Arizona; or England AFB, Louisiana. The assessment of impacts focuses on those resources that constitute portions of the physical environment. This approach is in keeping with recent developments in the National Environmental Policy Act (NEPA) case law that have narrowed the interpretation of Council on Environmental Quality (CEQ) regulations regarding discussion of socioeconomic issues in environmental impact statements (EISs) (Metropolitan Edison Co. v. People Against Nuclear Energy, 460 U.S. 766, 18 E.R.C. 1985 [U.S. Supreme Court 1983], Olmstead Citizens for a Better Community v. U.S., 793 Fed. 201, 27 E.R.C. 2115 [8th Cir., 1986]).

Socioeconomic issues are considered to see if they cause significant biophysical impacts to the environment. Therefore, changes in socioeconomic and other contextual parameters of the local community are described in the first portion of each base discussion. Changes in the generation and treatment of hazardous materials are also considered. Impacts to the physical environment resulting from those changes are then summarized within the following resources: geology and soils, water resources, air quality, noise, biological resources, and cultural and paleontological resources. In addition, the relationship between short-term uses and long-term productivity of the environment and irreversible and irretrievable commitment of resources are discussed for each base. Mitigation measures for all significant environmental impacts are discussed, by base, in the final section.

4.1 MYRTLE BEACH AIR FORCE BASE, SOUTH CAROLINA

4.1.1 LOCAL COMMUNITY

During preparation of this EIS, the Air Force considered whether there might be any indirect biophysical effects that could be attributed to socioeconomic changes in the local support communities. Selected socioeconomic changes related directly or indirectly to biophysical factors are discussed in this section.

The Air Force is sensitive to the community upheaval that may be caused by closing a major employer like Myrtle Beach AFB. Therefore, the Air Force is working with the Office of Economic Adjustment (OEA) to assist the communities expected to be hardest hit as a result of base closure.

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The OEA, located in the Office of the Assistant Secretary of Defense, is the chief staff arm for the President's Economic Adjustment Committee (EAC). The EAC consists of federal department and agency heads and was established under Executive Order 12049 on March 27, 1978, to provide resources of various federal agencies in assisting communities affected by base closures.

One of the OEA's activities is to assist support communities in the development and implementation of comprehensive economic recovery programs. The EAC then affords priority assistance to community requests for federal technical assistance, financial resources, excess or surplus property, or other requirements that are part of this program. OEA has already initiated planning actions at the local level to provide planning assistance to communities to be affected by the closure of Myrtle Beach AFB.

4.1.1.1 Community Setting

Population and Employment. The closure of Myrtle Beach AFB would reduce employment in Horry County by approximately 5,800 jobs including 4,200 direct military and civilian jobs onbase, and 1,600 secondary jobs. This reduction in employment would result in a decrease in personal income of about \$112 million annually, and a decrease in local spending (including personal consumption expenditures and base procurement) of approximately \$124 million annually.

All military employees would be relocated and it is projected that approximately 80 percent of Department of Defense (DOD) civilian employees and 50 percent of secondary employees would also relocate to other areas. It is expected that up to 25 percent of military retirees would relocate closer to other active installations. Total population outmigration is projected to be approximately 17,000 people when the base is completely closed in 1993. This represents about 56 percent of the 1990 full-time population in Myrtle Beach and 11 percent of the current population in Horry County.

Housing. The Closure of Myrtle Beach AFB would discontinue the use of all military family and dormitory housing onbase. In addition, approximately 4,000 households living offbase are expected to relocate, leaving this number of housing units vacant. This would result in an increase in the vacancy rate for permanent housing in Horry County of about 6 percent.

Education. If Myrtle Beach AFB is closed, Woodland Park Elementary School, which is operated by the DOD would be closed. Enrollments in Horry County Public Schools, including both primary and secondary levels, would be reduced by approximately 800 students.

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Community Services. The closing of Myrtle Beach AFB and its 25-bed hospital would result in a direct financial impact to eligible recipients of military health care, particularly military retirees and their dependents. The hospital's closure would reduce the availability of military health services to the retirees and their dependents living in the area. Patients who previously used Myrtle Beach AFB hospital would be required to either travel longer distances for treatment at a military facility or receive services in community hospitals under the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS) program.

For patients who choose to use CHAMPUS, the average patient would incur additional expenses for inpatient and outpatient services. Additionally, patients would be faced with additional costs for prescription drugs and medical tests. There would be an associated increase in paperwork and inconvenience for patients and their families. Closure of Myrtle Beach AFB would result in an adverse impact on the cost and the convenience of health care for military retirees and dependents who now depend on the base hospital.

Adverse effects to retirees and their dependents would also occur because of the closure of the base commissary, base exchange, gold course, credit union, and legal assistance office.

Myrtle Beach AFB maintains its own fire department, security, and hospital facilities which assist the local area during times of emergency.

Services to Jetport. Under closure, the base would no longer provide the following services to Myrtle Beach Jetport: air traffic control; runway and airfield maintenance; navigational aids; utilities; crash, fire, and rescue services; and installation security services. The Horry County Department of Airports would have to assume the responsibility for providing these services.

Closure of Myrtle Beach AFB is likely to preclude the issuance of the 1990 Airport Revenue Bond Issue and the Jetport's terminal expansion program the bond is intended to finance as the Department of Airports could not afford to service the bond debt and provide the services discussed above. Cancellation of the terminal expansion program would avoid the potentially resulting impacts to biological resources, air quality, and noise described in Section 2.5 (no action alternative).

4.1.1.2 Land Use and Aesthetics

Land Use Policies and Plans. Closure of Myrtle Beach would have no effect on land ownership because the Air Force would retain the property until an appropriate reuse has been determined. However, closure would affect the occupancy of mission-related facilities, housing, and community services onbase. Management facilities would be vacated until the reuse of the property is determined, and until that time, a caretaker program would provide maintenance to prevent deterioration of facilities and to retain a positive appearance. The closure is expected to have potentially beneficial impacts on surrounding land use because of reductions in both noise and potential aircraft accidents in areas near the base. Figure 4.1.3-2 (TBS) (Section 4.1.3.4) shows the much reduced noise contours as a result of cessation of A-10 aircraft operations. (Noise from commercial aircraft operations out of the Myrtle Beach Jetport would remain.) The residential areas on either side of the north end of the runway would no longer lie within the 65 and 75 L_{dn} contours for the runway. In addition, commercial development along U.S. 17 and U.S. 17 Business and residential communities to the north and south of the base would be allowed further development on lands currently restricted by the incompatible use zones. With continued operation of the Myrtle Beach Jetport after base closure, Federal Aviation Administration (FAA) regulations regarding establishment of aircraft accident hazard zones and incompatible land uses would apply. These regulations are TBS.

Future land use would also be affected by the nature of the base reuse, which will be discussed in the reuse EIS. The reuse EIS will aid the City of Myrtle Beach in making applicable zoning and service decisions.

Aesthetics and Visual Resources. After closure, the base would be maintained at a level sufficient to prevent deterioration of property. The grounds probably would not be maintained at the present level; however, because base maintenance would continue, no significant adverse effects to visual and aesthetic values are anticipated.

4.1.1.3 Transportation

Transportation Systems. Closure of Myrtle Beach AFB would have a primarily beneficial effect on transportation systems. Highway traffic in the vicinity of the base would be reduced after closure, and the cessation of military aircraft operations would reduce air traffic and related potential conflicts in the area. Railways are not expected to be affected by base closure because they would not be used for closure-related transport.

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Ground Traffic. During the closure period, traffic would increase due to freight shipment of equipment, supplies, and materials from Myrtle Beach AFB to the receiving locations. It is estimated that 3,264 military and 950 civilian employees would relocate as a result of base closure. Each employee represents a workstation that contains, on average, 3,000 pounds of equipment. Employee workstation equipment and supplies, therefore, represents 6,371 tons of materials that would be transported from Myrtle Beach AFB to a receiving location. Based on a truck capacity of 18,000 pounds, approximately 1,406 truck-trips would be required to transport workstation equipment during the closure period.

Household goods would also be transported from Myrtle Beach AFB during the closure period. Based on 865 onbase houses requiring relocation, 5 rooms per house, and 1,000 pounds per room, approximately 2,163 tons of household goods would be transported during the closure period. Assuming a truck capacity of 18,000 pounds, approximately 482 truck trips would be required to transport household goods from Myrtle Beach AFB to the receiving location.

Based on the above assumptions, a total of 1,888 truck-trips would be generated by the transport of workstation equipment and onbase household goods during the closure of Myrtle Beach AFB. Based on the transport of equipment and household goods on 10 days each quarter over the 1-year closure period, approximately 48 truck-trips per day would be added to the local roadway network. These additional vehicle trips would represent a very small increase to existing traffic volumes on the highways directly serving the base (U.S. 17 and U.S. 17 Business) and the other major arterials in the base vicinity (U.S. 501, S.C. 707, S.C. 544) (Table 3.1.1-1). In addition, these truck-trips would be scheduled to avoid morning and afternoon peak traffic times. Therefore, closure-related truck transport should have no significant effect on traffic flow in the base vicinity.

Transport of household goods for base military and civilian employees living offbase who would leave the Myrtle Beach area would occur sporadically over a period of at least 1 year. Transport of household goods for persons leaving the area because of secondary economic effects (Section 4.1.1.1) would be distributed over an even longer period. Therefore, it is very unlikely that transport of these persons and household goods would generate enough truck traffic at the same time and place to affect local traffic flow.

Air Traffic. Cessation of military aircraft operations from Myrtle Beach AFB would reduce existing conflicts between Myrtle Beach AFB/Jetport traffic and traffic from Grand Strand and Conway airports as described in Section 3.1.1.3. As the present level of interference is low, this is considered

a minor improvement. The potential for conflicts between civilian air traffic from the Jetport and traffic from the other two airports would remain. Closure of the base would presumably remove the existing limit on commercial flights. Because the present number of commercial flights to the Jetport (25-27/day) is well below the limit set by the new Joint Use Agreement (46/day), the absence of this restriction is not likely to have any practical effect on the number of flights to the Jetport in the near future.

Closure of Myrtle Beach AFB would require transfer of air traffic control for the Jetport, and for the much larger area up to 10,000 feet mean sea level (MSL) (Figure 3.1.1-7) to the FAA. The responsibility for approach and departure air traffic control into and out of the Jetport may have to be assumed by the Jetport itself. Scheduling responsibility for the Gamecock's Military Operating Areas (MOAs) would be transferred to another military installation in the region, possibly Shaw AFB. Any required environmental documentation related to changed use of the MOA would be accomplished by the gaining agency.

4.1.1.4 Utilities

Water Supply. Except for the 73 Tactical Control Squadron (TCS), which receives its water supply from the City of Myrtle Beach, Myrtle Beach AFB supplies its own water needs through groundwater wells and does not use the local water supply provided by the Grand Strand Water and Sewer Authority to the area surrounding the base. Base closure would result in the loss of approximately 1,000 offbase units currently occupied by military or civilian employees of the base who use the local utility water services. Closure of Myrtle Beach AFB would not eliminate utility-supplied water since some usage would be required for caretaker activities in the interim period until final disposition of the base is determined.

Wastewater Treatment. The closure of Myrtle Beach AFB would result in the loss of approximately 16 percent of the annual average flow of wastewater treated at the Grand Strand Water and Sewer Authority Schwartz Wastewater Treatment Plant. In addition, approximately 7 percent of the plant's annual average daily flow would be lost because of the vacating of offbase residences serviced by the Grand Strand Water and Sewer Authority inhabited by either military or civilian employees of the base, or by persons expected to leave the area due to secondary economic effects. The wastewater flow reduction would have no direct adverse impact on the capacity or operation of the Schwartz Wastewater Treatment Plant. Approximately 7,600 military and civilian employees live offbase and are serviced by the Myrtle Beach Wastewater Treatment Plant. Loss of these customers would result

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in a reduction of approximately 0.8 million gallons per day (MGD) or 9 percent of the annual average flow treated at the plant. No direct adverse impact on the capacity or operation of the Myrtle Beach Wastewater Treatment Plant or hydraulic impacts on the collection and sewer systems is expected.

Solid Waste. Implementing base closure would result in a short-term increase in the amount of solid waste generated by the base from closure and removal activities and disposed of in the Horry County Landfill. This short-term increase, however, would be offset by the 8,181 cubic yards (approximately 4,000 tons) per month normally generated by the base after closure. This reduction in the amount of waste from the base would extend the useful life of the landfill somewhat.

Energy. Base closure would result in a TBS percent decrease in the electric power purchased from the Santee Cooper Power Company. Electrical power would continue to be used to operate navigational aids and other aviation-related activities associated with the Myrtle Beach Jetport. Closure of Myrtle Beach AFB would not eliminate all power consumption since some electrical usage would be required for caretaker activities in the interim period until final disposition of the base is determined.

Closure of Myrtle Beach AFB would not result in a significant effect on the base supplier of natural gas, South Carolina Electric and Gas Company. Natural gas was just recently supplied to the base (fiscal year 1990), and potential annual usage is estimated at TBS. This represents approximately TBS percent of the gas supplied by South Carolina Electric and Gas.

4.1.2 Hazardous Materials

4.1.2.1 Hazardous Waste Management - TBS

4.1.2.2 Installation Restoration Program Sites

Activities to clean up past hazardous waste disposal sites identified in the Installation Restoration Program (IRP) would continue at Myrtle Beach AFB. IRP remedial investigation/feasibility studies and subsequent remedial action is independent of the base closure process and will continue until cleanup is completed. Closure of the base would have little potential for adversely affecting clean up of hazardous waste sites under IRP. However, sites under investigation would be restricted from future development until remedial actions have been completed.

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The closure of Myrtle Beach AFB would also prevent new hazardous wastes from being generated by military activities. The elimination of hazardous materials use and the clean up of hazardous waste sites and waste storage areas would have a positive impact on the biological and physical environment of the base.

4.1.2.3 Hazardous Materials Storage and Handling

Closure of Myrtle Beach AFB would result in all the base underground tanks being taken temporarily out of operation or abandoned. Any tank that is taken temporarily out of operation shall continue to be subject to operating requirements of the South Carolina Underground Storage Tank Control Regulation (SCUSTER) Section R. 61-92.7, or the tanks would be drained and the fill line and gauge openings would be capped or plugged. Tank vent lines would remain open. Tanks abandoned in-place would have all regulated substances removed; suction, inlet, gauge, and vent lines disconnected; filled completely with a clean inert solid material; and remaining piping capped below grade. Underground tanks that have been abandoned or placed temporarily out of operation would be reported to the South Carolina Department of Health and Environmental Control (DHEC) according to SCUSTER Section R.61-92.7.H. Aboveground storage tanks and associated piping would be drained and rendered temporarily out of service, except for the tank owned by the Myrtle Beach Pipeline Company. This tank most likely would remain in operation to support the commercial aviation activities associated with the Myrtle Beach Jetport. The removal from operation or abandonment of the remaining tanks is expected to have minor beneficial impacts on the environment since the hazardous materials which they contain would be removed, thus eliminating the potential for future spills to contaminate soils and groundwater. All underground tanks scheduled for removal would be removed in accordance with the approved Underground Storage Tank Management Plan for Myrtle Beach AFB (May 1988) and SCUSTER Section R.61-92.

Hazardous materials stored and used onbase, including herbicides and pesticides, would be shipped and used elsewhere or sold as excess in accordance with applicable federal and state regulations. Hazardous wastes collected during the base closure process would be disposed of through the Myrtle Beach AFB Defense Reutilization and Marketing Office (DRMO). All waste currently stored at Myrtle Beach AFB would be disposed of in accordance with applicable Resource Conservation and Recovery Act (RCRA) regulations, and all residual contamination would be remediated in accordance with an Environmental Protection Agency (EPA)-approved Remedial Action Plan (RAP). The two facilities at Myrtle Beach AFB that are classified as Treatment, Storage, and Disposal Facilities (TSDF), Waste Fuels Storage Area (Facility #89008) and DRMO Storage Facility (#45203), would be

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closed according to the closure plans included as Attachment 4 of the Hazardous Waste Management Plan for Myrtle Beach AFB, South Carolina (January 1988). Attachment 4 briefly describes the facility conditions, procedures for removing all waste inventory and decontamination of the facility, completed closure certification to DHEC procedures, and the name and telephone number of the postclosure contact person. Minor beneficial impacts to public health, water resources, soils, and biological resources would result from the reduction of current hazardous waste disposal activities and potential spills. In addition, potential effects from the storage and use of greater than 50-parts per million polychlorinated biphenyls (PCB)-containing equipment would be eliminated from the Myrtle Beach AFB area resulting in a minor beneficial impact. A negligible beneficial impact is expected from permitted radioactive sources being returned to the Air Force supply system for reuse.

4.1.2.4 Underground Storage Tanks - TBS

4.1.2.5 Asbestos

A survey of asbestos-containing materials on Myrtle Beach AFB will be completed prior to base closure. To the extent that it is present in existing structures in good condition (i.e., not friable and prone to release airborne asbestos fibers), asbestos would remain at Myrtle Beach AFB but would have little potential for adverse environment impacts unless disturbed. The base is currently preparing a Base Asbestos Plan containing abatement procedures for those facilities having asbestos identified as posing a potential public health risk. Removal of asbestos-containing material in these facilities will continue as necessary to protect facility occupants.

4.1.2.6 Polychlorinated Biphenyls

Transformers and equipment contaminated with at least 50 ppm PCBs are scheduled for replacement or for flushing the contaminated fluid until the PCB concentration is below 50 ppm. Disposal of stored PCB or PCB-contaminated transformers/capacitors will be completed prior to base closure. Potential effects from the storage and use of high-level PCB-containing equipment would be reduced. A minor beneficial impact is expected with completion of the base PCB abatement program.

4.1.2.7 Radon

The Initial Screen Survey Results of the Radon Assessment and Mitigation Program (RAMP) indicated radon concentrations less than 2 picocuries per liter (pci/l) for sampled Myrtle Beach AFB structures.

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Radon concentrations less than 4 pci/l pose no significant health risk; therefore, mitigation activities are not necessary or advised at Myrtle Beach AFB.

