UNITED STATES DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration
William J. Hughes Technical Center

DRAFT
Finding of No Significant Impact (FONSI) and Environmental Assessment (EA)

Relocation of K-9 Explosive Storage Area

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1.0 Finding of No Significant Impact (FONSI)

1.1 Description of Proposed Action

This action is required to move the K-9 Explosives Storage Area (K9ESA) to a safe location which allows the expansion of research aviation security activities at the William J. Hughes Federal Aviation Administration Technical Center (FAATC).

The Aviation and Transportation Security Act (ATSA), which was signed into Public Law 71-107 on November 19, 2001, has substantially increased the workload and responsibility of the transportation security laboratory (TSL) personnel at the FAA. The expanded mission of the TSL requires that test personnel from the Security Equipment Integrated Product Team (SEIPT) be re-stationed from Herndon, Virginia to the FAATC to better manage quality testing of equipment destined for deployment.

The Department of the Treasury, Bureau of Alcohol, Tobacco, and Firearms "Federal Explosives Law and Regulations" (ATF P 5400.7), dated September 2000, requires that a safe distance be maintained between facilities used to store explosives and inhabited areas and public routes. Based on the configuration of the existing temporary K-9 Explosives Storage Area, a minimum distance of 875' to inhabited buildings (IBD) and 687' to public travel routes (PTRD) is required according to the regulations.

Buildings 318 and 319 will be modified to provide inhabited workspace. In addition, Building 193 will be renovated to provide non-explosives testing. The utilization of these three buildings as inhabited spaces requires that the K-9 Explosives Storage Area be relocated.

1.2 Alternatives Considered

Two design alternatives, four location alternatives and the no action alternative were considered in the EA.

1.2.1 Design Alternatives

Two design alternatives were considered for the K9ESA:

- Design Alternative 1 (DA-1) consists of 18 Type II magazines without internal barricades. DA-1 requires a footprint of 500 by 250 feet (2.87 acres) and would require an IBD of 1,055 feet and a PTRD of 876 feet.

- Design Alternative 2 (DA-2) consists of 18 Type II magazines with internal barricades. DA-2 requires a footprint of 320 by 510 feet (3.75 acres) and would require an IBD of 865 feet and a PTRD of 645 feet.

- Both design alternatives must also account for a 30 by 60 foot operations building and a septic disposal field approximately 30 by 40 feet.

There is little difference between the footprint of disturbance between these two design alternatives and associated environmental impacts; however, DA-2 has a much smaller zone of influence and is a more protective design layout. Therefore, DA-2 was selected as the preferred design alternative and was carried forward in this EA. DA-1 was not further considered in this EA.

1.2.2 Location Alternatives

In developing alternatives for siting the new K9ESA several criteria were considered:

- The area should be large enough to accommodate the facility footprint;
- There should be no inhabited buildings and public travel routes within the respective IBD and PTRD for the facility;
- There should be sufficient space for all estimated uses;
- The IBD and PTRD of the facility should minimally impact areas identified as Category A or B Lands (which are highly favorable for future development)
- The IBD and PTRD of the facility must be wholly contained within FAATC-controlled lands.

Four locations meet these criteria and were identified as potential location alternatives. These locations are identified on Figure 2-1. In addition, the no action alternative was also considered, which leaves the K9ESA at its present location and in its current configuration.

- Alternative A is located is the southern portion of the FAATC, south of the Building 70 area.
- Alternative B is located in the northeast portion of the FAATC, east of Buildings 311A, B, and C.
- Alternative C is located in the western portion of FAATC, just west of the cemetery.
- Alternative D is located in the extreme western portion of FAATC, west of Building 188.

The affected environment and the environmental consequences associated with each of the four potential location alternatives were evaluated in the EA. There were no significant impacts from the K9ESA at each of the four alternative locations; however, there were some locations that resulted in less impact than others. A comparative assessment of the impacts of each alternative on each resource is provided in Table 3-1 of the EA.