4.1.2.8 Radioactive Materials

No radioactive materials are stored on the base; therefore, no impacts are expected.

4.1.2.9 Ordnance

Under base closure, all ordnance would be removed from the base, and the related hazards to onbase and offbase personnel would be removed.

4.1.3 Physical Environment

4.1.3.1 Geology and Soils

Geology. Withdrawal of personnel, equipment, and supplies from Myrtle Beach AFB would have no effect on the geology of the area. Additionally, because the federal government would retain ownership and mineral rights, there would be no effect on the availability of mineral resources which may be deemed commercially valuable.

Soils. Closure of the base may have some positive impacts to base soils since there would not be any new construction of military facilities, and consequently, no grading, excavation, erosion, or other disturbance of topsoil. Any risk of new soil contamination created by spills or accidental release of hazardous materials caused by military operations would be eliminated. Soils which are currently contaminated with hazardous wastes would continue to be remediated under the IRP, as described in Section 4.1.2.

4.1.3.2 Water Resources

Groundwater. Myrtle Beach AFB obtains its water from four deep wells drilled into the Black Creek aquifer and two shallow wells which tap the local water table aquifer system. During FY 1989, Myrtle Beach AFB pumped an average of 58,000 gallons per day (gpd). Prior to the City of Myrtle Beach changing to surface water from the Intracoastal Waterway for its water needs, groundwater pumpage in the area was estimated at approximately 10 million gpd. Closure of the base would

further decrease water demand on these aquifers; however, there would be no positive discernible effect on the municipal and other public water supply wells and industrial wells in the area.

Surface Water. A beneficial impact on surface water quality would result with closure of Myrtle Beach AFB. Water pollutant discharges, regulated under a National Pollutant Discharge Elimination System permit, to the small drainage ditches near the industrial areas of the base would end and result in improved water quality. In addition, nonpoint source surface water runoff contamination from industrial operations areas, and other military activities would be eliminated with base closure.

4.1.3.3 Air Quality

Implementation of base closure at Myrtle Beach AFB would produce short-term air quality impacts as a result of emissions from transport vehicles hauling personal belongings, equipment, and materials from the base. Fugitive dust emissions from base construction activities would cease, resulting in a minor positive impact. Demolition of existing structures, a potential fugitive dust source, is not expected. No air quality impacts are expected from the removal of hazardous materials or hazardous waste from the base since these activities would be conducted in accordance with strict federal and state regulations and guidelines. The expected increase in transport vehicle emissions during the implementation of the proposed action should be offset by the concurrent decrease in emissions because of reduction of normal base operations. Table 4.1.3-1 compares the estimated transport vehicle emissions resulting from base closure and the anticipated reduction in total base emissions from drawdown.

When base closure is complete, air emissions from the base would be drastically reduced as shown on Table 4.1.3-1. Emissions from military aircraft, ground vehicles, operations, heating, employee commuting, and other operational sources would be eliminated. The civilian aircraft operations associated with the Myrtle Beach Jetport would continue to produce emissions because this activity is not associated with base closure. Table 4.1.3-2 shows the estimated 1993 commercial aircraft operations emissions at the Myrtle Beach Jetport and the percent increase and/or decrease in emissions from 1987 military and civil aircraft operation emissions. Reduction of total base emissions by the amounts indicated in Table 4.1.3-1 would more than offset the estimated increase from future commercial aircraft. A reduction of approximately 88 tons per year (T/yr) of hydrocarbons, 577 T/yr of carbon monoxide, and 72 T/yr of nitrogen oxides would also be expected because of the removal of private vehicle emissions associated with the outmigration of civilian and offbase military personnel. However, since the area is in attainment with the state ambient air quality standards and

Table 4.1.3-1

**Transport Vehicle Air Emissions
Resulting from Base Closure
(tons per year)**

Source	Particulates	CO	SO _x	NO _x	HC
Transport Vehicles ¹ (on and offbase)	+0.52	+1.32	+0.51	+2.7	+0.46
Myrtle Beach AFB ² (drawdown)	-6.48	-838.8	-53.1	-120.6	-501.3
Net (Reduction) during drawdown	(5.96)	(851.5)	(52.6)	(117.9)	(556.5)
Myrtle Beach AFB CY89 Normal ³ Operations	7.2	932	59	134	557

NOTES: ¹Assumes 4,800 trucks/yr and 30-mile travel distance.
²Assumes 90% reduction from Myrtle Beach AFB CY88 air emissions.
³Myrtle Beach AFB Air Pollution Emission Inventory (January 1989)

Table 4.1.3-2

**Estimated Future (1993) Commercial Aircraft
Operations Emissions at Myrtle Beach Jetport¹
(tons per year)**

	CO	NO _x	HC	SO _x	Particulates
Increase (decrease) over 1987 operation emissions (Table 3.1.3-3)	395 (54%)	195 (4%)	111 (81%)	24 (19%)	7.6 (20%)

NOTES: ¹Based on projected 1993 aircraft operations (runway strengthened alternative) in Environmental Assessment for Amendment of the Joint Use Agreement on Myrtle Beach AFB, South Carolina (LPA Group 1989). See Table 4.1.3-3.

the National Ambient Air Quality Standards for all criteria pollutants, the improvement in air quality would not be discernible and is considered not significant.

4.1.3.4 Noise

Noise levels generated from ground transportation activities associated with base operations would be reduced significantly because of the reduction in military, commercial supplier, contractor, and dependent traffic. During drawdown and closure, the movement of equipment, supplies, household goods, and personnel may cause the local area traffic noise levels to increase slightly; however, this short-term effect would be offset by the overall reduction of military aircraft noise.

The closure of Myrtle Beach AFB would result in the withdrawal of all Air Force A-10 aircraft and transient military flights. The Myrtle Beach Jetport would continue civil aircraft operations. Noise level contours for existing conditions and base closure are shown in Figures 4.1.3-1 (TBS) and 4.1.3-2 (TBS), respectively. Aircraft activity levels considered in developing these contours are presented in Table 4.1.3-3. The size of the area within the 65 decibels on the A-weighted scale (dBA) day/night sound level (L_{dn}) contour would decrease from the existing TBS acres to TBS acres, a significant decrease. The related reduction in land use incompatibilities is discussed in Section 4.1.1.2.

The Federal Highway Administration noise model STAMINA was used to estimate the noise levels resulting from vehicular traffic on U.S. 17 and U.S. 17 Business. The present L_{dn} noise levels range from 60 to 63 dBA at a distance of 100 feet from the highways. The projected reduction in traffic along these highways, due to base closure (Section 4.1.1.3), would result in lowering the L_{dn} values by 2 to 3 dBA. These small changes in L_{dn} levels would not be detectable in the relatively high background noise levels that currently exist along these highways. The noise impacts, therefore, would not be significant.

4.1.3.5 Biological Resources

Vegetation. Biological resources would experience both positive and negative impacts as a result of base closure. Habitat quality would improve to some degree in certain areas and decrease in others since habitat maintenance and improvement programs would be cancelled. Any potential for disturbance because of military operations would be removed, although the loading of equipment and property during closure may cause temporary damage to adjacent vegetated areas. This damage is

Table 4.1.3-3

**Average Daily Operations
Myrtle Beach Jetport/Air Force Base**

Operating Unit	Type Aircraft	Operations Per Average Operational Day (1987)	Base Closure (1993)
<u>Military Operations</u>			<u>TBS</u>
354 TFW	A-10	183.94	--
Det 11 ARRS	H-3	3.62	--
MBAFB Aero Club	Misc.	<u>7.97</u>	<u>--</u>
Subtotal-Based Aircraft		195.53	--
Transient Military	Various Tactical, Trainer, Helicopter & Transport Aircraft	13.91(0)	--
Subtotal-Military		<u>209.44</u>	<u>0</u>
<u>Commercial Operations</u>			
Piedmont Airlines	B737-200	9.69(0.71L, 0.71T)	
	B737-300	4.05(0.29L, 0.29T)	
	B737-400	--	34.0(1.0L, 1.0T)
	B727-200	--	6.0
	F28	1.46	
	Barron	<u>--</u>	
Subtotal		15.20	
USAir	DC-9	2.52	
	BAC-111	<u>4.35</u>	
Subtotal		6.87	
American Eagle	SWM	3.78	
Atlantic SE Airlines	EMB 120	6.35	14.0 (1.0L, 1.0T)
Eastern Atlantis	Jetstream 31	15.71	
Express	DH-8	<u>--</u>	<u>18.0</u> (1.0L, 1.0T)
Subtotal-Commercial		<u>47.91</u>	<u>72.0</u>
TOTAL:		257.35	72.0

Source: Environmental Assessment of Proposed Changes in the Joint Use Agreement, for the Myrtle Beach AFB, 1989.

expected to be negligible. Maintenance of landscaped areas and grass lawns would be reduced to and ditches would eventually fill in, and shrubs and trees would become established to create new habitat. levels necessary to retain a neat appearance. Species diversity of plants may increase to some extent in these areas to create some improvement in habitat quality. Management of forested areas is likely to cease, and dense understory would redevelop in controlled burn areas to cause a decrease in habitat suitability for wildlife. Those areas that have not yet been burned would remain more or less the same although hardwoods would eventually become more dominant. Wildlife habitat in the mixed pine-hardwood forests would become less suitable as these areas become more densely vegetated. Wildlife food plots would no longer be maintained and would revert to a mixed herbaceous area if occasional maintenance is provided.

Wetlands. Base closure would have no effect on wetlands, because closure would cause no direct disturbance of wetlands and surface drainage patterns onbase would not change substantially. The possible exception would be a beneficial impact on wetlands. Without continual maintenance, the riverine systems onbase, which are actually man-constructed ditches, would become more heavily vegetated resulting in habitat improvement for reptiles and amphibians. If left unattended, the canals

Wildlife. The reduction of operations would likely have a positive impact on area wildlife but to an unknown degree. Although such effects have not been documented, it is likely that current base activities such as aircraft operations, vehicular activities, construction, and general human activities cause some disturbance of wildlife onbase and in adjacent areas. Closure of the base would remove most of these sources of disturbance.

The effects of noise on wildlife varies among animal species because of differences in hearing ability. Additionally, species differ greatly in their response to noise depending on a variety of factors including volume and duration of the noise, time of day and year, physical condition of the animal, previous exposure to the noise, and whether or not other physical stressors (e.g., drought) are present. Aircraft noise is known to illicit a startle response in wildlife, but accompanying physiological effects are not well studied. Disturbance of wildlife by civilian aircraft operations would continue.

Threatened and Endangered Species. No threatened or endangered species would be affected by closure of Myrtle Beach AFB. Except for the American alligator, the presence of any federally listed species onbase or in adjacent areas is unlikely. In addition, base closure would result in no disruption of habitat or disturbance of biota that could affect endangered species adversely. For the same reasons, no impacts to other rare animal and plant species are expected to occur.

4.1.3.6 Cultural and Paleontological Resources

Prehistoric Resources. Base closure would not result in a significant impact on prehistoric resources. The 14 identified archaeological sites onbase have been highly disturbed and do not have sufficient integrity to be considered eligible for the National Register of Historic Places (NRHP) (Section 3.1.3.6).

Historic Resources. Base closure activities would not have an impact on historic resources. Under caretaker status, the three structures and one historic complex considered potentially NRHP eligible would not deteriorate in a manner which would affect their potentially significant characteristics. Formal evaluations and determinations of NRHP eligibility would require additional fieldwork and/or archival research as part of reuse studies if the base is closed.

Paleontological Resources. Base closure would not affect paleontological resources because fossiliferous formations are buried at depths of at least 50 feet.

4.1.4 Relationship Between Short-Term Uses and Long-Term Productivity of the Environment

The closure of Myrtle Beach AFB is being studied as a result of military force restructuring. The closure would discontinue all current active military uses of the base.

After closure, the risk of accidental hazardous material spills or releases due to active military operations would no longer exist. However, the risk of unintended releases of hazardous materials from the day-to-day operations of the base would continue. The IRP sites currently under investigation would be precluded from development until they have been fully investigated and any necessary clean-up is completed. In addition, the risk of military aircraft accidents would be significantly reduced.

The long-term socioeconomic productivity of the greater Myrtle Beach area is not discussed in this EIS. A second EIS will be prepared to address the Air Force's proposed final disposition of the base property, including community reuse. When the proposed reuse(s) is identified, an economic impact study will be completed to examine socioeconomic factors. That study will be included in the reuse EIS.

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The overall impacts to the environment from the closure of Myrtle Beach AFB will be beneficial in the short term. The long-term impacts are unknown because the future uses of the base have not been determined.

4.1.5 Irreversible and Irretrievable Commitment of Resources

Irreversible and irretrievable commitments of resources due to the closure of Myrtle Beach AFB will be minor.

4.1.6 Potential Mitigation Measures - TBS

4.2 DAVIS-MONTHAN AFB, ARIZONA - TBS

4.3 ENGLAND AFB, LOUISIANA - TBS

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5.0 CONSULTATIONS AND COORDINATION

Listed below are the federal, state, and local agencies; private organizations; and individuals that were contacted during the course of preparing this EIS. A number of other agencies and public officials were notified of the scoping meetings and to provide comments on the EIS. These are listed in Appendix C, Draft Environmental Impact Statement Mailing List.

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- South Carolina Water Resources Commission, Columbia, South Carolina
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APPENDIX A - GLOSSARY OF TERMS AND ACRONYMS

TERMS

Active Fault. A fault on which movement has occurred during the past 10,000 years and which may be subject to recurring movement usually indicated by small, periodic displacement or seismic activity.

Advisory Council on Historic Preservation. A 19-member body appointed, in part, by the President of the United States to advise the President and Congress and to coordinate the actions of federal agencies on matters relating to historic preservation, to comment on the effects of such actions on historic and archaeological cultural resources, and to perform other duties as required by law (Public Law 89-655; 16 USC § 470).

Air Installation Compatible Use Zone. A concept developed by the Air Force to promote land use development near its airfields in a manner that protects adjacent communities from noise and safety hazards associated with aircraft operations, and to preserve the operational integrity of the airfields.

Alluvium. A general term applied to sediments deposited by a stream or running water.

Ambient Air. That portion of the atmosphere, outside of buildings, to which the general public has access.

Ambient Air Quality Standards. Standards established on a state or federal level that define the limits for airborne concentrations of designated "criteria" pollutants (e.g., nitrogen dioxide, sulfur dioxide, carbon monoxide, total suspended particulates, ozone, lead, and hydrocarbons) to protect public health with an adequate margin of safety (primary standards) and to protect public welfare, including plant and animal life, visibility, and materials (secondary standards).

Aquifer. The water-bearing portion of subsurface earth material that yields or is capable of yielding useful quantities of water to wells.

Archaeology. A scientific approach to the study of human ecology, cultural history, and cultural process.

Arterial. Signalized streets with signal spacings of 2 miles or less and turning movements at intersections that usually do not exceed 20 percent of total traffic. Urban arterials primarily serve through-traffic, and, as a secondary function, provide access to abutting properties (urban); roadways that provide large traffic volume capacity between major traffic generators, designed to facilitate traffic movement and discourage land access when feasible. Includes primary state roads (functional).

Artifact. Anything that owes its shape, form, or placement to human activity. In archaeological studies, the term is applied to portable objects (e.g., tools and the by-products of their manufacture).

Attainment Area. An area that has been designated by the Environmental Protection Agency and the appropriate state air quality agency as having ambient air quality levels below the ceiling levels defined under the National Ambient Air Quality Standards.

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Attenuation. A decrease in the amplitude or energy (intensity) of a seismic wave with distance from the epicenter.

Average Annual Daily Traffic. For a 1-year period, the total volume passing a point or segment of a highway facility in both directions, divided by the number of days in the year.

Baseline. The existing and future-growth characterization of an area without the proposed program.

Bedrock. Geologic formation or unit which underlies soil or other unconsolidated surficial deposits.

Bonds. Financial instruments used by government agencies to fund major capital improvement projects; typically either a general obligation bond or revenue bond.

Budget. Document prepared by a government unit which estimates future revenues expected to be collected and the expenditure needs of the jurisdiction in a forthcoming fiscal year or years; includes estimates of potential revenues and expected expenditures by major fund groups (governmental funds, proprietary funds, and fiduciary fund types).

Capacity (Transportation). The traffic-carrying ability of a facility while maintaining prescribed operational qualities (e.g., a specific level of service); the maximum amount of traffic that can be accommodated by a given facility. (Note: Traffic facilities generally operate poorly at or near capacity, and facilities are rarely designed or planned to operate within this range.)

Capacity (Utilities). The maximum load a system is capable of carrying under existing service conditions.

Capital Costs. Expenditures by local governments on physical infrastructure.

Cenozoic. An era in geologic history extending from 66 million years ago to the present which is characterized by the rapid evolution of mammals, birds, grasses, shrubs, and higher flowering plants.

Civilian Labor Force. The sum of the number of persons who are unemployed but able, willing, and actively seeking work and the number of nonmilitary persons who are working. The number of unemployed divided by the civilian labor force defines the unemployment rate. Military personnel are not considered in the unemployment rate calculations because, by definition, persons working in the military are fully employed and inclusion would tend to skew rates downward.

Climate. The prevalent or characteristic meteorological conditions (and their extremes) of any given location or region.

Collector Streets. Surface streets that provide land access and traffic circulation service within residential, commercial, and industrial areas (urban); secondary roads that provide access to higher-type roads, connect small communities and nearby areas, and serve adjacent property (functional).

Comprehensive Plan. A public document, usually consisting of maps, text, and supporting materials, adopted and approved by a local government legislative body, which describes future land uses, goals, and policies.

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Confined Aquifer. An aquifer that is overlain by an impermeable stratum and within which water pressure may build up so that penetration by a well will result in a static water level that is considerably higher than the top of the aquifer.

Corridor. A strip of land of various widths on both sides of a particular linear facility such as a highway or rail line.

Cultural Complex. A group of artifacts and sites that are distinct from other groups.

Cumulative Impacts. The combined impacts resulting from all programs occurring concurrently at a given location.

Decibel. The unit of measurement of sound level calculated by taking ten times the common logarithm of the ratio of the magnitude of the particular sound pressure to the standard reference sound pressure of 20 micropascals and its derivatives.

Decommissioning. The process of removing a weapon system from service.

Delay. Additional travel time experienced by a driver, passenger, or pedestrian beyond what would reasonably be desired for a given trip.

Deployment. Strategic emplacement of a weapon system.

Developed. Said of land, a lot, a parcel, or an area that has been built upon, or where public services have been installed prior to residential or commercial construction.

Direct Effects. Effects that are immediate consequences of program activities. In economics, the initial increase in employment and income resulting for program employment and material purchases before the indirect effects of these changes are measured.

Direct Employment. Military and civilian personnel who are employed by the Department of Defense and its contractors, and who are working onsite on the program.

Direct Expenditure. Expenditures of local governments directly related to the provision of goods or services.

Direct Impact. Effects resulting solely from program implementation.

Disturbed Area. Land that has had its surface altered by grading, digging, or other construction-related activities.

Effect. A change in an attribute. Effects can be caused by a variety of events, including those that result from program attributes acting on the resource attribute (direct effect); those that do not result directly from the action or from the attributes of other resources acting on the attribute being studied (indirect effect); those that result from attributes of other programs or other attributes that change because of other programs (cumulative effects); and those that result from natural causes (e.g., seasonal change).

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Effluent. Wastewater discharge from a wastewater treatment facility.

Employment. The total number of persons working (includes all wage and salary workers), both civilian and military, and proprietors.

Endangered Species. A species that is threatened with extinction throughout all or a significant portion of its range.

Energy. The capacity for doing work; taking a number of forms which may be transformed from one into another, such as thermal, mechanical, electrical, and chemical; in customary units, measured in kilowatt-hours or British thermal units.

Environmental Impact Analysis Process. The process of conducting environmental studies as outlined in Air Force Regulation 19-2.

Eocene. An epoch of the Tertiary period extending from about 58 million to 36 million years ago.

Expenditure. A disbursement of funds by a government entity; includes operation and maintenance costs, as well as capital costs.

Fault. A fracture or zone of fractures along which there has been movement of the sides relative to one another and parallel to the fracture.

Fault Zone. An area or region that is expressed as a zone of numerous fractures or faults.

Fauna. Nonportable portion of an archaeological site. These include facilities such as fire pits, storage pits, or foundations.

Fiscal Year. In government finance, the 12-month period that corresponds to the jurisdiction's accounting period, typically beginning July 1st and ending June 30th.

Floodplain. The relatively flat land lying adjacent to a river channel that is covered by water when the river overflows its banks.

Flora. Plants; organisms of the plant kingdom taken collectively.

Fugitive Dust. Particulate matter composed of soil that is uncontaminated by pollutants from industrial activity. Fugitive dust may include emissions from haul roads, wind erosion of exposed soil surfaces, and other activities in which soil is either removed or redistributed.

Fugitive Emissions. Emissions released directly into the atmosphere that could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening.

General Fund. One of the governmental fund types, used to account for all financial transactions and resources except those required to be accounted for in other funds. Typically supports governmental activities supported by local taxes, for example, public safety, public health, and general administration functions. In school districts, accounts for all direct instructional costs.

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General Obligation Bond. Financial instrument used by government agencies to fund major capital improvements; backed by full faith and credit of the issuing agency. The total amount of general obligation bond indebtedness is subject to statutory limitations, measured as a percentage of the jurisdiction's tax base. Used primarily for general purpose projects (e.g., administrative facility construction, parkland acquisition, and law enforcement and fire protection facility construction) that do not lend themselves to revenue bond financing.

Geologic Unit. A geologic formation, group, or member.

Group. A stratigraphic unit consisting of two or more contiguous or associated geologic formations.

Hazardous Materials. Both nonradioactive (e.g., missile propellants and diesel fuel) and radioactive materials.

Hazardous Waste. A waste, or combination of wastes, which, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may either cause, or significantly contribute to an increase in mortality or an increase in serious irreversible illness; or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

Historic. A period of time after the advent of written history dating to the time first Euro-American contact in an area. Also refers to items primarily of Euro-American manufacture.

Holocene. The time since the end of the Pleistocene epoch, characterized by the absence of large continental or Cordilleran ice sheets and the extinction of large mammalian life-forms. Generally considered to be the last 10,000 years.

Household Size. The average number of individuals residing in a single dwelling unit.

Hydrology. The science dealing with the properties, distribution, and circulation of water on the surface of the land and in the soil and underlying rocks.

Impact. An assessment of the meaning of changes in all attributes being studied for a given resource; an aggregation of all the adverse effects, usually measured using a qualitative and nominally subjective technique.

Indirect Employment. Employment resulting from the purchases of workers who are directly working on a specified program. Also includes any subsequent employment arising from the increase in purchases in the area.

Indirect Impacts. Program-related impacts (usually population changes and resulting impacts) not directly attributable to the program itself. For example, direct program employees will spend some of their income locally. As a result, local industries will tend to hire more workers as they expand in response to the increased demand. This additional employment is termed an "indirect impact."

Interstate. The designated National System of Interstate and Defense Highways located in both rural and urban areas; they connect the East and West coasts and extend from Canadian border points to various points on the Mexican border.

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Kilowatt. A unit of power equivalent to 1,000 watts.

Land Use Plans and Policies. Guidelines adopted by governments to direct future land use within their jurisdictions.

L_{24} Noise Level. The 24-hour average-energy sound level expressed in decibels, with a 10-decibel penalty added to sound levels between 10:00 P.M. and 7:00 A.M.

L_{eq} Noise Level. A constant amount of acoustic energy equivalent to the energy contained in the time-varying noise measured from a given source for a given time.

Level of Service. In transportation analyses, a qualitative measure describing operational conditions within a traffic stream and how they are perceived by motorists and/or passengers. In public services, a measure describing the amount of public services (e.g., fire protection and law enforcement services) available to community residents, generally expressed as the number of personnel providing the services per 1,000 population.

Long Term. Impacts that would occur over an extended period of time, whether they start during the construction or operations phase. Most impacts from the operations phase are expected to be long term since program operations essentially represent a steady-state condition (i.e., impacts resulting from actions that occur repeatedly over a long period of time). However, long-term impacts could also be caused by construction activities if a resource is destroyed or irreparably damaged or if the recovery rate of the resource is very slow.

Megawatt. One thousand kilowatts or one million watts.

Mesozoic. An era in geological history, ranging from about 245 million to 66 million years ago, characterized by the development of reptiles.

Microgram. One-millionth of a gram.

Miocene. An epoch of the Tertiary period, 24 million to 5 million years ago, marked by the development of apes and the appearance of ancestral gibbons.

Mitigation. A method or action to reduce or eliminate program impacts.

Multifamily Housing. Townhouse or apartment units that accommodate more than one family though each dwelling unit is only occupied by one household.

Multilane Highway. A highway with at least two lanes for the exclusive use of traffic in each direction, with no or partial control of access, that may have periodic interruptions to flow at signalized intersections.

National Register of Historic Places. A register of districts, sites, buildings, structures, and objects important in American history, architecture, archaeology, and culture, maintained by the Secretary of the Interior under authority of Section 2(b) of the Historic Sites Act of 1935 and Section 101(a)(1) of the National Historic Preservation Act of 1966, as amended.

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Native Americans. Used in a collective sense to refer to natives of North America.

Native Vegetation. Plant life that occurs naturally in an area without agricultural or cultivational efforts.

Nonattainment Area. An area that has been designated by the Environmental Protection Agency and the appropriate state air quality agency as exceeding one or more National Ambient Air Quality Standards.

Paleontological Resources. Fossilized organic remains from past geological periods.

Paleozoic. An era in geological history occurring between 570 million and 245 million years ago, marked by the culmination of almost all invertebrates except the insects; in its later periods, marked by the first appearance of land plants, amphibians, and reptiles.

Peak Demand. The highest instantaneous amount of electrical power (in kilowatts) that an electrical system is required to supply over a given time frame, usually 1 year.

Peak Hour. The hour of highest traffic volume on a given section of roadway between 7 A.M. and 9 A.M. or between 4 P.M. and 6 P.M.

Peak Year. The year when a particular program-related effect is greatest.

Permanent Housing. Units intended for year-round use.

Personal Income. Current income received by persons from all sources; includes transfer payments from governments or businesses.

Pleistocene. The last 1.6 million years of geological history, marked by repeated glaciation and the first indication of social life in human beings.

Pliocene. An epoch of the Tertiary period extending from about 5 million to 1.6 million years ago.

Precambrian. All geologic time before the Paleozoic era, equivalent to about 90 percent of geologic time.

Prehistoric. The period of time before the written record, and before Europeans entered an area.

Primary Road. A consolidated system of connected main roads important to regional, interstate, and statewide travel; they consist of rural arterial routes and their extensions into and through urban areas of 5,000 or more population.

Prime Farmland. Land that has the best combination of physical and chemical characteristics for producing food, feed, fiber, forage, oilseed, and other agricultural crops with minimum inputs of fuel, fertilizer, pesticides, and labor, and without intolerable soil erosion, as determined by the Secretary of Agriculture (Farmland Protection Policy Act, 7 CFR § 658).

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Principal Aquifer. The particular aquifer that supplies the majority of the groundwater used in a given region.

Quaternary. A geologic period representing the last 1.6 million years of earth's history which includes the Pleistocene and Holocene (Recent) epochs.

Recent. A geologic epoch of the Quaternary period representing the last 10,000 years of geologic time.

Recharge. The process by which water is absorbed and added to the zone of saturation, either directly into a formation or indirectly by way of another formation.

Region of Influence. That area where program-induced effects of any magnitude may be expected to occur.

Revenue. Money that a government entity collects or receives.

Revenue Bond. Financial instrument used by government agencies to fund major capital improvements. Used for projects that generate revenue from user charges or similar fees or charges that are applied toward both project operation and debt retirement (e.g., water and sewer plant operations).

Riparian. Of or relating to land lying immediately adjacent to a water body, and having specific characteristics of that transitional area (e.g., riparian vegetation).

Runoff. The noninfiltrating water entering a stream or other conveyance channel shortly after a rainfall event.

Secondary Employment. In economics, the additional employment and income generated by the economic activity required to produce the inputs to meet the initial material requirements. The term often is used to include induced effects.

Secondary Highways. Rural major collector routes that carry extensive local traffic.

Seismic. Pertains to the characteristics of an earthquake or earth vibrations including those that are artificially induced.

Short Term. Transitory effects of the proposed program that are of limited duration and are generally caused by construction activities or operations start-up.

Significance. The importance of a given impact on a specific resource as defined under the Council on Environmental Quality regulations.

Single-Family Housing. A conventionally built house consisting of a single dwelling unit occupied by one household.

Soil. A natural body consisting of layers or horizons of mineral and/or organic constituents of variable thickness and differing from the parent material in their morphological, physical, chemical, and mineralogical properties, and biological characteristics.

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Soil Association. A collection of soils found to geographically occur together.

Soil Series. The lowest category used for differentiating groups of soils based on similar properties and characteristics. Soils are homogenous with respect to profile characteristics except for the A or surface horizon, which may vary in texture.

Soil Types. A category or detailed mapping unit used for soil surveys based on phases or changes within a series (e.g., slope, salinity).

Sole Source Aquifer. An aquifer that provides all or most of the potable water in an area and that has been specifically designated by the Environmental Protection Agency as provided for in the Safe Drinking Water Act. Projects that might affect a sole source aquifer are subject to special review procedures.

State Historic Preservation Officer. The official within each state, authorized by the state at the request of the Secretary of the Interior, to act as liaison for purposes of implementing the National Historic Preservation Act.

State Historic Programs. Educational aid programs run by states in support of local school districts. Accounts for majority of revenues available to local districts.

State-Sensitive/State-Recognized Species. Plant and wildlife species in each state that are monitored and listed for purposes of protection.

Tax Revenue. Revenue of local governments, generally based on the valuation of goods or services; includes property, sales, excise, and other miscellaneous taxes.

Temporary Housing. Dwellings meant for occupancy on a temporary basis (generally for less than a month), such as rooms in hotels and motels.

Terrestrial. Living on or in, or growing from, the land.

Tertiary. The first period of the Cenozoic era extending between 66 million and 1.6 million years ago.

Threatened Species. Taxa likely to become endangered in the foreseeable future.

Ton. A unit of weight equal to 2,000 pounds.

Topsoil. The upper or productive layer(s) of a soil.

Total Dissolved Solids. The concentration of solid materials that are dissolved in a sample of water; determined as the weight of the residue of a water sample upon filtration and evaporation divided by the volume of the sample.

Total Water Use. The amount of water withdrawn from the natural resource base for a beneficial purpose, excluding water used for hydroelectric power generation, and certain nonconsumptive uses such as once-through cooling water for thermoelectric power generation, wildlife habitat, and fish farming.

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Triassic. A period of the Mesozoic era extending from about 245 million to 208 million years ago.

Two-Lane Highway. A roadway having a two-lane cross section, with one lane for each direction of flow, and where passing maneuvers must be made in the opposing lane.

Unconfined Aquifer. An aquifer where the water table is exposed to the atmosphere through openings (pores) in the overlying materials.

Unemployment Rate. The number of civilians, as a percentage of the total civilian labor force, without jobs but actively seeking employment.

Unique and Sensitive Habitats. Areas that are especially important to regional wildlife populations or protected species that have other important biological characteristics (e.g., severe wintering habitats, nesting areas, and wetlands).

Upland. Ground elevated above bottomlands (e.g., rolling hill terrain and terraces).

Volume (Transportation). The total number of vehicles that pass over a given point or section of a roadway during a given time interval. Volumes may be expressed in terms of annual, daily, hourly, or subhourly periods.

Water Table. The sustainable volume of water discharged from a well per units of time, often expressed in gallons per minute.

Waterfowl. Birds species (e.g., ducks, geese, cranes) that live on or near water bodies.

Watershed. See Basin.

Watt. A unit of electrical power equal to 1/756th horsepower.

Well Yield. The sustainable volume of water discharged from a well per unit of time, often expressed in gallons per minute.

Wetlands. Areas that are inundated or saturated with surface or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil, including swamps, marshes, bogs, and similar areas.

Zoning. The division of a municipality (or county) into districts for the purpose of regulating land use, bulk of building, required yards, necessary off-street parking, and other prerequisites to development. Zones are generally shown on a map and the text of the zoning ordinance specifies requirements for each zoning category.

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ACRONYMS

AADT	Average Annual Daily Traffic
ACHP	Advisory Council on Historic Preservation
AFB	Air Force Base
AFR	Air Force Regulation
AICUZ	Air Installation Compatible Use Zone
APZ	Accident Potential Zone
CBD	Central Business District
CAS	Carolina Archaeological Services
CCC	Civilian Conservation Corps
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFE	Conventional Forces in Europe
CFR	Code of Federal Regulations
CHAMPUS	Civilian Health and Medical Program of the Uniformed Services
CUD	Compatible Use District
CY	Calendar Year
DEIS	Draft Environmental Impact Statement
DEQPPM	Defense Environmental Quality Program Policy Memorandum
DOD	U.S. Department of Defense
DOT	U.S. Department of Transportation
DRMO	Defense Reutilization and Marketing Office
EIAP	Environmental Impact Analysis Process
EIS	Environmental Impact Statement
EOD	Explosive Ordnance Disposal
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FAC	Forward Air Control
FEIS	Final Environmental Impact Statement
FL	Flight Level
FMSE	Fuels Mobility Support Equipment
FY	Fiscal Year
HC	Hydrocarbons
HUD	U.S. Department of Housing and Urban Development
IFR	Instrument Flight Rules
IRP	Installation Restoration Program
JUA	Joint Use Agreement
MOA	Military Operating Area
MSL	Mean Sea Level
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NOI	Notice of Intent
NPL	National Priorities List
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
NZ	Noise Zone
POL	Petroleum, Oil and Lubricants

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RCRA	Resource Conservation and Recovery Act
ROI	Region of Influence
SARA	Superfund Amendments and Reauthorization Act
SCDHEC	South Carolina Department of Health and Environmental Control
SCUSTCR	South Carolina Underground Storage Tank Control Regulations
SCWRC	South Carolina Water Resources Commission
SCWRD	South Carolina Wildlife and Marine Resources Department
SHPO	State Historic Preservation Officer
TAC	Tactical Air Command
TCS	Tactical Control Squadron
TFS	Tactical Fighter Squadron
TFW	Tactical Fighter Wing
TDS	Total Dissolved Solids
TSCA	Toxic Substances Control Act
TSDF	Treatment, Storage, and Disposal Facility
TSP	Total Suspended Particulates
U.S.C.	United States Code
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UST	Underground Storage Tank
VFR	Visual Flight Rules
WSA	Weapon Storage Area

UNITS OF MEASUREMENT

°C	degrees Celsius
cy	cubic yard
dB	decibel
dBA	decibel on the A-weighted scale
g	acceleration of gravity
gpd	gallons per day
kWh	kilowatt-hour
L_{dn}	day/night equivalent noise level
L_{eq}	energy-equivalent continuous noise level
MG	million gallons
MGD	million gallons per day
mg/l	milligrams per liter
mi	mile
pci/l	picocuries per liter
pph	parts per hundred
PM ₁₀	particulate matter (less than 10 micrometers in diameter)
ppm	parts per million

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CHEMICAL ABBREVIATIONS

CO	Carbon Monoxide
O ₃	Ozone
NO _x	Nitrogen Oxides
NO ₂	Nitrogen Dioxide
Pb	Lead
PCB	Polychlorinated Biphenyls
SO _x	Sulfur Oxides
SO ₂	Sulfur Dioxide
TCE	Trichlorethylene
VOC	Volatile Organic Compounds

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APPENDIX B - RECORD OF PUBLIC NOTIFICATION

As part of the scoping process, the Air Force conducted a series of meetings to determine the issues and concerns that should be identified in the Environmental Impact Statement (EIS) for the proposed closure of Myrtle Beach Air Force Base, South Carolina. The Air Force notified the public of both the scoping meeting and the preparation of the EIS through a Notice of Intent (NOI) published in the *Federal Register* on 9 February 1990. A copy of the NOI follows.