1.2.2.1. Alternative B – the preferred alternative. Alternative B was selected as the preferred alternative. Since there were no significant environmental impacts associated with this (or any other) alternative, the discriminating factor was cost. Given that this location is located on non-forested lands and is located 540 feet to the nearest electrical supply, the costs for constructing this alternative are less that the others. As with all of the other alternatives, the potential impacts to threatened and endangered species habitat associated with this alternative will require mitigation of the affected habitat.

1.2.2.2. Other Alternatives Considered but Rejected. Alternatives A, C, and D were considered; however, these alternatives are all located in forested areas that would require significant clearing for the K9ESA facility, cause forest fragmentation, and construction of access roads. In, addition, these locations are remote from existing sources of electricity. Based on these factors, the costs for construction of Alternatives A, C, and D would be much greater than that for Alternative B.

1.2.2.3. No Action Alternative. As stated in the Purpose and Need, the construction of a new K9ESA facility is required to provide a safe distance between inhabited work areas and the explosives storage facilities. If this project is not completed, FAATC would be required, by regulation, to either:

1. Discontinue storage of explosives at the existing K9ESA facility;

2. Abandon inhabited work areas within a protective radius of the existing K9ESA facility. This would result in the loss of Buildings 318, 319, and 193 as work areas; and

3. Abandon plans for increasing the research capabilities of the Aviation Security Laboratory, which operates in these three buildings and nearby facilities. The need to increase aviation security research requires the expansion of the facilities located nearby. Without moving the K9ESA facility, the Aviation Security Laboratory cannot be expanded.

Given the need to utilize and expand the Aviation Security Laboratory facilities at the FAATC in light of the terrorist attacks of September 11, 2001, the no action alternative was determined to be an unacceptable alternative.

1.3 Environmental Consequences

No significant, permanent, or long-standing adverse environmental impacts are expected by implementing the preferred alternative. Implementation of stormwater best management practices (BMPs), as required by local and state regulations, will effectively minimize potential impacts to surface water and groundwater resources.

The project area of the preferred alternative will be constructed over 3.75 acres of grassland and shrubland habitat. This habitat may provide foraging, cover, and breeding area for several listed or proposed threatened or endangered species. These species

include the upland sandpiper, grasshopper sparrow, peregrine falcon, Buchholz's dart moth, albarufan dagger moth, Leonard's skipper, frosted elfin, and a notodontid moth.

FAATC will mitigate for the loss of the grassland/shrubland habitat through restoring grassland habitat on berms and through the creation of grassland/shrubland habitat in nearby barren areas as part of future CERCLA activities. In addition, construction activities will be timed to occur during the winter months so as not to interfere with the potential usage of the habitat as foraging/breeding areas for these species.

Based on the attached environmental assessment (EA), the FAA has determined that the proposed action would not result in significant adverse environmental impacts and is not environmentally controversial. Other than implementing the BMPs for stormwater management and providing mitigation habitat for the impacted grassland/shrubland habitats, no mitigation measures are required.

1.4 Conclusion

After careful and thorough consideration of the facts contained herein, the undersigned finds that the proposed Federal action is consistent with existing national environmental policies and objectives as set forth in Section 101(a) of the National Environmental Policy Act of 1969 (NEPA) and that it will not significantly affect the quality of the human environmental or otherwise include any condition requiring consultation pursuant to Section 102(2)(C) of NEPA.

APPROVED: _____ DATE: _____

DISAPPROVED: _____ DATE: _____

Approving Official: Gary E. Poulsen, P.E.
Manager, Facility Services and Engineering Division, ACX-40
FAA William J. Hughes Technical Center
Atlantic City International Airport
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2.0 Purpose and Need

The Aviation Research and Development facility constructed at the FAATC included construction of a temporary K-9 Explosives Storage and Characterization Area in 1997 at the location shown on Figure 2-1. The existing K-9 site houses 11 explosives storage magazines inside an earthen barricade and a fence. Outside of the barricade and fence, there is a non-explosives storage magazine and an 8' by 32' office trailer with a diesel generator for electrical power.

The Department of the Treasury, Bureau of Alcohol, Tobacco, and Firearms "Federal Explosives Law and Regulations" (ATF P 5400.7), dated September 2000, requires that a safe distance be maintained between facilities used to store explosives and inhabited areas and public routes. Based on the configuration of the existing temporary K-9 Explosives Storage Area (K9ESA), a minimum distance of 875' to inhabited buildings (IBD) and 687' to public travel routes (PTRD) is required according to the regulations.

Buildings 318 (Bulk Storage Bldg.) and 319 (Trace Storage Bldg.) were constructed in 1997 and were maintained as uninhabited storage buildings. Building 193 was constructed in 1965 and had originally been used as a weather station by the National Weather Service; however, this building is now an unoccupied storage building. After construction of the existing temporary K9ESA in 1997, inhabited buildings were not located within the IBD and no public traffic routes within the PTRD of the K9ESA (Figure 2-1).

The Aviation and Transportation Security Act (ATSA), signed into law on November 19, 2001, has substantially increased the workload and responsibility of the transportation security laboratory (TSL) personnel at FAA. The expanded mission of the TSL requires that test personnel from the Security Equipment Integrated Product Team (SEIPT) be re-stationed from Herndon, Virginia to the FAATC to better manage quality test equipment destined for deployment.

Buildings 318 and 319 will be modified to provide inhabited workspace. In addition, Building 193 will be renovated to provide non-explosives testing. The utilization of these three buildings as inhabited spaces requires that the K9ESA be relocated to a safe distance from these inhabited work areas.

This EA will consider various potential locations for the K9ESA and will evaluate the environmental impacts associated with these potential locations.

3.0 Alternatives Evaluation

The K9ESA is required to provide safe storage facilities for 18 Type II magazines (1,000 pound of net explosive weight (NEW) for each magazine). The Department of the Treasury, Bureau of Alcohol, Tobacco, and Firearms "Federal Explosives Law and Regulations" (ATF P 5400.7), dated September 2000, provides the minimum safe distance requirements (IBD - Inhabited Building Distance and PTRD - Public Traffic Route Distance) that must be maintained for a variety of configurations. Two design alternatives were considered for the K9ESA:

- Design Alternative 1 (DA-1) consists of 18 Type II magazines without internal barricades. DA-1 requires a footprint of 500 by 250 feet (2.87 acres) and would require an IBD of 1,055 feet and a PTRD of 876 feet.

- Design Alternative 2 (DA-2) consists of 18 Type II magazines with an internal barricade. DA-2 requires a footprint of 320 by 510 feet (3.75 acres) and would require an IBD of 865 feet and a PTRD of 645 feet.

Both design alternatives must also account for a 30 by 60 foot operations building and a septic disposal field approximately 30 by 40 feet.

There is little difference between the footprint of disturbance between these two design alternatives and associated environmental impacts; however, DA-2 has a much smaller zone of influence and is a more protective design layout. Therefore, DA-2 was selected as the preferred design alternative and was carried forward in this EA. DA-1 was not further considered in this EA.

3.1 Potential Location Alternatives

In developing alternatives for siting the new K9ESA several criteria were considered:

- The area should be large enough to accommodate the facility footprint;

- There should be no inhabited buildings and public travel routes within the respective IBD and PTRD for the facility;

- The IBD and PTRD of the facility should minimally impact areas identified as Category A or B Lands (which are favorable for future development; see Section 4.3 for further discussion of FAA land categories)

- The IBD and PTRD of the facility must not adversely impact lands outside of the FAATC.

Four locations meet these criteria and were identified as were identified at potential location alternatives. These locations are identified on Figure 2-1. In addition, the no

action alternative was also considered, which leaves the K9ESA at its present location and in its current configuration.

- Alternative A is located is the southern portion of the FAATC, south of the Building 70 area.
- Alternative B is located in the northeast portion of the FAATC, east of Buildings 311A, B, and C.
- Alternative C is located in the western portion of FAATC, just west of the cemetery.
- Alternative D is located in the extreme western portion of FAATC, west of Building 188.