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NOTICE OF INTENT
TO PREPARE ENVIRONMENTAL IMPACT STATEMENTS
MYRTLE BEACH AFB, SC

The United States Air Force intends to study the closing of Myrtle Beach AFB, SC by 1993 as a result of force structure change. As part of that study process, the Air Force will prepare two Environmental Impact Statements (EISs) for use in decision-making regarding the proposed closure and final disposition/re-use of property at Myrtle Beach AFB.

The first environmental impact statement (EIS) will be prepared to assess the potential environmental impact of the possible closure of Myrtle Beach AFB, SC. The EIS will discuss the potential environmental impacts of withdrawing A-10A aircraft which will undergo force structure retirement and relocation. Active duty Air Force tenant units not inactivated would also be relocated. The EIS will also analyze the no action alternative to closing Myrtle Beach AFB, SC.

The other EIS will only be completed if there is a final decision to close the base. This EIS would cover the final disposition/re-use of excess property. All property would be disposed of in accordance with provisions of Public Law, federal property disposal regulations and Executive Order 12512.

The Air Force is planning to conduct a series of scoping meetings to determine the issues and concerns that should be addressed in the two EISs. Notice of the time and place of the planned scoping meetings will be made available to public officials and announced in the news media in the areas where the meetings will be held.

To assure the Air Force will have sufficient time to consider public inputs on issues to be included in the development of the first EIS, comments should be forwarded to the addressee listed below by March 15, 1990. However, the Air Force will accept comments to the addressee below at any time during the environmental impact analysis process.

For further information concerning the study of Myrtle Beach AFB for possible closure and the EIS activities, contact

Director of Environmental Planning
AFRCE-BMS/DEV
Norton AFB, San Bernardino, CA 92409-6446

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05/21/90**APPENDIX C - DRAFT ENVIRONMENTAL IMPACT STATEMENT
MAILING LIST****ELECTED OFFICIALS***U.S. Senate*Senator Ernest F. Hollings
Senator Strom Thurmond*U.S. House of Representatives*

Congressman Robin Tallon

State Officials*Governor*The Honorable Carroll Campbell
Mr. Danny Cromer
Grant Services Office of the Governor
The Honorable Lieutenant Governor
Nick Theodore*Senate*

Senator J. M. "Bud" Long

*House of Representatives*Representative Liston Barfield
Representative Kenneth Corbett
Representative Dick Elliott
Representative Douglas Hinds
Representative Tom Keegan**Local Officials**Honorable Laurie McLeod,
Chairman Horry County Council
Honorable Ulysses DeWitt
Horry County Council
Honorable Grayson Register
Horry County Council
Honorable Robert Gary Steele
Horry County CouncilHonorable Dewey Kirkley
Horry County Council
Honorable James R. Frazier
Horry County Council
Honorable Steve Dawsey
Horry County Council
Honorable William F. Brown
Horry County Council
Honorable John Urban
Horry County Council
Honorable W. Paul Prince
Horry County Council
Honorable Johnny Shelley
Horry County Council
Mr. M. L. Love., Jr.
Horry County Administrator
Ms. Billie Richardson
Horry County Clerk of Court
Mr. Jack Hutchinson
Horry County Development Commission
Chief Gordon Harris
Horry County Police
Honorable Bob Grissom
Mayor of Myrtle Beach
Honorable Harry Charles
Myrtle Beach City Council
Honorable Mary Jeffcoat
Myrtle Beach City Council
Honorable Phil Newsome
Myrtle Beach City Council
Honorable Marjorie Stonebrook
Myrtle Beach City Council
Honorable Wilson Cain
Myrtle Beach City Council
Honorable James Futrell
Myrtle Beach City Council
Mr. Tom Leath
Myrtle Beach City Manager
Chief Dennis Sargent
Myrtle Beach Fire Department
Chief J. Stanley Bird
Myrtle Beach Police Department
Col. Robert Jenkins

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354th Tactical Fighter Wing
Col. Edsel DeVille
Commander
354th Combat Support Group
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Honorable James P. Grappo
North Myrtle Beach City Council
Honorable Billy Smith
North Myrtle Beach City Council
Honorable Harold Worley
North Myrtle Beach City Council
Honorable Ed Williams
North Myrtle Beach City Council
Mr. A. William Moss
North Myrtle Beach City Manager
Chief Charles Sendler
North Myrtle Beach Police
Honorable Dick M. Johnson
Mayor of Surfside Beach
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Honorable Sandy Ragin
Pawleys Island Town Council
Honorable Paige Oberlin
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Honorable Lee Brockington
Pawleys Island Town Council
Honorable Otto Marsh
Mayor of Briarcliffe Acres

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Honorable Mike Gerald
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Honorable Mary Ann Weber
Briarcliffe Acres Town Council
Honorable Debra Carter
Briarcliffe Acres Town Council
Honorable Ike Long
Mayor of Conway
Chief Larry Barnhill
Conway Police Department
Honorable Joe Montgomery
Mayor of Atlantic Beach
Jack Kendree
Executive Director
Georgetown County
Development Commission

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Mr. Ivar Iverson
Regional Environmental Officer

Federal Aviation Administration
Southern Region

Mr. Olin Westbrook
Veterans Administration
Loan Guarantee Officer

Mr. Nicholas P. Anagnost
State Environmental Coordinator
Farmers Home Administration

Commander/20A
Mr. Ron Johnson
Southern Division
Naval Facilities Engineering Command

Commander/CESAD-EN-TA
Mr. Dennis Calbreath
U.S. Army Corps of Engineers
South Atlantic Division

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U.S. Environmental Protection Agency
Region IV
Mr. Arthur Linton
Federal Facilities Coordinator

U.S. Environmental Protection Agency
Region IV
Mr. H. J. Mueller
Chief, Environmental Branch

Mr. James W. Pulliam, Jr.
Regional Director
U.S. Fish and Wildlife Service

Mr. Warren T. Parker
Field Supervisor
U.S. Fish and Wildlife Service
Endangered Species Field Office

U.S. Fish and Wildlife Service
Mr. Warren T. Olds
Assistant Regional Director, Habitat
Resources

U.S. Fish and Wildlife Service
Mr. Roger L. Banks
Field Supervisor
Ecological Services Field Office

National Park Service
Mr. Robert M. Baker
Southeast Regional Office

U.S. Forest Service
Mr. Tom Barron
Regional Forester
Southern Region

U.S. Department of Commerce
Economic Development Administration
Chief of Planning Division

U.S. Department of Labor
Office of Secretary's Representative
National Oceanic and Atmospheric
Administration

Regional Manager, South Atlantic and Gulf
States
Office of Ocean and Coastal Resources
Management

General Services Administration
Chief, Planning Staff
Public Buildings & Real Property

Office of Economic Adjustment
Environmental Protection Agency
Grants Policy and Procedures Branch

Government Services Administration
Office of Program Initiatives

Department of Housing and Urban
Development
Office of Intergovernmental Relations

Department of the Interior
Division of Acquisition and Grants

U.S. Soil Conservation Service
State Conservationist

Office of Cultural Resource Presentation

Arthur Linton
Federal Facilities Coordinator
Environmental Protection Agency, Region IV

Department of Transportation
Grants Management Division

Veterans Administration

Federal Aviation Administration

Department of Agriculture
Environmental Coordination Office
Forest Service

Department of Commerce
Deputy Assistant Secretary for
Intergovernmental Affairs

Ms. Katherine Barnes Soffer
Advisory Council on Historic Preservation

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05/21/90**State Agencies**

South Carolina Advisory Commission on
Intergovernmental Affairs
Mr. Dan Makey

Commissioner, South Carolina Department of
Health and and Environmental Control
Mr. Mike Jarrett

State Historic Preservation Office

State Historic Preservation Officer
Columbia, South Carolina

Other Organizations

Natural Resources Defense Council, Inc.
Mr. Larry Thompson

National Audubon Society
Mr. John F. Lentz

National Wildlife Federation, Region III

Mr. Labruce Alexander
The Nature Conservancy
Southeast Regional Office

Sierra Club
Southeast Field Office

South Carolina Wildlife Federation

Sierra Club
Mr. Steve Jones
Myrtle Beach Convention Center

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354 TFW/RM
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354 TFW/CC
Col. Ervin "Sandy" Sharpe
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354 TFW/AC
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Jack Walker
Wm. A. Walls
Ashby Ward
Kay Waters
James W. Watson
R.H. Weatherford
Marshall Wells, Jr.
Walter Welsh
B.E. Welty
Douglas P. Wendel
Walter T. West

BCM-C
05/21/90

Velma Westmoreland
Gail Whidden
Robert C. White
Tom Whitehead
Marshall Whitener
Sandi Wilburn
Sam Wilburn
D.M. Williams
Robert Williams
Kris L. Wilson
Ben Wilson
Thomas R. Wilson
Mr. & Mrs. W.F. Wingard
Kay Winters
Joe Wise
Raymond S. Wittig
Michael W. Wolhert
James Wood
William M. Wood
W.A. Wright
Lyle Wright
Sgt. Denis S. Wudra
Henry Yates
Robert Young

Note: Eight scoping meeting attendee names were illegible.

APPENDIX D - SUPPORTING INFORMATION

Appendix D-1
Summary of National Pollution Discharge Elimination
System Sites Water Analyses
for 1988

Sample Location & NPDES Number	Characteristics	Jan 88	Apr 88	Jul 88	Oct 88	Standard
Ordonnance Road Ditch 137-NS-001 (Formerly 137-NA-003)	Oils & Greases (mg/L)	<0.3	0.3	-	<0.3	15
	Suspended Solids (mg/L)	0.13	10	12.5	17.5	50
	Temperature (°C)	8	19	25	20	38 Max.
	pH	6.8	7.2	7.4	6.8	6-9
	Flow (MGD)	0.1	0	0	0	None
Engine Test Cell Ditch 137-NS-002 (Formerly 137-NA-004)	Oils & Greases (mg/L)	<0.3	<0.3	<0.3	<0.3	15
	Suspended Solids (mg/L)	5.0	20.0	10.0	12.0	50
	Temperature (°C)	9	20	26	19	38 Max.
	pH	7.0	6.8	6.8	6.8	6-9
	Flow (MGD)	0	0	0	0	None
Fire Training Ditch 137-NS-003 (Formerly 137-NA-005)	Oils & Greases (mg/L)	<0.3	<0.3	<0.3	<0.3	15
	Suspended Solids (mg/L)	1.05	40.0	10.0	55.0	50
	Temperature (°C)	10	15	25	20	38 Max.
	pH	6.3	7.0	6.8	6.8	6-9
	Flow (MGD)	0	0	0	0	None
South Runway Ditch 137-NS-004 (Formerly 137-NA-003)	Oils & Greases (mg/L)	<0.3	<0.3	<0.4	<0.3	15
	Suspended Solids (mg/L)	3.2	17.5	8.3	13.8	50
	Temperature (°C)	10	18	27	20	38 Max.
	pH	7.2	7.0	7.2	6.8	6-9
	Flow (MGD)	0.1	0.2	0	0	None
Housing Area Ditch 137-NS-005	Oils & Greases (mg/L)	<0.3	<0.3	0.4	<0.3	15
	Suspended Solids (mg/L)	6.7	12.5	15.0	11.3	50
	Temperature (°C)	9	19	26	19	38 Max.
	pH	8.0	7.2	7.2	7.2	6-9
	Flow (MGD)	0.1	0.2	0	0	None

Appendix D-1 Continued, Page 2 of 2

Sample Location & NPDES Number	Characteristics	Jan 88	Apr 88	Jul 88	Oct 88	Standard
Avenue D Ditch 137-NS-006	Oils & Greases (mg/L)	<0.3	<0.3	Dry	Dry	15
	Suspended Solids (mg/L)	3.3	36.7	"	"	50
	Temperature (°C)	9	12	"	"	38 Max.
	pH	6.8	7.0	"	"	6-9
	Flow (MGD)	0.1	0.2	"	"	None
North Runway Ditch 137-NS-007	Oils & Greases (mg/L)	1.44	<0.3	<0.3	Dry	15
	Suspended Solids (mg/L)	6.6	65	22.8	"	50
	Temperature (°C)	8	20	27	"	38 Max.
	pH	7.1	7.2	6.8	"	6-9
	Flow (MGD)	0.1	0.1	0	"	None
Golf Course Ditch 137-NS-008	Oils & Greases (mg/L)	<0.3	<0.3	<0.3	.32	15
	Suspended Solids (mg/L)	6.3	92.3	26.6	45.2	50
	Temperature (°C)	9	20	27	20	38 Max.
	pH	6.8	7.0	7.2	6.8	6-9
	Flow (MGD)	0.1	0.2	0	0	None
Duck Pond 137-NS-009	Oils & Greases (mg/L)	<0.3	<0.3	<0.3	Dry	15
	Suspended Solids (mg/L)	20.5	33.3	23.3	"	50
	Temperature (°C)	9	12	30	"	38 Max.
	pH	7.2	7.2	7.2	"	6-9
	Flow (MGD)	0.1	0	0	"	None

NA - Sample not analyzed or data unavailable.

Appendix D-2

Oil and Hazardous Substance Site Spill Control and Countermeasures

Facility/ Number	Substance Stored	Site Desc. (Annex IX)	Grid Coord. (Annex IX)	Max. Spill Quantity/ (gal)	Report Spill	Sec. Cont.	Probable Spill Route (Refer to Maps in Annex IX)	Contingency Action	Visual Inspection	Prev. Maint.	House- keeping	Mat. Comp.	Security	Monit.	Verifi- cation Date
CHEMICAL, DRUM AND SMALL CONTAINER STORAGE AREAS															
516	B-14	Refueling Maint. 55 gal. Dr. 250 gal. Bovsec	9-J	250	E-1	F-2	G-17	H-1, Annex II-2	I-11	J-7	K-1	L-1	M-1, M-3	N-6	7/86
514	B-14	Refueling Parking 55 gal. Dr. 250 gal. Bovsec	9-K	250	E-1	P-2, P-9	G-37	H-1, H-4	I-11	J-7	K-1	L-1	M-2 M-1, M-2, M-3	N-3 N-3, N-6	7/86
515	B-15	DRMO Storage Yd.	6-L	100	B-15	F-23	G-3	H-13, Annex II-7	I-4	---	K-1, K-2	L-1	M-1, M-3	N-7	7/86
516	B-16	Entomology Area Sto- rage 5 gal. cans 55 gal. Dr.	7-M	55	B-16	F-1	G-37	H-13, Annex II-6	I-5, J-1}	---	K-1, K-2	L-1	M-1	---	7/86
SEWAGE SPILLS															
43202	Grand Strand Water and Sewer Authority	Sani- tary Wastes	Through-out Base	0.7 MGD	E-2	F-1	Dependent On Spill Location	Annex II-14	No Routine	I-14	K-1	L-1	M-1	N-8	7/86

SECTION II Oil and Hazardous Substance Site Spill Prevention Control and Countermeasures Explanatory TAB'sSPCC Table and TAB Abbreviations

A/G	- Above ground
CE	- Civil Engineering
Cont.	- Container
Dr.	- Drum
gal.	- gallons
Grid Coord.	- Grid Coordinates
ICW	- Intracoastal Waterway
JP-4	- Jet Fuel
LP	- Liquefied Petroleum
Mat. Comp.	- Material Compatibility
MBPC	- Myrtle Beach Pipeline Company
MBAFB	- Myrtle Beach Air Force Base
MOGAS	- Gasoline
Monit.	- Monitoring
PCB	- Polychlorinated biphenyl
Perm.	- Permanent
Prev. Maint.	- Preventive Maintenance
Report. Spill	- Reportable Spill Quantity
St.	- Steel Tank
Sec. Cont.	- Secondary Containment
Temp.	- Temporary
U/G	- Underground
@	- each

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"B" TAB's

SUBSTANCES STORED AND REPORTABLE SPILL QUANTITIES

NOTE: The "B" Tab contains a listing of hazardous substances* stored at designated facilities on base. Reportable Spill Quantities for the hazardous substances have also been noted for those which the Reportable Spill Quantities are known. A dash (-) has been placed in the Reportable Spill Quantity column for compounds which do not have Reportable Spill Quantities designated in the Clean Water Act (CWA) Section 311 or Section 307a. If a spill occurs with a product which does not have a Reportable Spill Quantity noted in the Tab, OSC should contact CHEMTREC (800-424-9300) to obtain additional information. It should be noted that the reporting requirements for hazardous waste apply only to substances that are hazardous waste prior to being released. The reportable spill quantity is one hundred (100) lbs for ignitable, corrosive or reactive wastes. The reportable spill quantities for appropriate EP toxic RCRA hazardous wastes are listed in the "B" Tab. The remaining hazardous substances listed in the CWA have reportable spill quantities of one (1) lb. This includes spills by small quantity generators under RCRA Subtitle C.

Tab No.

B-1 List of chemicals store in supply open storage. List includes chemical, container size, location and reportable spill quantity.

Chemical	Container	Bldg or Fac. No.	Reportable Spill Quantity
Fire Extinguishing Agent	5 gal.	45202	---
Carbon Remover	5 gal.	45202	---
Polyurethane Paint	5 gal.	208	---
Corrosion Prevention Compound	5 gal.	45202	---
MEK	55 gal.	42202	5000 lb
Insulating Oil	55 gal.	45202	Tab E-1
Lube Oil	55 gal.	45202	Tab E-1
Monochlorodifluoromethane	55 gal.	45202	---
Dry Cleaning Solvent	55 gal.	45202	Tab E-1
Bromochloromethane	55 gal.	45202	---
Pesticides/Insecticides	5 gal.	213	---
MIK	5 gal.	213	5000 lb
MEK	5 gal.	213	5000 lb
PD-680	55 gal.	45202/213	Tab E-1
Corrosion Resistant	55 gal.	45202	---
Alcohol	55 gal.	45202	---
Engine Cleaning Compound	55 gal.	45202	Tab E-1
Alkaline Base Engine Cleaning Compound	55 gal.	45202	---
Hydraulic Fluid	55 gal.	45202	Tab E-1
Brake Fluid	1 gal.	213	Tab E-1

*designated by Section 101(14) of CERCLA. Hazardous substances may or may not be designated RCRA hazardous wastes.

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Chemical	Container	Bldg or Fac. No.	Reportable Spill Quantity
Fire Extinguishing Foam	55 gal.	213	---
Thinner	1 gal.	45202	---
Dope & Lacquer Thinner	1 gal	208	---
Trichloroethylene	1 gal	45202	1000 lb
Chlorine	Gas Cylinder 150 lb	213	10 lb
Liquid Nitrogen	" " 220 CF	211	---
Argon	" " 220 CF	211	---
Acetylene Prestoline	" 40 CF	211	---
Freon 22	Gas Cylinder 125 lb	211	---
Acetylene	" " 225 CF	211	---
Nitrogen Oil	" " 220 CF	211	---
Carbon Dioxide	" " 50 lb	211	---
Oxygen-Breathing	" " 251 CF	211	---
Bromochlorofluoride	" 1500 lb	211	---
Ammonia-Anhydrous/	150 lb	211	100 lb
	Gas Cylinder		
Sulphur Hex	" " 115 lb	211	---
Oxygen-Grade B	" " 20 CF	211	---
Welding Oxygen	" " 220 CF	211	---
Freon 12	" " 145 lb	211	---
Freon 12	" " cylinder	211	---
Freon 502	" " 125 lb	211	---
Freon 502	" " cylinder	211	---
Freon 22	" " cylinder	211	---
Sulfur Hexafluoride	" " 25 lb	211	---
Petroleum Ether	55 gal.	45202	---
Methanol	55 gal.	45202	5000 lb
Turpentine	1 gal.	208	---
Denatured alcohol	1 qt	205	---
Tennant 420 Urethane Finish	5 gal.	213	---
Tennant 528 Cleaner/Remover	55 gal	45202	5000 lbs
Hydrochloric Acid	1 gal.	207	---
Batteries		207/213	---
Descaling Compound	55 gal.	213/45202	---
Descaling Compound	5 gal.	213/45202	---
Isopropyl Alcohol	1 qt	208	---
1,1,1 Trichloroethane	55 gal.	45202	1000 lbs
Tennant 409 Prekote	55 gal.	213	---
Paint Stripper	55 gal.	45202	---
Kodak Stop Bath Replinisher	1 pg	213	---
Greaser	can	213	---
Kodak Developer	pk	213	---
Penetrant	55 gal.	45202	TAB E-1
140 Solvent	55 gal.	45202	TAB E-1
Boil Erite 100	55 gal.	45202	---

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Tab No.	Chemical	Container	Bldg or Fac. No.	Reportable Spill Quantity
B-2	Carbon Remover			---
	WD-40			TAB E-1
	PD-680			TAB E-1
B-3	Lube Oil			TAB E-1
	PD-680			TAB E-1
	Paint Thinner			---
	Carbon Remover			---
	Assorted Freons			---
	Batteries			---
	Batter Acid (Sulfuric)			1000 lb
B-4	Waste Oil			TAB E-1
B-5	PD-680 New & Waste			TAB E-1
	Methanol			5000 lb
	Deicing Fluid			---
	Methyl Ethyl Ketone			5000 lb
	Paints			---
	Hydraulic fluid			TAB E-1
	JP-4			TAB E-1
	Mineral Oil			TAB E-1
B-6	Turco Acid			---
	Carbon Remover			---
	Finger Print Remover			---
	1-1-1 Trichloroethane			1000 lb
	B + B Cleaner			---
	PD-680			TAB E-1
	Methanol			5000 lb
	Mineral Oil			TAB E-1
	Hydraulic Fluid			TAB E-1
B-7	Penetrant, new and waste			TAB E-1
	Emulsifier, new and waste			TAB E-1
	Synthetic Oil			TAB E-1
	1,1,1-Trichlorethane			1000 lb
	Methyl Ethyl Ketone			5000 lb
	Kodak Fixer and Developer			---
B-8	1-1-1 Trichloroethane			1000 lb
	PD-680			TAB E-1
B-9	Methy Ethyl Ketone			5000 lb
	Dope & Lacquer Thinner			---
	Polyurethane Thinner			---
	Wheel Stripper, solvent base			TAB E-1
	Corrosive Paint Remover (Turco Metal Glo #6)			1000 lb
	Polyurethane Paint			---
	PD-680			TAB E-1
	Toulene			1000
	Alodine			---
	Denatured Alcohol			---

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Tab No.	Chemical	Container	Bldg or Fac. No.	Reportable Spill Quantity
B-10	PD-680			TAB E-1
	Polyurethane Paint			---
	Paint Remover			---
	Hydraulic Fluid			TAB E-1
	Waste Oil			TAB E-1
	Gas Path Cleaner			---
	Isopropyl Alcohol			---
	Carbon Remover			---
	Corrosion Preventative			---
B-11	PD-680			TAB E-1
	Paints			---
	Engine Oil			TAB E-1
B-12	Lube Oil			TAB E-1
	Antifreeze			---
B-13	Lube Oil			TAB E-1
	Paint Remover			---
	Antifreeze			---
	Dry Cleaning Solvent (See Naptha Standard Solvent)			TAB E-1
	Batteries			---
	Paint			---
	Paint Thinner			---
	PD-680			TAB E-1
	Waste Oil			TAB E-1
	Battery Acid (Sulfuric)			1000 lb
B-14	Waste Oil			TAB E-1
	Waste Fuel			TAB E-1
	140 Solvent			TAB E-1
	Hydraulic Fluid			TAB E-1
	Antifreeze			---
	Batteries			---
	Battery Acid (Sulfuric)			1000 lb
B-15	Waste PD-680			TAB E-1
	Waste Carbon Remover			---
	Waste Trichlorethylene			1000 lb
	Waste Cleaning Solvent			TAB E-1
	Waste Penetrant			TAB E-1
	Waste Emulsifier ZE-4			TAB E-1
	1,1,1-Trichloroethane			1000 lb
	Waste Methyl Ethyl Ketone			5000 lb
	Waste Denatured Alcohol			---
	Waste Batteries - neutralized			---
	Waste Paints			---
	Waste Thinner			---
	Waste Wheel Stripper			TAB E-1
	Waste Bromochloromethane			---

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Tab No.	Chemical	Reportable Spill Quantity
B-16	<u>Herbicides</u>	
	DSMA Powder	---
	2,4D Amine	---
	Bensulide	---
	Pri San	---
	2,4,5-T, 2,4-D	100 lbs
	Diquat	1000 lbs
	Paraquat	---
	Bromacil Granuals	---
	Trimex	---
	Dowpon	5000 lbs
	Hyvar XL	---
	Dacthal	---
	Round-Up	---
	Silvex	100 lbs
	Clorate Borate	---
	Surfactant	---
	Oust	---
	Rodeo	---
	<u>Insecticides</u>	
	Dibrom	10 lbs
	Chlordane	1 lb
	Cygon	---
	Gardona	---
	Baygon	---
	Diazinon, liquid	1 lb
	BHC	---
	Mirex	---
	Resmethrims	---
	Pyrethrins	---
	Sevin	---
	Dursban	---
	Malathion 57% EC	10 lbs
	Malathion 91% Sol	10 lbs
	Chlordane Dust 5%	1 lb
	Diazinon Dust 2%	1 lb
	Baygon Bait	---
	Flakes	---
	Paradichlorobenzene	---
	Ficam W	---
	Amdro	---
	Abate	---
	Diazinon - granulated	---
	<u>Rodenticide</u>	
	Promar Bait	---

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"E" TAB's

REPORTABLE SPILL QUANTITIES

Tab No.

E-1 A "Reportable Spill" of oil or other petroleum products occurs when the spill causes a film, sheen or discoloration of the surface of the water or adjoining shoreline; or causes a sludge or emulsion to be deposited beneath the surface of the water or upon the adjoining shoreline. This criteria is applicable for both on-base and off-base surface waters. Oil or petroleum product spills occurring on land are also "Reportable" under the South Carolina Hazardous Waste Management Regulations.

E-2 A sanitary wastewater spill is considered a "Reportable Spill" when either on-base or off-base surface waters exceed the South Carolina Class A or Class SAA contact recreational standards as a direct result of the spill. These standards are violated when the waters are made unsafe or unsuitable for primary recreation or impair the waters for any other best usage as determined for the specific waters which are assigned to these classes (Refer to Water Classification Standards System for the State of South Carolina, SCDHEC, 1981). Other pertinent standards have been identified below:

Class A (Intracoastal
Waterway)

Dissolved Oxygen

Daily average not less than 5 mg/l, with a low of 4 mg/l, except that specified waters may have an average of 4 mg/l due to natural conditions.

Fecal Coliform

Not to exceed a geometric mean of 200/100 ml, based on five consecutive samples during any 30 day period; nor shall more than 10% of the total samples during any 30 day period exceed 400/100 ml.

Class SAA (Coastal Waters)

Dissolved Oxygen

Daily average not less than 5 mg/l, with a low of 4 mg/l, except that specified waters may have an average of 4 mg/l due to natural conditions.

Organism of Coliform Group

Not to exceed an MPN total coliform median of 70/100 ml, nor shall more than 10% of the samples exceed an MPN of 230/100 ml, where all tests are made using the five tube dilution method.

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D-10

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"F" TAB's

SECONDARY CONTAINMENT

Tab No.

- F-1 None
- F-2 Two permanent absorbent booms located on main ditch in Spill Containment Area 2 (Grid Coord. 8-K and 9-Q). Booms inspected weekly.
- F-3 Two permanent absorbent booms located on ditches in Spill Containment Area 7 (Grid Coord. 9-F and 10-C) Booms inspected weekly.
- F-4, F-5 Two permanent absorbent booms located on Spill Containment Area 7 (Grid Coord. 10-D and 10-C). Booms inspected weekly.
- F-6 Oil/water separator connected to storm sewer.
- F-7 One permanent absorbent boom located on ditch in Spill Containment Area 2 (Grid Coord. 11-S). Boom inspected weekly.
- F-8 No secondary containment associated with underground tank.
- F-9 Oil/water separator connected to sanitary sewer.
- F-10 Tanks diked with earthen material.
- F-11 Diked area will contain volume of tank with 12" freeboard. Excess rainfall within diked area is drained to an oil/water separator discharging to a surface ditch. A permanent absorbent boom is situated directly downstream of the oil/water separator discharge. Dike valves are maintained in closed position and locked.
- F-12 600 feet of floating boom and two bundles of absorbent pads stored in adjacent building.
- F-13 Two permanent absorbent booms located on ditches in Spill Containment Area 7 (Grid Coord. 10-D and 10-C). Booms inspected weekly.

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"F" TAB's (Cont'd)

SECONDARY CONTAINMENT

Tab No.

- F-14 Drainage in POL bulk fuel storage area is directed to an oil/water separator. A permanent absorbent boom is situated directly downstream of the oil/water separator discharge.
- F-15 Permanent absorbent booms located in main drainage ditches exiting base property in Spill Containment Areas 2 and 7.
- F-16 Area diked. Drainage from dike enters oil/water separator.
- F-17 Fire training pit drains to an oil/water separator which discharges to a secondary polishing pond.
- F-18 Concrete slab with 8" concrete berm. No drains.
- F-19 Earthen dike. Valves maintained closed and locked. Drainage from dike passes through oil/water separator discharging to drainage ditch in Spill Containment Area 2.
- F-20 Spill occurring in building will drain to oil/water separator connected to sanitary sewer.
- F-21 Spills will drain to sewer connected to pretreatment separator system discharging to the sanitary sewer.
- F-22 Two permanent absorbent booms located on ditch adjacent to Base boundary in Spill Containment Area 4 (Grid Coord. 18-S). Booms inspected weekly.
- F-23 Asphalt pad with 6" berm.

PROBABLE SPILL ROUTE

Tab No.

- G-1 Leakage from underground tank will contaminate surficial aquifer.
- G-2 Dissipate in local area on ground, if full tank spilled, fuel may reach storm sewer and open ditch in Spill Containment Area 7 with final destination the Atlantic Ocean.
- G-3 Dissipate in local area on ground, if full tank spilled, fuel may reach storm sewer and open ditch in Spill Containment Area 1 with final destination the Intracoastal Waterway.
- G-4 Dissipate in local area on ground, if full tank spilled, fuel may reach storm sewer and open ditch in Spill Containment Area 5 with final destination the Atlantic Ocean.
- G-5 Spill would enter storm sewer which flows directly beneath Base elementary school in Spill Containment Area 5 and enters surface drainage at Birch Avenue.
- G-6 Dissipate in local area on ground, if full tank spilled, fuel may reach storm sewer and open ditch in Spill Containment Area 6 with final destination Atlantic Ocean.
- G-7 Dissipate in local area on ground, if full tank spilled, spilled substance may reach storm sewer and open ditch in Spill Containment Area 3 with final destination the Intracoastal Waterway.
- G-8 Dissipate in local area on ground, if full tank spilled, fuel may reach storm sewer and open ditch in Spill Containment Area 2 with final destination the Intracoastal Waterway.
- G-9 Drain to oil/water separator located at SE corner of building. Connected to sanitary sewer.
- G-10 Dissipate in local area on ground, if full tank spilled, fuel may reach storm sewer and open ditch in Spill Containment Area 10 with final destination the Atlantic Ocean.
- G-11 Dissipate in local area on ground, if full tank spilled fuel may reach storm sewer and open ditch in Spill Containment Area 11 with final destination the Atlantic Ocean.

PROBABLE SPILL ROUTETab No.

- G-12 Spills will drain to oil/water separator directly west of drum storage area, connected to sanitary sewer.
- G-13 Drain to oil/water separator located in CE wash rack discharge to sanitary sewer.
- G-14 Vaporize to atmosphere.
- G-15 Dissipate in local area on ground, if full tank spilled fuel may reach open ditch in Spill Containment Area 9 with final destination the Atlantic Ocean.
- G-16 Spills from the tank will be contained within diked area. Some quantity of fuel may percolate into the soil and contaminate the surficial aquifer. If the fuel escapes from the diked area it will enter a ditch on the SW corner of the POL storage area. The ditch is a tributary to the main drainage ditch in Spill Containment Area 2 with final destination the Intracoastal Waterway.
- G-17 Spills from the tank will be contained within diked area. Some quantity of fuel may percolate into the soil and contaminate the surficial aquifer. If fuel escapes from diked area it will enter the main drainage ditch in Spill Containment Area 2 with final destination the Intracoastal Waterway.
- G-18 Dissipate on ground in area of spill. Percolate into soil contaminating surficial aquifer. In the event of a large spill, fuels rising to the surface will eventually enter drainage ditches.
- G-19 Directly to Intracoastal Waterway. Typically, rising tides flow north and falling tides flow south to the Waccamaw River.
- G-20 Dissipate in local area on ground, if full tank spilled fuel may reach open ditch and storm sewer in Spill Containment Area 4 with final destination the Intracoastal Waterway.
- G-21 Dissipate on ground in area of spill, if full tank spilled fuel will enter oil/water separator at the edge of test stand connected to sanitary sewer.

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"G" TAB's (Cont'd)

PROBABLE SPILL ROUTE

Tab No.

- G-22 Dissipate on ground in area of spill. Spills in parking area will drain to oil/water separator connected to sanitary sewer. Large spills may enter adjacent drainage ditch directly, existing base via Spill Containment Area 2.
- G-23 Dissipate on ground in area of spill, if full tank spilled fuel may enter storm sewer and/or open drainage ditch in vicinity of spill site.
- G-24 Dissipate on ground in area of spill. If large spill occurs some fuel may runoff into adjacent ditches draining base via Spill Containment Area 2, some fuel may also enter the oil/water separator collecting drainage from the Bulk fuel Storage Area and discharging into the same Spill Containment Area.
- G-25 Dissipate on ground in area of spill. Runoff from clean-up operations will drain to storm sewers and/or open ditches along taxiway in Spill Containment Area 7.
- G-26 Dissipate on ground in area of spill. Large spills will enter adjacent drainage ditches in Spill Containment Areas 9, 10, or 11 with final destination the Atlantic Ocean.
- G-27 Enter drainage system connected to oil/water separator and polishing pond. Discharge from pond enters drainage ditch exiting base via Spill Containment Area 9 with final destination the Atlantic Ocean. Spills occurring outside bermed area will dissipate on ground in area of spill. Larger spills may enter the drainage ditch directly.
- G-28 Contained within concrete containment berm. If spill escapes berm, it will enter drainage swale in Spill Containment Area 2 with final destination the Intracoastal Waterway.
- G-29 Spills in Supply Open Storage will dissipate on ground in area of spill. If large spill occurs the spill may drain east into Spill Containment Area 7 or west into Spill Containment Area 2.

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"G" TAB's (Cont'd)

PROBABLE SPILL ROUTE

Tab No.

- G-30 Spills will be contained in diked area. Some oil may percolate into soil within diked area. Any oils escaping diked area will enter ditch exiting base via Spill Containment Area 2 with final destination the Intracoastal Waterway.
- G-31 Drain to adjacent oil/water separator.
- G-32 Spill will drain to ditch directly behind drum storage area. This ditch flows via underground culvert system to the main drainage ditch in Spill Containment Area 7 with final destination the Atlantic Ocean.
- G-33 Spill in drum storage area will accumulate on asphalt lot between Buildings 320 and 324.
- G-34 Spill will drain to ditch directly west of storage area. This ditch will drain to main ditch exiting base via Spill Containment Area 7 with final destination the Atlantic Ocean.
- G-35 Spills occurring within shop will enter floor drains connected to storm sewer discharging into the main drainage ditch in Spill Containment Area 7 with final destination the Atlantic Ocean.
- G-36 Spill occurring at the outside drum storage area will dissipate on ground in area of spill. Large spills will drain directly to main ditch in Spill Containment Area 7 with final destination the Atlantic Ocean.
- G-37 Dissipate on ground in area of spill. Large spills will drain to ditch directly behind drum and tank storage area. This ditch is connected to the main ditch exiting base in Spill Containment Area 2 with final destination the Intracoastal Waterway.
- G-38 Off base location. Spill will dissipate on ground in area of spill. If large spill, fuel may enter drainage ditch with final destination the Atlantic Ocean.

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"H" TAB's

CONTINGENCY ACTION

Tab No.