3.2 Selection of Preferred Alternative

The affected environment (Section 4) and the environmental consequences (Section 5) associated with each of the four potential location alternatives were evaluated in this EA. There are some potential impacts to threatened and endangered species associated with each of the alternatives. There is an active nest of Cooper's hawk (*Accipter cooperii*) in the forested tracts near Alternative A. There are two moth species of concern (Alburufan dagger moth, *Acronicta alburufa,* and Buckholtz's dart, *Agrotis buckholtzi*) and grassland birds associated with the habitat near Alternative B. The habitats associated with Alternatives C and D both support known populations of northern pine snake (*Pituophis melanoleucus*), a State-listed threatened species. A comparative assessment of the impacts of each alternative on each resource is provided in Table 3-1.

Alternative B was selected as the preferred alternative. Development in the habitats associated with Alternatives A, C, and D was determined to be detrimental to threatened and endangered species and precluded their selection as the preferred alternative. Fragmentation of the forest at alternatives A, C, and D was a disqualifying factor. Other discriminating factors were cost and lack of associated utility infrastructure. Given that this location is located on non-forested lands and is located 540 feet to the nearest electrical supply, the costs for constructing this alternative are less that the others. The potential impacts to habitat for grassland birds and species of concern associated with this alternative will require mitigation of the affected habitat (See Section 6.0 of this EA). The layout of the preferred alternative is presented in Figure 3-2.

3.3 Other Alternatives Considered

Alternatives A, C, and D were considered; however, these alternatives are all located in forested areas that would require significant clearing for the K9ESA facility and construction of access roads. Construction in the area of Alternative A could affect a nearby active nest of Cooper's hawk (*Accipter cooperii*). There would be significant impacts to pinesnake habitat associated with Alternatives C or D. In, addition, these locations are remote from existing sources of electricity. Based on these factors, the

impacts associate with the construction of Alternatives A, C, and D would be much greater than that for Alternative B.

3.4 No Action Alternative

As stated in the Purpose and Need, the construction of a new K9ESA facility is required to provide a safe distance between inhabited work areas and the explosives storage facilities. If this project is not completed, FAATC would be required, by regulation, to either:

- Discontinue storage of explosives at the existing K9ESA facility;
- Abandon inhabited work areas within a protective radius of the existing K9ESA facility. This would result in the loss of Buildings 318, 319, and 193 as work areas; and
- Abandon plans for increasing the research capabilities of the Aviation Security Laboratory, which operates in these three buildings and nearby facilities. The need to increase aviation security research requires the expansion of the facilities located nearby. Without moving the K9ESA facility, the Aviation Security Laboratory cannot be expanded.

Given the need to utilize and expand the Aviation Security Laboratory facilities at the FAATC in light of the terrorist attacks of September 11, 2001, the no action alternative was determined to be an unacceptable alternative.

Table 3-1
Comparison of K9ESA Location Alternatives

Resource	Alternative A	Alternative B	Alternative C	Alternative D	No Action
Air Quality	No significant impacts for any alternative. No discernable difference between alternatives				
Coastal Resources	There are no coastal resources impacted by any of the alternatives				
Compatible Land Uses	No significant impacts for any alternative. All feasible alternatives are on Category C lands.				Land use not compatible with adjacent uses. There is not adequate distance between the existing facility and inhabited areas for worker protection.
Construction Impacts	There are no significant construction impacts for any alternative. No discernable difference between alternatives. Specific impacts related to construction are discussed with each resource on this table.				No impacts since no construction is required
DOT Section 4(f) Lands	There are no DOT Section 4(f) Lands impacted by any of the alternatives				
Farmlands	There are no farmlands impacted by any of the alternatives				