- H-1 Base personnel should respond to spill by containing spilled substance within the most immediate area. This should be accomplished by temporary diking to preclude entrance to ditch or storm sewer. Immediate temporary wood or absorbent type skimmers should be installed both upstream and downstream of any spill entering the drainage ditches. For larger spills, temporary dikes should be installed in ditches or temporary plugs placed in sewer lines at applicable manholes. Absorbent material or portable skimmers should be utilized for cleanup.
- H-2 Suspected underground spills should be assessed with regard to the maximum quantity which may have escaped. Remaining fuel should be removed from tank immediately. Ditches and surface areas in the vicinity of the underground tank should be closely monitored to detect any traces of the spilled material. Information pertaining to the spill should be evaluated to determine if the incident warrants ground water monitoring.
- H-3 If spill exits base property via drainage ditch, notify Myrtle Beach State Park Superintendent (803-238-5325) of spill status. Refer to Annex VIII.
- H-4 Direct flow of spilled material to adjacent oil/water separator. Monitor oil/water separator to prevent the overflow of oil into sanitary sewer.
- H-5 If spill exits base property via Drainage Area 10, notify Noah's Ark (miniature golf course), 803-448-2116, of spill status. Refer to Annex VIII.
- H-6 Direct flow of spilled substance to adjacent floor and wash rack drains. Monitor operation of pretreatment system to prevent release of spilled material to sanitary sewer.
- H-7 Remove remaining fuel from tank.
- H-8 Spill should be contained with floating boom. Immediately notify U.S. Coast Guard of spill via National Response Center (800-424-8802).
- H-9 All spills should be contained and neutralized immediately by Fire Department to avoid hazards to aircraft in the area.
- H-10 Assure dike drain valve is closed and locked.

"H" TAB's (Cont'd)

CONTINGENCY ACTION

Tab No.

- H-11 Contact supervisor of Myrtle Beach Pipeline Company
 MBPC Storage Facility - 238-2513
 MBPC Off-Loading Facility - 448-3233
- H-12 Assure spill is contained within concrete berm. Collect all PCB waste
 and contaminated materials in lined drum.
- H-13 Spill material should be identified and response should be in accor-
 dance with specific procedures identified in Material Safety Data
 Sheets found in Annex III.
- H-14 If possible, move the leaking container/equipment to the AGE wash rack
 at Building 320. (NOTE: This wash rack is equipped with an oil/water
 separator and drains into the sanitary sewer system). Monitor
 oil/water separator to prevent overflow of oil into sanitary sewer.
- H-15 If spill occurs within shop facility prevent spill from entering floor
 drains.

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"I" TAB's

VISUAL INSPECTION

Tab No.

- I-1 Tanks examined by CE prior to refilling.
- I-2 Bulk fuel storage area, including all piping, tanks and dikes, are inspected daily for leaks. In addition, at least once a week the Civil Engineer Liquid Fuels Maintenance Section inspects the system, in conjunction with operations daily inspection. Daily logs are maintained at the supervisors office on all inspection check points.
- I-3 Underground fuel tanks are gauged daily and compared with fuel inventory records. Variances over 20 gallons will be rechecked to determine if a leak is present.
- I-4 Area inspected daily by supervising personnel.
- I-5 Area inspected minimum five days per week.
- I-6 Tanks inspected annually and prior to refilling by Fuels Management.
- I-7 Mobile fuel carriers inspected daily.
- I-8 Area continuously monitored by security patrol.
- I-9 Area continuously monitored during training exercises.
- I-10 Tank volume inspected weekly.
- I-11 Operations and maintenance personnel make daily inspections to determine conditions of storage tanks/drums and equipment and to assure no leaking or accidental discharge of any of the contents stored within the facility occurs.
- I-12 Inspected annually.

I-36

D-19

FOR OFFICIAL USE ONLY

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"J" TAB's

PREVENTIVE MAINTENANCE

Tab No.

- J-1 Tank cleaned and painted as required via job orders.
- J-2 CE Liquid Fuels Maintenance Section performs routine preventive maintenance on all pumps, valves and filters.
- J-3 Pumps calibrated every 90 days by the State. Fuel lines only pressure tested when a leak is suspected.
- J-4 Myrtle Beach Pipeline Company is responsible for preventive maintenance on equipment.
- J-5 Cathodic protection inspected annually and replace as required.
- J-6 All refueling vehicles are included in a routine maintenance program.
- J-7 Oil/water separator inspected weekly.
- J-8 Tanks are leak tested annually.
- J-9 Rubber fuel bladders inspected for leaks twice daily when in use.
- J-10 Tank pumped as required.
- J-11 PCB materials removed by qualified contractor at earliest possible time.
- J-12 Stock rotated routinely.
- J-13 55 gallon underground storage tank inspected once per week. Contaminated water is pumped routinely and used as make-up water for diluting chemicals.
- J-14 Lift station pumps routinely lubricated.

I-37

D-20

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"K" TAB's

HOUSEKEEPING

Tab No.

- K-1 Area maintained in a clean orderly state.
- K-2 Adequate aisle space and segregation of chemicals.

"L" TAB's

MATERIAL COMPATIBILITY

Tab No.

- L-1 No material incompatibilities.
- L-2 Incinerator located approximately 20' west of tank. Vent pipe approximately 25' above ground.
- L-3 Cathodic protection provided for tanks and piping. Condition of cathodic protection routinely monitored and evaluated.
- L-4 Incompatible materials segregated.
- L-5 Cathodic protection at intervals along pipeline.

"M" TAB's

SECURITY

Tab No.

- M-1 Security provided by Base Security.
- M-2 Lock on filler line.
- M-3 Area fenced and locked.
- M-4 Unmanned pumps are locked.
- M-5 Vehicle entrance barred and locked. Valve locked. Check valve located at end of pipe.
- M-6 Door to building locked. Fire alarm boxes located directly outside doors.

I-38

D-21

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"N" TAB's

MONITORING

Tab No.

- N-1 Fuel levels checked periodically. Fuel consumption records maintained and reviewed.
- N-2 Tank is gauged before delivery of fuel. Two operators present for each delivery.
- N-3 Fuel levels checked periodically. Refilled as required.
- N-4 Operator on control panel with driver. Observes gauge level of tank constantly when filling.
- N-5 Inventory records maintained. Tank refilled as required.
- N-6 Maintenance Branch Chief will insure that daily inspections of drains, sanitary/storm sewers, separation tanks and valve closures are accomplished to insure operational status.
- N-7 Volume of tanks monitored to determine when contents of tanks should be contracted for sale.
- N-8 Monitor flow to Grand Strand Water and Sewer Authority, alarm system to indicate high water levels in primary lift station wet wells.
- N-9 When in use, Tab No's N-1, N-2, N-3, and N-5 apply.
- N-10 Operator on control panel with driver.

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SECTION III

Certification and Approval Signatures

Certification

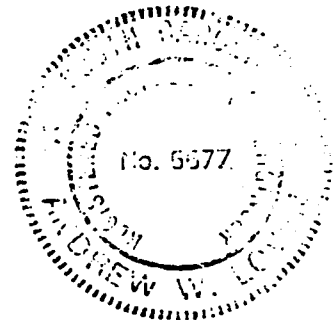
Dr. Andrew W. Loven , a Professional Engineer registered in the State of South Carolina, certifies that the Oil and Hazardous Substance site Spill Prevention Control and Countermeasures Summary and supporting information has been prepared in accordance with good engineering practices and in accordance with the U.S. EPA regulations [40 CFR 112] on oil pollution prevention.

Andrew W. Loven

Professional Engineer

Date: 1-25-83

South Carolina Registry No. 5677



Approval of Plan

Date:

Commander, 354 Combat Support Group

Appendix D-3

Identification of Waste Storage and Accumulation Points

NO.	MAP LOCATION	FACILITY AND BUILDING NO.	OPERATOR/PHONE #	HAZARDOUS WASTE FUNCTION	WASTE MATERIAL GENERATED/HANDLED	ESTIMATED MAX ANNUAL QUANTITY
1a	G-9	AGE Servicing, Bldg. 320/321	Sgt Mace/7349	Accumulation Point	PD 680 (O/W Separator) Hydraulic Fluid (Tank) Mineral Oil (Tank) Synthetic Oil (Tank)	660 gal 800 gal 800 gal 800 gal
1b	G-10	AGE Flightline Area	MSGt Phillips/7349	Accumulation Point	JP-4 Bowsers 5 @ 500 gal 1 @ 750 gal	3,600 gal
2a	G-9	A-10 Engine Shop, Bldg. 324	TSgt Neuin/7805 Sgt Bloom	Accumulation Point	Finger Print Remover (Drum) Turco Acid (Drum) PD-680 (Drum) Trichloroethane (Drum) Carbon Remover (Drum) B&B Cleaner (Drum)	60 gal 660 gal 2,350 gal 180 gal 60 gal 660 gal
2b	H-9	Propulsion Support, Bldg. 324	TSgt Neuin/7805 Sgt Bloom	Accumulation Point	Aircraft Soap (Oils and Grease) Engine Oil (Drum) Mineral Oil (Drum) JP-4 (Drum) Trichloroethane (Drum)	660 gal 1,200 gal 1,200 gal 800 gal 120 gal
3	G-10	EMS/NDI Lab, Bldg. 352	TSgt Gillespie/7189	Satellite Accumulation Point	Fluorescent Penetrant (Drum) Emulsifier (Drum) Kodak Fixer	110 gal 110 gal 60 gal
		Wheel and Tire Shop Bldg. 352	Sgt Egan/7700	Satellite Accumulation Point	PD-680 (Drum)	1,320 gal
4	H-10	EMS Corrosion Control, Bldg. 355	AIC Lewis	Accumulation Point	PD-680 (O/W Separator) Paints and Thinners (Drum) Turco Wheel Stripper (Drum) Phenolic Paint Remover (Drum)	80 gal 660 gal 880 gal 660 gal

ATTACHMENT 2 - IDENTIFICATION OF WASTE STORAGE AND ACCUMULATION POINTS (CONTINUED)
FOR OFFICIAL USE ONLY

IDENTIFICATION OF WASTE STORAGE AND ACCUMULATION POINTS (CONTINUED)

NO.	MAP LOCATION	FACILITY AND BUILDING NO.	OPERATOR/PHONE #	HAZARDOUS WASTE FUNCTION	WASTE MATERIAL GENERATED/HANDLED	ESTIMATED MAX ANNUAL QUANTITY
5	J-11	39 ARRS Det 11 Helicopter Sq Maint., Bldg. 359	Ann Manigault	Accumulation Point	JP-4 (Drum) Jet Oil (Drum) Hydraulic Fluid (Drum) PD-680 (Drum)	600 gal 360 gal 660 gal 600 gal
6	G-8	Base Service Station, Bldg. 200	Mr. Singleton/238-2711	Accumulation Point	Synthetic Oil (Tank)	4,800 gal
7	J-6	Auto Hobby Shop, Bldg. 255	Mr. Glover/6022	Accumulation Point	Synthetic Oil (Tank) PD-680 (Can)	1800 gal 180 gal
8	H-8	Supply Open Storage, Bldg. 208	Sgt Buchanan/7034	Storage	PCB Transformers PCB Condensers	4 ea
9	K-9	CB Power Production, Bldg. 220	Ann Deavers	Accumulation Point	Oil (Drum) Diesel Fuel (Drum)	240 gal 60 gal
		CB Pavements & Grounds, Bldg. 220	TSgt Carson/6355	Satellite Accumulation Point	PD-680 Oil (Drum)	10 gal 60 gal
10	K-10	Transportation Maintenance, Bldg. 514	Ann White/7248	Accumulation Point	Paint Thinner Engine Oil (Tank) PD-680 (Contractor)	25 gal 2400 gal 1500 gal
11	L-10	Refueling Vehicles Maintenance, Bldg. 516	SrA Folsom/7340	Accumulation Point	JP-4 (Drum) Oil (Drum) Hydraulic Fluid (Drum)	950 gal 600 gal 15 gal
12	K-9	CB Paint Shop, Bldg. 224	Mr. Lyons/7450	Satellite Accumulation Point	Synthetic Thinner (Drum)	55 gal
13	C-17	73rd TCF AGE Veh. Maint., Bldg. 457	Sgt Nixon/6148	Accumulation Point	Synthetic Oil (Drum) PD-680 (Drum) Paints and Thinners	840 gal 40 gal 180 gal

FOR OFFICIAL USE ONLY

ATTACHMENT 2 - IDENTIFICATION OF WASTE STORAGE AND ACCUMULATION POINTS (CONTINUED)

IDENTIFICATION OF WASTE STORAGE AND ACCUMULATION POINTS (CONTINUED)

NO.	MAP LOCATION	FACILITY AND BUILDING NO.	OPERATOR/PHONE #	HAZARDOUS WASTE FUNCTION	WASTE MATERIAL GENERATED/HANDLED	ESTIMATED MAX ANNUAL QUANTITY
14	L-10	Fuels Management, Bldg. 515	TSgt McElroy/7881	Accumulation Point	JP-4 (Tank)	250 gal
15	M-9	Waste Fuels Storage Area, Pac. #89008	TSgt McElroy/7881	Storage	Waste Oil (10,000 Gal Tank) JP-4 (10,000 Gal Tank) Synthetic Oil (5,000 Gal Tank) Mineral Oil (1,000) PD-680 (1,000 Gal Tank) Hydraulic Fluid (Drums) O/W Separator Pumpings	12,000 gal 13,500 gal 3,300 gal 500 gal 1,500 gal 1,100 gal 1,000 gal
16	K-10	Photo Lab, Bldg. 502	Sgt Taylor/7684	Satellite Accumulation Point	Silver (Recycled) Fixer	14 gal 180 gal
17	N-6	DRMO Storage Area, Pac. #45203	Mr. Bryant/7802	Storage	Container Storage	5,500 gal
18	K-11	Armament Shop, Bldg. 505	MSgt Kitchen/7353	Satellite Accumulation Point	Engine Oil PD-680	15 gal 1,980 gal
19	L-7	TMDR, Bldg. 519	MSgt Anderson/6319	Satellite Accumulation Point	Mercury	6 lbs
20	M-12	Engine Test Cell, Bldg. 550	MSgt Stover/7256	No Longer Accumulate Waste Here, Take To Engine Shop	Oil B&B 3100 PD-680	24 gal 150 gal Negligible
21	K-11	Fire Department Maintenance, Bldg. 360	Mr. Carroll/7157	Satellite Accumulation Point	Oil (Drum)	100 gal
22	F-20	Golf Course Maintenance, Bldg. 455	Mr. Meredith/7838	Satellite Accumulation Point	Oil (Drum) PD-680 (Drum)	50 gal 50 gal

Oil and Hazardous Substance Site Spill Control and Countermeasures

Facility Number	Substance Stored	Site Desc. (Annex IX)	Grid Coord (Annex IX)	Max. Spill Quantity (gal)	Report Spill	Sec. Cont.	Probable Spill Route (Refer to Maps in Annex IX)		Contin- gency Action	Visual Inspection	Prev Maint.	House- keeping	Mat. Comp.	Secu- rity	Monit.	Verifi- cation Date

OIL STORAGE FACILITIES

FOR OFFICIAL USE ONLY																
101	Fuel Oil #2	250 gal. U/G St.	8-D	250	E-1	F-1	G-1, G-2	H-1, H-2	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3		7/86
102	Fuel Oil #2	2000 gal. A/G St.	7-F	2000	E-1	F-4	G-2	H-1	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3		7/86
103	Fuel Oil #2	275 gal. A/G St.	8-F	275	E-1	F-1	G-2	H-1	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3		7/86
104	Fuel Oil #2	5000 gal. A/G St.	7-F	5000	E-1	F-4	G-2	H-1	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3		7/86
105	Fuel Oil #2	550 gal. A/G St.	7-F	550	E-1	F-1	G-2	H-1	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3		7/86
106	Diesel	500 gal. A/G St.	7-F	500	E-1	F-1	G-2	H-1	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3		7/86
110	Fuel Oil #2	1000 gal. A/G St.	7-F	1000	E-1	F-1	G-2	H-1	I-1	J-1	K-1	L-2	M-1, M-2	N-1, N-3		7/86
112	Fuel Oil #2	1500 gal. A/G St.	6-F	1500	E-1	F-1	G-2	H-1	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3		7/86
113	Fuel Oil #2	550 gal. A/G St.	6-F	550	E-1	F-1	G-2	H-1	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3		7/86
114	Fuel Oil #4	20000 gal U/G St	6-F	20000	E-1	F-1	G-1, G-2	H-1, H-2	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3		7/86

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D-27

OIL AND HAZARDOUS SUBSTANCE SITE

SPILL CONTROL AND COUNTERMEASURES

Facility Number	Substance Stored	Site Desc. (Annex IX)	Grid Coord. (Annex IX)	Max. Spill Quantity (gal)	Report Spill	Sec. Cont. (Annex IX)	Probable Spill Route (Refer to Maps in Annex IX)		Contin- gency Action	Visual Inspec- tion	Prev Maint. keeping	House- keeping	Mat. Comp. rity	Monit. Date	Verifi- cation Date

OIL STORAGE FACILITIES

114	Diesel	1000 gal. A/G St.	6-F	1000	E-1	F-1	G-2	H-1	I-1	J-1	K-1	L-1	M-1, N-2	N-1, N-3	7/86
114	LP	250 gal. A/G St.	6-F	250	E-1	F-1	G-14	H-7	I-1	J-1	K-1	L-1	M-1	N-1, N-3	7/86
114	LP	500 gal. A/G St.	6-F	500	E-1	F-1	G-14	H-7	I-1	J-1	K-1	L-1	M-1	N-1, N-3	7/86
115	Fuel Oil #2	1500 gal. A/G St.	5-F	1500	E-1	F-1	G-2	H-1	I-1	J-1	K-1	L-1	M-1, N-2	N-1, N-3	7/86
116	Fuel Oil #2	750 gal. A/G St.	6-G	750	E-1	F-1	G-2	H-1	I-1	J-1	K-1	L-1	M-1, N-2	N-1, N-3	7/86
117	Fuel Oil #4	10000 gal. A/G St.	6-G	10000	E-1	F-1	G-2	H-1	I-1	J-1	K-1	L-1	M-1, N-2	N-1, N-3	7/86
117	LP	250 gal. A/G St.	6-G	250	E-1	F-1	G-14	H-7	I-1	J-1	K-1	L-1	M-1	N-1, N-3	7/86
119	Fuel Oil #2	4000 gal. U/G St.	6-G	4000	E-1	F-1	G-1	H-1, H-2	I-1	J-1	K-1	L-1	M-1, N-2	N-1, N-3	7/86
120	Fuel Oil #2	2000 gal. A/G St.	6-H	2000	E-1	F-1	G-3	H-1	I-1	J-1	K-1	L-1	M-1, N-2	N-1, N-3	7/86
120	LP	1000 gal. A/G St.	6-H	1000	E-1	F-1	G-14	H-7	I-1	J-1	K-1	L-1	M-1	N-1, N-3	7/86
122	Diesel	180 gal. A/G St.	5-G	180	E-1	F-1	G-2	H-1	I-6	J-1	K-1	L-1	M-1	N-1, N-3	7/86
124	Fuel Oil #2	1500 gal. A/G St.	4-G	1500	E-1	F-1	G-4, G-5	H-1	I-1	J-1	K-1	L-1	M-1, N-2	N-1, N-3	7/86