Table 3-1
Comparison of K9ESA Location Alternatives

Resource	Alternative A	Alternative B	Alternative C	Alternative D	No Action
Fish, Wildlife, and Plants	This alternative results in the permanent loss of 6.37 acres of mixed oak-pine upland forest which is habitat for three threatened/endangered species (Cooper's hawk, pine snake, barred owl).	Impact to 6.37 acres of habitat. 0.91 acres of grasshopper sparrow habitat will be removed. Some will be restored during future CERCLA mitigation. Functional ecological value will be recovered by seeding the berms and 25' buffer around the facility with native warm season grasses.	This alternative results in the permanent loss of 6.37 acres of pine-dominated upland forest which is habitat for 3 threatened/endangered species (Cooper's hawk, pine snake, barred owl).	This alternative results in the permanent loss of 6.37 acres of oak-dominated upland forest which is habitat for 3 threatened/ endangered species (Cooper's hawk, pine snake, barred owl).	No impact.
Floodplains and Floodways	There are no floodplains or floodways impacted by any of the alternatives				
Hazardous and Solid Wastes	There are no AOCs within 300 feet of Alternative A.	Alternative B is approximately 1000 feet from AOC F and AOC 29.	Alternative C is located within AOC S.	There are no AOCs within 300 feet of Alternative D.	No impact.
Historical, Architectural, Archeological, and Cultural Resources	There are no historical, architectural, archeological, or cultural resources impacted by any of the alternatives				
Light Emissions and Visual Impacts	There are no significant light emissions or visual impacts related to any of the alternatives				

Table 3-1
Comparison of K9ESA Location Alternatives

Resource	Alternative A	Alternative B	Alternative C	Alternative D	No Action
Natural Resources and Energy Supply	No significant limitations for structures/foundations. Good suitability for septic fields. 1661 feet to nearest electric service Sanitary water will be provided by well to be constructed at the facility. Given the low required yield and the high availability of groundwater, this impact is minimal.	No significant limitations for structures/foundations. Moderate suitability for septic fields. 540 feet to nearest electric service. Sanitary water will be provided by well to be constructed at the facility. Given the low required yield and the high availability of groundwater, this impact is minimal.	No significant limitations for structures/foundations. Good suitability for septic fields. 1150 feet to nearest electric service. Sanitary water will be provided by well to be constructed at the facility. Given the low required yield and the high availability of groundwater, this impact is minimal.	No significant limitations for structures/foundations. Good suitability for septic fields. 811 feet to nearest electric service. Sanitary water will be provided by well to be constructed at the facility. Given the low required yield and the high availability of groundwater, this impact is minimal.	No impact
Noise	All alternatives locations would be subject to short-term noise impacts during construction; however, all are sufficiently distant from adjacent receptors of concern that the impacts are insignificant. Alternative B is within the envelope of airfield operations noise.				
Secondary (Induced) Impacts	A de-facto no-build conservation area will be created around this explosive storage site due to the restriction of inhabitable buildings within 865 feet. This will occur at whatever alternative site is chosen.				

Table 3-1
Comparison of K9ESA Location Alternatives

Resource	Alternative A	Alternative B	Alternative C	Alternative D	No Action
Socioeconomic Impacts	There are no significant negative socioeconomic impacts related to any of the alternatives. Positive impacts are related to the improved safety and security of the Nation's commercial air travel system resulting from appropriate test material storage and the creation of available land for expansion of the aviation security lab facilities.				Lack of appropriate facilities for security test materials and aviation security lab would have to be relocated in its entirety.
Water Quality	The septic field may minimally decrease local groundwater quality. However, natural resources that could be impacted are over 1,060 feet from the proposed field placement; therefore, no significant impact.	The septic field may minimally decrease local groundwater quality. However, natural resources that could be impacted are over 1,045 feet from the proposed field placement; therefore; no significant impact.	The septic field may minimally decrease local groundwater quality. However, natural resources that could be impacted are over 900 feet from the proposed field placement; therefore; no significant impact.	The septic field may minimally decrease local groundwater quality. However, natural resources that could be impacted are over 2,050 feet from the proposed field placement; therefore; no significant impact..	No impact
Wetlands	There are no wetlands impacted by any of the alternatives				
Wild and Scenic Rivers	There are no wild and scenic rivers impacted by any of the alternatives				
Applicable State and Federal Environmental Regulations	The proposed septic facilities and water source associated with the K9ESA will require a permit application and review of the permit application by NJDEP and the Pinelands Commission. Activities at each of alternative locations are in the vicinity of Federally or State protected species and consultation with the U.S. Fish and Wildlife Service and the NJDEP Endangered and Non-game Species Program is recommended.				No impact.