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**OIL AND HAZARDOUS SUBSTANCE SITE
SPILL CONTROL AND COUNTERMEASURES**

Facility Number	Substance Stored	Site Desc.	Grid Coord. (Annex IX)	Max. Spill Quantity (gal)	Report Spill	Sec. Cont.	Probable Spill Route (Refer to Maps in Annex IX)	Contin-gency Action	Visual Inspec-tion	Prev Maint.	House-keeping	Mat. Comp.	Secu-rity	Monit.	Verifi-cation Date
OIL STORAGE FACILITIES															
202	Fuel Oil #2	1000 gal. A/G St.	8-G	1000	E-1	F-4	G-2	H-1	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3	7/86
212	Fuel Oil #2	1000 gal. A/G St.	9-H	1000	E-1	F-1	G-7	H-1	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3	7/86
214	Fuel Oil #2	5000 gal. A/G St.	9-I	5000	E-1	F-2	G-7	H-1	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3	7/86
214	Fuel Oil #2	1000 gal. A/G St.	9-I	1000	E-1	F-1	G-7	H-1	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3	7/86
219	Fuel Oil #2	550 gal. A/G St.	9-I	550	E-1	F-1	G-8	H-1, Annex II-10	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3	7/86
220	Fuel Oil #4	5000 gal. A/G St.	9-I	5000	E-1	F-6	G-13	H-4, Annex II-10	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3	7/86
220	LP	250 gal. A/G St.	9-I	250	E-1	F-1	G-14	H-7, Annex II-10	I-1	J-1	K-1	L-1	M-1	N-1, N-3	7/86
220	MOGAS	550 gal. U/G St.	9-I	550	E-1	F-8	G-1, G-8	H-2, Annex II-10	I-3	J-1	K-1	L-1	M-1	N-1, N-3	7/86
222	MOGAS	275 gal. A/G St.	9-I	275	E-1	F-2	G-8	H-1	I-1	J-1	K-1	L-1	M-1	N-1, N-3	7/86
223	LP	500 gal. A/G St.	9-H	500	E-1	F-1	G-14	H-7	I-1	J-1	K-1	L-1	M-1	N-1, N-3	7/86
228	Fuel Oil #2	1500 gal. A/G St.	7-G	1500	E-1	F-2	G-2	H-1	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3	7/86
229	Fuel Oil #2	280 gal. A/G	9-K	280	E-1	F-9	G-2	H-1	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3	7/86

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OIL AND HAZARDOUS SUBSTANCE SITE
SPILL CONTROL AND COUNTERMEASURES

Facility Number	Substance Stored	Site Desc. (Annex IX)	Grid Coord. (Annex IX)	Max. Spill Quantity (gal)	Report Spill	Sec. Cont.	Probable Spill Route (Refer to Maps in Annex IX)	Contingency Action	Visual Inspection	Prev. Maint.	House-keeping	Mat. Comp.	Security	Monit.	Verification Date
OIL STORAGE FACILITIES															
2230	Fuel Oil #2	500 gal. A/G St.	7-G	500	E-1	F-1	G-9	H-1	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3	7/86
2231	Fuel Oil #2	500 gal. A/G St.	7-H	500	E-1	F-1	G-8	H-1	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3	7/86
2232	Fuel Oil #2	500 gal. A/G St.	7-H	500	E-1	F-1	G-8	H-1	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3	7/86
2233	Fuel Oil #2	500 gal. A/G St.	7-H	500	E-1	F-1	G-8	H-1	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3	7/86
2234	Fuel Oil #2	500 gal. A/G St.	8-J	500	E-1	F-1	G-8	H-1	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3	7/86
2235	Fuel Oil #2	500 gal. A/G St.	8-J	500	E-1	F-1	G-8	H-1	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3	7/86
2236	Fuel Oil #4	25000 gal. U/G St.	7-H	25000	E-1	F-8	G-1, G-8	H-1, H-2	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3	7/86
2237	LP	500 gal. A/G St.	7-H	500	E-1	F-1	G-14	H-7	I-1	J-1	K-1	L-1	M-1	N-1, N-3	7/86
2238	Fuel Oil #2	500 gal. A/G St.	6-H	500	E-1	F-1	G-3	H-1, Annex II-1	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3	7/86
2239	Fuel Oil #2	500 gal. A/G St.	6-H	500	E-1	F-1	G-3	H-1, Annex II-1	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3	7/86
2255	Waste Oil	500 gal. A/G St.	6-H	500	E-1	F-8	G-1	H-2, Annex II-1	I-10	J-10	K-1	L-1	M-1	N-7	7/86

FOR OFFICIAL USE ONLY

OIL AND HAZARDOUS SUBSTANCE SITE

SPILL CONTROL AND COUNTERMEASURES

Facility Number	Substance Stored	Site Desc. (Annex IX)	Grid Coord	Max. Spill Quantity (gal)	Report Spill	Sec. Cont.	Probable Spill Route (Refer to Maps in Annex IX)		Contin- gency Action	Visual Inspec- tion	Prev Maint.	House- keeping	Mat. Comp.	Secu- rity	M-rit.	Verifi- cation Date
OIL STORAGE FACILITIES																
256	Fuel Oil #2	5000 gal U/G St.	6-I	5000	E-1	F-2	G-1, G-3	H-1, H-2	I-1	I-1	J-1	---	L-1	M-1, M-2	M-3	7/86
320	Fuel Oil #2	1500 gal. A/G St.	9-G	1500	E-1	F-3	G-2	H-1	I-1	I-1	J-1	K-1	L-1	M-1, M-2	M-3	7/86
322	JP 4	2000 gal. U/G St.	9-G	2000	E-1	F-3, F-8	G-1, G-2	H-1, H-2, Annex II-8	I-3	I-3	J-2	K-1	L-1	M-1, M-2, M-4	M-4	7/86
322	MEGAS	1000 gal. U/G St.	9-G	1000	E-1	F-3, F-8	G-1, G-2	H-2, Annex II-3	I-3	I-3	J-2	K-1	L-1	M-1, M-2, M-4	M-4	7/86
322	Fuel Oil #2	2000 gal. U/G St.	9-G	2000	E-1	F-3, F-8	G-1, G-2	H-1, H-2, Annex II-8	I-1	I-1	J-1	K-1	L-1	M-1, M-2	M-3	7/86
325	Fuel Oil #2	2000 gal. A/G St.	9-H	2000	E-1	F-1	G-1	H-1	I-1	I-1	J-1	K-1	L-1	M-1, M-2	M-3	7/86
326	Fuel Oil #4	5000 gal. A/G St.	9-H	5000	E-1	F-1	G-7	H-1	I-1	I-1	J-1	K-1	L-1	M-1, M-2	M-3	7/86

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

OIL AND HAZARDOUS SUBSTANCE SITE

SPILL CONTROL AND COUNTERMEASURES

Facility Number	Substance Stored	Site Desc.	Grid Coord. (Annex IX)	Max. Spill Quantity (gal)	Report Spill	Sec. Cont.	Probable Spill Route (Refer to Maps in Annex IX)		Contin- gency Action	Visual Inspec- tion	Prev Maint.	House- keeping	Mat. Comp.	Secu- rity	Monit.	Verifi- cation Date

OIL STORAGE FACILITIES

326	LP	250 gal A/G St.	9-H	250	E-1	F-1	G-14	H-7	I-1	J-1	K-1	L-1	M-1	N-1, N-3		7/86
327	Fuel Oil #2	500 gal. A/G St.	10-F	500	E-1	F-3, F-4	G-2	H-1, Annex II-8	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3		7/86
328	Fuel Oil #2	1000 gal. A/G St.	10-F	1000	E-1	F-3, F-4	G-2	H-1	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3		7/86
329	Fuel Oil #2	2000 gal. A/G St.	10-F	2000	E-1	F-3, F-4	G-2	H-1, Annex II-8	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3		7/86
330	Fuel Oil #2	500 gal. I/G St.	10-H	500	E-1	F-1	G-7	H-1	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3		7/86
331	Diesel	275 gal. A/G St.	10-H	275	E-1	F-1	G-7	H-1	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3		7/86
332	Fuel Oil #2	500 gal. A/G St.	10-H	500	E-1	F-1	G-7	H-1	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3		7/86
332	Diesel	500 gal. A/G St.	10-H	500	E-1	F-1	G-7	H-1	I-1	J-1	K-1	L-1	M-1, M-2, M-3	N-1, N-3		7/86
334	Fuel Oil #2	500 gal. A/G St.	10-I	500	E-1	F-1	G-7	H-1	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3		7/86
334	LP	250 gal A/G St.	10-I	250	E-1	F-1	G-14	H-7	I-1	J-1	K-1	L-1	M-1	N-1, N-3		7/86
336	Fuel Oil #2	1500 gal A/G St.	10-I	1500	E-1	F-2	G-7	H-1	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3		7/86

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

OIL AND HAZARDOUS SUBSTANCE SITE

SPILL CONTROL AND COUNTERMEASURES

Facility Number	Substance Stored	Site Desc. (Annex IX)	Grid Coord	Max. Spill Quantity (gal)	Report Spill	Sec. Cont. Annex IX)	Probable Spill Route (Refer to Maps in Annex IX)	Contin- gency Action	Visual Inspec- tion	Prev Maint.	House- keeping	Mat. Comp. rity	Monit.	Verifi- cation Date
OIL STORAGE FACILITIES														
341	Fuel Oil #2	2000 gal U/G St.	10-I	2000	E-1	F-1, F-8	G-1, G-7	H-1, H-2	I-1	J-1	K-1	L-1	M-1, M-2, N-3	7/86
342	Fuel Oil #2	750 gal. A/G St.	10-I	750	E-1	F-2	G-7	H-1	I-1	J-1	K-1	L-1	M-1, M-2, N-3	7/86
343	Fuel Oil #2	1000 gal. A/G St.	10-I	1000	E-1	F-1	G-7	H-1	I-1	J-1	K-1	L-1	M-1, M-2, N-3	7/86
344	Fuel Oil #2	1000 gal. A/G St.	10-I	1000	E-1	F-1	G-7	H-1	I-1	J-1	K-1	L-1	M-1, M-2, N-3	7/86
345	Fuel Oil #2	1000 gal. A/G St.	10-H	1000	E-1	F-1	G-7	H-1	I-1	J-1	K-1	L-1	M-1, M-2, N-3	7/86
346	Fuel Oil #2	1000 gal. A/G St.	10-H	1000	E-1	F-1	G-7	H-1	I-1	J-1	K-1	L-1	M-1, M-2, N-3	7/86
347	Fuel Oil #2	1000 gal. A/G St.	10-H	1000	E-1	F-1	G-7	H-1	I-1	J-1	K-1	L-1	M-1, M-2, N-3	7/86
348	Fuel Oil #2	1000 gal. A/G St.	10-H	1000	E-1	F-1	G-7	H-1	I-1	J-1	K-1	L-1	M-1, M-2, N-3	7/86
349	Fuel Oil #2	1000 gal. A/G St.	10-H	1000	E-1	F-1	G-7	H-1	I-1	J-1	K-1	L-1	M-1, M-2, N-3	7/86
350	Fuel Oil #2	1000 gal. A/G St.	9-H	1000	E-1	F-1	G-7	H-1	I-1	J-1	K-1	L-1	M-1, M-2, N-3	7/86
350	MCGAS	275 gal A/G St.	9-H	275	E-1	F-1	G-7	H-1	I-6	J-1	K-1	L-1	M-1, M-2, N-3	7/86
352	Fuel Oil #4	12000 gal U/G St	10-G	12000	E-1	F-1, F-8	G-1, G-7	H-1, H-2, Annex II-8	I-1	J-1	K-1	L-1	M-1, M-2, N-3	7/86

FOR OFFICIAL USE ONLY

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OIL AND HAZARDOUS SUBSTANCE SITE

SPILL CONTROL AND COUNTERMEASURES

Facility Number	Substance Stored	Site Desc. (Annex IX)	Grid Coord (Annex IX)	Max. Spill Quantity (gal)	Report Spill	Sec. Cont. Annex IX)	Probable Spill Route (Refer to Maps in Annex IX)		Contin- gency Action	Visual Inspec- tion	Prev Maint. keeping	House- Mat. Comp. rity	Verifi- cation Date
							Spill	Cont. Annex IX)					
OIL STORAGE FACILITIES													
352	LP	250 gal A/G St.	10-G	250	E-1	F-1	G-14	H-7, Annex II-8	I-1	J-1	K-1	L-1	N-1, N-3 7/86
353	Diesel	40 275 gal. A/G St.	10-H	275	E-1	F-1	G-7	H-1	I-1	J-1	K-1	L-1	N-1, N-3 7/86
354	Fuel Oil #4	10000 gal U/G St.	10-H	10000	E-1	F-1, F-3	G-1, G-7	H-1, H-2, Annex II-8	I-1	J-1	K-1	L-1	N-1, N-3 7/86
355	LP	250 gal. A/G St.	10-H	250	E-1	F-1	G-14	H-7, Annex II-9	I-1	J-1	K-1	L-1	N-1, N-3 7/86
356	Fuel Oil #4	10000 gal U/G St.	10-H	10000	E-1	F-1, F-8	G-1, G-7	H-1, H-2, Annex II-8	I-1	J-1	K-1	L-1	N-1, N-3 7/86

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

OIL AND HAZARDOUS SUBSTANCE SITE

SPILL CONTROL AND COUNTERMEASURES

Facility Number	Substance Stored	Site Desc. (Annex IX)	Grid Coord (Annex IX)	Max. Spill Quantity (gal)	Report Spill	Sec. Cont.	Probable Spill Route (Refer to Maps in Annex IX)		Contin- gency Action	Visual Inspec- tion	Prev Maint.	House- keeping	Mat. Comp.	Secu- rity	Monit.	Verifi- cation Data

OIL STORAGE FACILITIES

359	LP	250 gal A/G St.	10-H	250	E-1	F-6	G-14	H-7, Annex II-2	I-1	J-1	K-1	L-1	M-1	N-1, N-3		7/86
360	Fuel Oil #2	2500 gal. A/G St.	11-I	2500	E-1	F-1	G-7	H-1	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3		7/86
360	Diesel	500 gal. A/G St.	11-I	500	E-1	F-1	G-7	H-1	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3		7/86
361	Diesel	2000 gal. A/G St.	11-I	2000	E-1	F-1	G-7	H-1	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3		7/86
362	Fuel Oil #2	2000 gal. A/G St.	11-I	2000	E-1	F-1	G-7	H-1	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3		7/86
362	Diesel	500 gal. A/G St.	11-I	500	E-1	F-1	G-7	H-1	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3		7/86
364	Fuel Oil #2	3000 gal. U/G St.	11-I	3000	E-1	F-1	G-1, G-7	H-1, H-2	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3		7/86
368	Fuel Oil #2	2000 gal. A/G St.	11-K	2000	E-1	F-1	G-7	H-1	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3		7/86
368	Waste Hydraulic Fluid	2@ 500 gal. U/G	11-K	1000	E-1	F-8	G-7	H-1, H-2	I-3	J-1	K-1	L-1	M-1, M-2	N-1, N-3		7/86

FOR OFFICIAL USE ONLY

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OIL AND HAZARDOUS SUBSTANCE SITE

SPILL CONTROL AND COUNTERMEASURES

Facility Number	Substance Stored	Site Desc. (Annex IX)	Grid Coord (Annex IX)	Max. Spill Quantity (gal)	Report Spill	Sec. Cont.	Probable Spill Route (Refer to Maps in Annex IX)		Contin- gency Action	Visual Inspec- tion	Prev. Maint.	House- keeping	Mat. Comp.	Secu- rity	Monit.	Verifi- cation Date

OIL STORAGE FACILITIES

406	Fuel Oil #2	1000 gal U/G St.	13-E	1000	E-1	F-1	G-1, G-10	H-1, H-2	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3		7/86
443	Fuel Oil #2	1000 gal. U/G St.	20-F	1000	E-1	F-1	G-11	H-1	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3		7/86
451	Fuel Oil #2	200 gal. A/G St.	20-E	200	E-1	F-1	G-10, G-11	H-1	I-1	J-1	K-1	L-1	M-1, M-2	N-1		7/86
454	Fuel Oil #2	275 gal. A/G St.	20-E	275	E-1	F-1	G-10	H-1	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3		7/86
505	Fuel Oil #2	500 gal. A/G St.	10-I	500	E-1	F-2	G-7	H-1	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3		7/86
505	Fuel Oil #2	1500 gal. A/G St.	10-J	1500	E-1	F-1	G-7	H-1	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3		7/86
505	Fuel Oil #2	1000 gal. A/G St.	11-J	1000	E-1	F-1	G-7	H-1, Annex II-9	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3		7/86
510	Fuel Oil #2	550 gal. A/G St.	10-L	550	E-1	F-2, F-6	G-7	H-1	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3		7/86
512	Fuel Oil #2	275 gal. U/G St.	9-J	275	E-1	F-2	G-1, G-8	H-1, H-2	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3		7/86