4.0 Affected Environment

4.1 Air Quality

There are no significant differences in existing air quality between each of the four potential alternative K9ESA locations for the proposed facility. Air quality is a regional measurement and there are no distinguishing characteristics at any of the four sites that would result in differences.

National and state health standards have been set for seven air pollutants: carbon monoxide, lead, nitrogen dioxide, ozone, inhalable particulates, total suspended particulates, and sulfur dioxide. The most recent report available on New Jersey air quality is the 1998 Air Quality Report, printed in September 1999 (NJDEP 1999).

FAATC lies within the Southern Coastal Pollutant Standards Index (PSI) Reporting Region, one of nine PSI regions in the State of New Jersey. The New Jersey Department of Environmental Protection, Bureau of Air Monitoring, compiles monitoring information annually. The monitoring stations within this region are located in Somers Point and Nacote Creek.

General air quality, as it relates to health, is measured using the PSI. A review of PSI data collected during 1998 for the Southern Coastal Region indicated that daily air quality breaks down as follows:

Descriptor	Southern Coastal	Statewide
Good	176 days (48 percent)	56 days (15 percent)
Moderate	134 days (37 percent)	214 days (59 percent)
Approaching unhealthful	31 days (8 percent)	46 days (13 percent)
Unhealthful	24 days (7 percent)	49 days (13 percent)

In general, air quality in the Southern Coastal region, which includes the subject site, is better than air quality measured for New Jersey as a whole. Measurements of the seven pollutants in 1998 are compared to New Jersey's ambient air quality standards. The closest monitoring stations, approximate distances and direction from the subject site, and data for each pollutant are presented in Table 4-1.

Table 4-1
1998 Air Quality Data
Egg Harbor Township, Atlantic County, New Jersey

Pollutant	New Jersey Standard	1998 Data (maximum)	Closest Station, Distance, and Direction from Site
Carbon Monoxide			
8-hour average	9.0 ppm	1.1 ppm	Ancora State Hospital, NJ
1-hour average	35.0 ppm	1.6 ppm	17 miles NW

Table 4-1
1998 Air Quality Data
Egg Harbor Township, Atlantic County, New Jersey

Pollutant	New Jersey Standard	1998 Data (maximum)	Closest Station, Distance, and Direction from Site
Nitrogen Dioxide			
1-hour average	0.25 ppm	0.055 ppm	Somers Point, NJ
Annual mean	0.053 ppm	0.008 ppm	8 miles S
Ozone			
Maximum daily average	0.12 ppm	0.12 ppm	Nacote Creek, NJ
1-hour average	0.08 ppm	**0.12 ppm**	6 miles NE
8-hour average	0.08 ppm	**0.103 ppm**	
Lead			
Quarterly average	1.5 ug/m^3	0.014 ug/m^3	Pennsauken, NJ 42 miles NW
Inhalable Particulates			
Annual mean	50 ug/m^3	25.8 ug/m^3	Atlantic City, NJ
24-hour average	150 ug/m^3	55 ug/m^3	6 miles E
Total Suspended Particulates			
Annual mean	75 ug/m^3	40.1 ug/m^3	Pennsauken, NJ
24-hour average	260 ug/m^3	111 ug/m^3	42 miles NW
Sulfur Dioxide			
Annual mean	0.03 ppm	0.003 ppm	Nacote Creek, NJ
24-hour average	0.14 ppm	0.014 ppm	6 miles NE
3-hour average	0.50 ppm	0.028 ppm	

Bold values represent exceedances of NJ Standard

The 1-hour and 8-hour average ozone standards were violated in 1998 at the Nacote Creek monitoring station. The 1-hour ozone secondary standard of 0.08 ppm was exceeded for 182 hours and the 8-hour primary standard of 0.08 ppm of ozone on 24 days. None of the other air quality health standards were exceeded at the stations closest to FAATC.

4.2 Coastal Resources

Federal activities involving or affecting coastal resources are governed by the Coast Barriers Resources Act (CBRA) and the Coastal Zone Management Act (CZMA). The CBRA prohibits, with some exceptions, Federal financial assistance for development within the Coastal Barrier Resource System, which includes the Atlantic and Gulf coasts and the Great Lakes. The CMZA and the National Oceanic and Atmospheric Administration (NOAA) implementing regulations (15 CFR Part 930) provide procedures for ensuring that a proposed action is consistent with approved coastal programs.

In New Jersey the coastal program is administered under the Coastal Area Facilities Review Act (CAFRA). Activities within the CAFRA-regulated coastal zone must be

reviewed and approved by the New Jersey Department of Environmental Protection (NJDEP) under CAFRA.

None of the proposed alternative locations for the K9ESA are located within the coastal zone and none are subject to CBRA, CMZA, or CAFRA regulations.

4.3 Compatible Land Uses

In 1978, federal legislation established the Pinelands National Reserve (Pinelands). The Pinelands encompasses 1.1 million acres of land in seven southern New Jersey counties. The Pinelands Commission was established and mandated by the State of New Jersey to monitor development and preserve the Pinelands. The FAATC is located entirely within the Pinelands although the eastern boundary of the FAATC is also the eastern border of the Pinelands.

The N.J. Pinelands Commission administers the Pinelands Comprehensive Management Plan (CMP) (N.J.A.C. 7:50 et seq). The CMP sets the standards for development and land use criteria for each of the nine management area classifications of the Pinelands. The project area is located within the Military and Federal Installation management area.

The existing land uses of the FAATC and surrounding areas are reviewed and discussed in this EA. Impacts of the proposed projects (and the associated alternatives) on land usage at FAATC or adjacent areas, regulatory zoning authorities, and other regulatory controls are also evaluated. There are three classifications for land use development at FAATC (FAATC 2000) that include:

- Category A Lands – One or more constraints, whose solutions, approvals, mitigation plans, EA, EIS, or other regulatory requirements could reasonably be expected to be fulfilled or accomplished in one year or less at a cost of less than 10 percent of the overall budget.

- Category B Lands – One or more constraints, whose solutions, approvals, mitigation plans, EA, EIS, or other regulatory requirements could reasonably be expected to be fulfilled or accomplished within three years or less at a cost of less than 20 percent of the overall budget.

- Category C Lands – One or more constraints, whose solutions, approvals, mitigation plans, EA, EIS, or other regulatory requirements could not reasonably be expected to be fulfilled or accomplished within three years, regardless of cost.

The FAATC serves as the national test center for FAA research and development programs. Activities include test and evaluation in air traffic control, communications, navigation, airports and aircraft safety, and security. The FAATC includes an airport, aircraft hangars, several research and test facilities, a technical and administrative facility, and a technical support facility.

Not all of the property within the FAATC boundaries falls under the complete authority of FAATC. The FAA leases approximately 119 acres in the western portion of the property to the New Jersey Air National Guard (ANG). The FAA leases approximately 2,100 acres to the South Jersey Transportation Authority (SJTA) via a lease and cooperative agreement. The U.S. Coast Guard Facility also occupies a building near the runway through a lease with FAATC.

Within the boundaries of the FAATC, there are several parcels that are not under FAA ownership. These include the Laurel Memorial Cemetery, approximately 120 acres and Atlantic City International Airport (ACIA), approximately 79 acres (FAATC 2000). The Atlantic City Municipal Utilities Authority (ACMUA) also has nine groundwater wells and the upper Atlantic City Reservoir, which are all located on FAA property.

Each of the alternative K9ESA facilities is located on FAATC-controlled lands designated as Category C. Alternatives A, C, and D are located in areas that have been forested pre-dating the FAATC. Alternative B is located in an area that was forest prior to the FAATC but has been maintained as cleared aircraft operations area (AOA) since the airport was created. Land use development categories are shown on Figure 4-1.

There are no private lands within the IBD or PTRD of any of the proposed alternative locations with the exception of Alternative C. The IBD and the PTRD for Alternative C encompass a small undeveloped portion of the Laurel Cemetery.