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

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OIL AND HAZARDOUS SUBSTANCE SITE
SPILL CONTROL AND COUNTERMEASURES

Facility Number	Substance Stored	Site Desc. (Annex IX)	Grid Coord (Annex IX)	Max. Spill Quantity (gal)	Report Spill	Sec. Cont.	Probable Spill Route (Refer to Maps in Annex IX)	Contin- gency Action	Visual Inspec- tion	Prev. Maint.	House- keeping	Mat. Comp.	Secu- rity	Monit.	Verifi- cation Date
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OIL STORAGE FACILITIES

513	Diesel	5000 gal U/G St.	9-J	5000	E-1	F-8	G-1	H-1, H-2	I-3	J-2	K-1	L-1	M-1, M-2, M-3, M-4	N-1, N-2, N-3, N-4	7/86
513	MOGAS	3 @ 5,000 U/G St.	9-J	15000	E-1	F-8	G-1	H-1, H-2	I-3	J-2	K-1	L-1	M-1, M-2, M-3, M-4	N-1, N-2, N-3, N-4, N-5	7/86
513	Fuel Oil #2	5000 gal. A/G St.	9-J	5000	E-1	F-2, F-9	G-8	H-1, Annex II-3	I-1	J-1	K-1	L-1	M-1, M-2, M-3, M-4	N-1, N-2, N-3, N-4, N-5	7/86
513	LP	250 gal. A/G St.	9-J	250	E-1	F-1	G-14	H-7, Annex II-3	I-1	J-1	K-1	L-1	M-1	N-1, N-3	7/86
513	LP	1000 gal. U/G St.	9-J	1000	E-1	F-8, F-9	G-14	H-7	I-1	J-1	K-1	L-1	M-1, M-2, M-3	N-1, N-3	7/86
513	Fuel Oil #2	1500 gal. A/G St.	9-J	1500	E-1	F-2, F-9	G-8	H-1, Annex II-2	I-1	J-1	K-1	L-1	M-1, M-2	N-1	7/86
513	JP4	14 Mobil Units @ 5000 gal.	9-K	5000	E-1	F-2	G-22	H-4, Annex II-1	I-7	J-6	K-1	L-1	M-1, M-2, M-3	N-1, N-3	7/86
513	MOGAS	1 Mobil Unit 1500 gal.	9-L	1500	E-1	F-2	G-22	H-4, Annex II-1	I-7	J-6	K-1	L-1	M-1, M-2, M-3	N-1, N-3	7/86
518	Diesel Fuel #2	1 Mobile Unit 1200 gal.	9-L	1200	E-1	F-2	G-22	H-4, Annex II-1	I-7	J-6	K-1	L-1	M-1, M-2, M-3	N-1, N-3	7/86
519	Fuel Oil #2	1000 gal. A/G St.	7-K	1000	E-1	F-2	G-8	H-1	I-1	J-1	K-1	L-1	M-1, M-2, M-3	N-1, N-3	7/86
520	Fuel Oil #2	550 gal. A/G St.	9-J	550	E-1	F-2	G-8	H-1	I-1	J-1	K-1	L-1	M-1, M-2, M-3	N-1, N-3	7/86
538	JP-5	2 Bladders 11-L gal. @ 10,000	11-L	16,000	E-1	F-1	G-7	H-1	I-5	J-9	K-1	L-1	M-1, M-2, M-3	N-9	7/86
41103	JP4	420000 gal. 8-K A/G St	8-K	420000	E-1	F-2, F-10, F-11	G-16	H-1, H-10, Annex II-1	I-2	J-1	K-1	L-3	M-1, M-2, M-3	N-1, N-3	7/86

FOR OFFICIAL USE ONLY

OIL AND HAZARDOUS SUBSTANCE SITE

SPILL CONTROL AND COUNTERMEASURES

Facility Number	Substance Stored	Site Desc. (Annex IX)	Grid Coord (Annex IX)	Max. Spill Quantity (gal)	Report Spill	Sec. Cont. Annex IX)	Probable Spill Route (Refer to Maps in Annex IX)		Contin- gency Action	Visual Inspec- tion	Prev Maint.	House- keeping	Mat. Comp.	Secu- rity	Monit.	Verifi- cation Date
							Spill Route	Maps in								

OIL STORAGE FACILITIES

526	Fuel Oil #1	500 gal. A/G St.	6-L	500	E-1	F-1	G-3	H-1	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3		7/86
530	Fuel Oil #2	500 gal. A/G St.	6-L	500	E-1	F-1	G-3	H-1	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3		7/86
544	Fuel Oil #2	500 gal. A/G St.	10-M	500	E-1	F-2	G-8	H-1	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3		7/86
559	Diesel	300 gal. A/G St.	15-M	300	E-1	F-1	G-7	H-1	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3		7/86
563	LP	250 gal. A/G St.	11-I	250	E-1	F-1	G-14	H-7	I-1	J-1	K-1	L-1	M-1	N-1, N-3		7/86
578	MOGAS	150 gal. A/G St.	9-Q	150	E-1	F-7	G-8	H-1	I-6	J-1	K-1	L-1	M-1, M-2	N-1, N-3		7/86
580	Fuel Oil #2	500 gal. A/G St.	9-R	500	E-1	F-7	G-8	H-1	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3		7/86
580	MOGAS	600 gal. A/G St.	9-R	600	E-1	F-7	G-8	H-1	I-11	J-1	K-1	L-1	M-1, M-2	N-1, N-3		7/86
581	Fuel Oil #2	500 gal. A/G St.	9-R	500	E-1	F-7	G-8	H-1	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3		7/86
587	Fuel Oil #2	550 gal. A/G St.	9-Q	550	E-1	F-7	G-8	H-1	I-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3		7/86

FOR OFFICIAL USE ONLY

**OIL AND HAZARDOUS SUBSTANCE SITE
SPILL CONTROL AND COUNTERMEASURES**

Facility Number	Substance Stored	Site Desc.	Grid Coord. (Annex IX)	Max. Spill Quantity (gal)	Report Spill	Sec. Cont.	Contingency Action (Refer to Maps in Annex IX)	Visual Inspection	Prev. Maint.	House-keeping	Mat. Comp.	Security	Monit.	Verification Date
960	MUGAS	150 gal. U/G St.	4-F	150	E-1	F-1	G-1, G-4	H-2	J-1	K-1	L-1	M-1, M-2	N-1, N-3	7/86
965	Fuel Oil #2	2000 gal. U/G St.	4-F	2000	E-1	F-1, F-8	G-1, G-4	H-1, H-2	J-1	K-1	L-1	M-1, M-2	N-1, N-3	7/86
965	Fuel Oil #2	3000 gal. U/G St.	4-F	3000	E-1	F-1, F-8	G-1, G-4	H-1, H-2	J-1	K-1	L-1	M-1, M-2	N-1, N-3	7/86
965	Fuel Oil #2	4000 gal. A/G St.	4-F	4000	E-1	F-1, F-8	G-4, G-5	H-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3	7/86
965	Fuel Oil #2	1000 gal. U/G St.	4-F	1000	E-1	F-1, F-8	G-1, G-4, G-5	H-1, H-2	J-1	K-1	L-1	M-1, M-2	N-1, N-3	7/86
965	Fuel Oil #2	500 gal. A/G St.	4-G	500	E-1	F-1	G-4	H-1	J-1	K-1	L-1	M-1, M-2	N-1, N-3	7/86
965	MUGAS	150 gal. U/G St.	3-H	150	E-1	F-1, F-8	G-1, G-4	H-2	J-1	K-1	L-1	M-1, M-2	N-1, N-3	7/86
965	Fuel Oil	1000 gal. U/G St.	4-H	1000	E-1	F-1, F-8	G-1, G-4	H-1, H-2	J-1	K-1	L-1	M-1, M-2	N-1, N-3	7/86
965	JP-4	20 1000 gal. 12-L A/G St.		2000	E-1	F-9	G-21	H-4, Annex II-8	J-1	K-1	L-1	M-1	N-1, N-3	7/86
965	Diesel	25000 gal. U/G St.	8-K	25000	E-1	F-2, F-14	G-1	H-2, Annex II-1	J-1, J-2, J-8	K-1	L-3	M-1, M-2	N-1, N-2, N-3, N-4, N-5	7/86
89001	Gasoline	265 gal. U/G St.	9-A	265	E-1	F-8	G-1, G-30	H-2	J-1	K-1	L-1	M-1	N-1, N-3	7/86
89014	Gasoline	265 gal. U/G St.	11-D	265	E-1	F-8	G-1, G-2	H-2	J-1	K-1	L-1	M-1	N-1, N-3	7/86
89015	Gasoline	265 gal. U/G St.	13-F	265	E-1	F-3	G-1, G-15	H-2	J-1	K-1	L-1	M-1	N-1, N-3	7/86
89016	Gasoline	265 gal. U/G St.	18-O	265	E-1	F-8	G-1, G-20	H-2	J-1	K-1	L-1	M-1	N-1, N-3	7/86
89017	Gasoline	265 gal. U/G St.	20-R	265	E-1	F-8	G-1, G-20	H-2	J-1	K-1	L-1	M-1	N-1, N-3	7/86
89018	Gasoline	265 gal. U/G St.	21-T	265	E-1	F-8	G-1, G-20	H-2	J-1	K-1	L-1	M-1	N-1, N-2	7/86
517	Gasoline	150 gal. U/G St.	9-L	150	E-1	F-8	G-1, G-8	H-2	J-1	K-1	L-1	M-1	N-1, N-3	7/86
560	Diesel	500 gal. U/G St.	14-N	500	E-1	F-8	G-1, G-7	H-2	J-1	K-1	L-1	M-1	N-1, N-3	7/86

FOR OFFICIAL USE ONLY

OIL AND HAZARDOUS SUBSTANCE SITE
SPILL CONTROL AND COUNTERMEASURES

Facility Number	Substance Stored	Site Desc. (Annex IX)	Grid Coord. (Annex IX)	Max. Spill Quantity (gal)	Report Spill	Sec. Cont.	Probable Spill Route (Refer to Maps in Annex IX)	Contin- gency Action	Visual Inspec- tion	Prev. Maint.	House- keeping	Mat. Comp.	Secu- rity	Monit.	Verifi- cation Date
41101	MOGAS	25000 gal. U/G St.	8-K	25000	E-1	F-2, F-14	G-1	H-2, Annex II-1	I-3	J-1, J-2	K-1	L-3	M-1, M-2, M-3	N-1, N-2, N-3	7/86
41103	JP-4	1050000 gal. A/G St.	9-L	1050000	E-1	F-2, F-10, F-11	G-15	H-1, H-10, Annex II-1	I-2	J-1	K-1	L-3	M-1, M-2, M-3	N-1, N-2, N-3	7/86
89004	MOGAS	300 gal. A/G St.	12-E	300	E-1	F-13	G-2	H-1	I-6	J-1	K-1	L-1	M-1, M-2	N-1, N-3	7/86
89005	MOGAS	300 gal. A/G St.	17-M	300	E-1	F-22	G-20	H-1	I-6	J-1	K-1	L-1	M-1, M-2	N-1, N-3	7/86
89006	Mineral Oil PD680 Synthetic Oil Waste Fuel All A/G St.	1000 gal. 10000 gal. 1000 gal. 5000 gal. 10000 gal.	9-K	27000	E-1	F-2, F-19	G-30	H-1, H-10, Annex II-1	I-2	J-1, J-2	K-1	L-1	M-1, M-3	N-5, N-7	7/86
41104	JP-4	Portable Rubber Fuel Bladders 3@ 10000 gal.	16-F, 17-F	30000	E-1	F-16	G-15, G-18	H-1, H-10, Annex II-1	I-9	J-9	---	---	M-1, M-3	N-9	7/86
41105	Diesel	300 gal. A/G St.	13-I	300	E-1	F-1	G-7	H-1	I-6	J-1	K-1	L-1	M-1, M-2	N-1, N-3	7/86
41106	JP-4	1050000 gal. A/G St.	7-K	1050000	E-1	F-2, F-10, F-11	G-17	H-1, H-11	I-4	J-4	---	L-3	M-1, M-3	N-1, N-2, N-3	7/86

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

OIL AND HAZARDOUS SUBSTANCE SITE
SPILL CONTROL AND COUNTERMEASURES

Facility Number	Substance	Site Desc. (Annex IX)	Grid Coord (Annex IX)	Max. Spill Quantity (gal)	Report Spill Cont.	Probable Spill Route (Refer to Maps in Annex IX)		Contingency Action	Visual Inspection	Prev. Maint.	House-keeping	Mat. Comp.	Security	Monit.	Verification Date
						Spill	Cont.								
FUEL TRANSFER AREAS															
2101	Diesel	Refueling Vehicle	8-K	5000	E-1	F-2, F-14	G-24	H-1, H-4, Annex II-1	I-2	J-2	K-1	L-1	M-1, M-3	N-10	7/86
	Mogas	Fill Stands	9-K												
JP-4		U/G Pipelines: ICW to MBPC MBPC to MB AFB	--	1050000	E-1	F-1	G-18	H-1, H-11	I-12	J-5	K-1	L-5	M-1	N-10	7/86
JP-4		Barge off-loading dock & ICW	20-T	1050000	E-1	F-12	G-19	H-11	I-5	J-4	K-1	L-5	M-5	N-10	7/86
JP-4, Diesel, Mogas		Fuel Delivery Routes/Aircraft Refueling Routes	--	9000	E-1	F-15	G-23	H-1	---	---	K-1	L-1	M-1	---	7/86
JP-4		Aircraft Parking Apron	--	5000	E-1	F-15	G-25	H-9, Annex II-13 (for Hydrazine spill)	I-8	---	K-1	L-1	M-1	---	7/86
JP-4		Aircraft Parking Pads	--	5000	E-1	F-1	G-26	H-1, H-5	I-3	---	K-1	L-1	M-1	---	7/86
JP-4		Fire Training Pit	14-E	500	E-1	F-17	G-27	H-1	I-9	J-7	---	---	M-1	---	7/86

FOR OFFICIAL USE ONLY

OIL AND HAZARDOUS SUBSTANCE SITE

SPILL CONTROL AND COUNTERMEASURES

Facility Number	Substance Stored	Site Desc. (Annex IX)	Grid Coord	Max. Spill Quantity (gal)	Report Spill	Sec. Cont. Annex IX	Probable Spill Route (Refer to Maps in Annex IX)		Contingency Action	Visual Inspection	Prev Maint.	House-keeping	Mat. Comp.	Security	Monit.	Verification Date

CHEMICAL, DRUM AND SMALL CONTAINER STORAGE AREAS

FOR OFFICIAL USE ONLY																
208	PCB (Pre-sently no PCB's)	PCB Storage Bldg. concrete Slab with 4" berm	8-H	225	10 lbs.	F-18	G-28	H-12, Annex II-5	I-5	J-11	K-1	L-1	M-1	M-6	---	7/86
210	3-1	Supply Storage Area 55 gal Dr., 5 gal. Cylinder	8-H	Varies (Currently 300)	E-1	P-1	G-29	H-13, Annex II-4, Annex II-13	I-5	J-12	K-2	L-4	M-1, M-3	---	---	7/86
220	3-3	CE-Maint. 55 gal. Dr.	9-I	100	E-1	F-2, F-9	G-31	H-4, Annex II-10	I-11	J-7	---	L-1	M-1, M-3	---	N-5	7/86
221	B-3	Auto Hobby 55 gal. Dr.	6-H	55	E-1	F-9	G-3, G-31	H-4, Annex II-11	I-11	J-7	---	---	M-1, M-3	---	N-7	7/86
320	B-5	AGE Shop 55 gal. Dr.	9-C	200	E-1	F-3	G-32	H-1	I-11	J-7	---	---	M-1, M-3	---	N-6	7/86
324 (south side)	E-6	Engine Shop 100 gal. Vats 55 gal. Dr.	9-C	150	B-6	F-3	G-33, F-20	H-13, H-14, Annex II-8	I-11	J-12	---	L-1	M-1, M-3	---	N-6	7/86
324, 325 (north side)	3-4	Engine Shop 250 gal bowser 55 gal. Dr.	9-G	250	E-1, B-2	F-3	G-34	H-1, H-13, Annex II-8	I-11	J-10	---	L-1	M-1, M-3	---	N-6	7/86

OIL AND HAZARDOUS SUBSTANCE SITE
SPILL CONTROL AND COUNTERMEASURES

Facility Number	Substance Spill	Site Desc. (Annex IX)	Grid Coord. (Annex IX)	Max. Spill Quantity (gal)	Report Spill	Sec. Cont.	Probable Spill Route (Refer to Maps in Annex IX)	Contingency Action	Visual Inspection	Prev. Maint.	House- keeping	Mat. Comp.	Security	Monit.	Verifi- cation Date
352	B-7	NDI-LAB 100 gal. Steel Vats, 55 gal. Dr.	9-G, 10-G	100	E-1, B-7	P-3	G-35, G-36	H-1, H-13, Annex II-8	I-11	J-10	---	---	M-1	N-6	7/86
352	B-8	Wheel and Tires	9-G	55	E-1	P-3	G-36	H-1, Annex II-9	I-11	J-10	---	L-1	M-1	N-6	7/86
353	B-9	Corrosion Control 100 Gal. Vat, 55 gal. Dr.	10-G	150	B-9	P-7, P-21	G-7	H-6, Annex II-8	I-11	J-7	K-1	L-1	M-1	N-6	7/86
359	B-10	Helicopter Hanger, 250 gal. Bowser, 55 gal. Dr.	10-H	250	E-1	P-9	G-12	H-4, Annex II-8	I-11	J-7	K-1	L-1	M-1	N-6	7/86
360	B-11	Fire Station 55 gal. Dr.	11-I	500	E-1	P-1	G-7	H-1	I-5	J-12	---	L-1	M-1	---	7/86
505	B-11	Armament Shop 55 gal. Dr.	11-J	500	E-1	P-1, P-8	G-1, G-7	H-1, Annex II-9	I-11	J-10	K-1	L-1	M-1	N-6	7/86
514	B-13	Transportation Maint. 55 gal. Dr. 250 gal. Bowser	9-J	250	E-1, B-13	P-2	G-37	H-1, Annex II-3	I-11	J-10	---	---	M-1, N-3	N-6	7/86

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