4.4 Construction Impacts

The alternative locations for the K9ESA facilities would be constructed in areas that are presently undeveloped. Alternatives A, C, and D are locations that are primarily forested. Alternative B is located in open grassland with a thin forested ridge in the middle. The impacts of potential construction activities associated with each alternative location is discussed in Section 5.4.

4.5 Department of Transportation Act Section 4(f) Lands

Section 4(f) of the Department of Transportation (DOT) Act provides that the Secretary of Transportation will not approve any program or project that requires the use of any publicly owned land from a public park, recreation area, wildlife or waterfowl refuge of national, state, or local significance, or land from a historical site of national, state, or local significance unless there is no feasible and prudent alternative to the use of these lands.

There are no eligible Section 4(f) lands in the project vicinity. The nearest resource eligible under Section 4(f) is the Doughty's Mill complex, located over a mile from the nearest proposed alternative location.

4.6 Farmlands

The Farmland Protection Policy Act (FPPA) regulates Federal actions with the potential to convert farmland to non-agricultural uses.

The FAATC is a federal facility used for research and development purposes. None of the lands within the boundaries of the FAATC, including the areas of the proposed K9ESA facility, are used for agricultural purposes or are farmlands regulated under FPPA.

4.7 Fish, Wildlife and Plants

The FAATC encompasses over 5,100 acres of land in the Pinelands region and includes a wide variety of biological resources. Biological resources identified in this EA include wildlife (fauna), vegetation (flora), and State or Federal-listed threatened or endangered species. A thorough review of the FAATC's existing natural and biological resources is provided in the following documents:

- Natural Resources Management Plan for the Federal Aviation Administration Technical Center, Atlantic County, New Jersey (USFWS 1987).
- Rare Species Survey, Federal Aviation Administration Technical Center, Atlantic County, New Jersey (USFWS 1995a).
- Wetlands Inventory of the FAA Technical Center, Atlantic City International Airport, New Jersey (USFWS 1993).
- Wetland Evaluation Technique, Federal Aviation Administration Technical Center, Atlantic County, New Jersey (USFWS 1995b).
- Habitat Evaluation Procedures, Federal Aviation Administration Technical Center, Atlantic County, New Jersey (USFWS 1995c).
- Coopers Hawk Management Plan, Federal Aviation Administration William J. Hughes Technical Center, Atlantic County, New Jersey (NJDFW 1995d)
- Forested Wetland Communities of the FAA Technical Center, Atlantic City, New Jersey (USFWS 1995)
- 1997-1998 Macrolepidoptera Inventory of the FAA Upland Forest Mitigation Bank Circles, Egg Harbor Township, Atlantic County, New Jersey (Dale F. Schweitzer 1999).
- 1994-1999 Records of Herptiles at the Federal Aviation Administration's William J. Hughes Technical Center, Atlantic County, New Jersey (Biostar Associates, Inc. 1998).

- A 1998 Study of the Northern Pine Snake, Pituophus Melanoleucus, Melanoleucus at the William J. Hughes Technical Center, Atlantic County, New Jersey (Biostar Associates, Inc. 2000).

All of these documents, except locational information for species of concern, are available for review in the FAATC Environmental Engineering Group offices; therefore, only a cursory discussion is provided below.

4.7.1 Plants

There are three main vegetation communities within the areas potentially affected by the proposed project: forest areas, grassland, and shrub areas. Alternatives A, C, and D are located in areas that are primarily oak-pine and pine-oak forested areas. Alternative B is mostly located in areas that are grassland with small areas of shrubland. These vegetation communities are shown relative to each alternative in Figure 4-2. Upland forest communities are the most extensive community in the project area and comprise over 75 percent of the available land area.

Forested Areas

The upland forested areas include four forest types represented within the project area: pine-oak, oak-pine, pine, and oak-dominated.

The predominant forest type in the project area is the pine-oak forest which is dominated by pitch pine (*Pinus rigida*), blackjack oak (*Quercus marlandica*), scarlet oak (*Quercus coccinea*) and scattered pockets of hickory (*Carya spp.*). Black huckleberry (*Gaylussacia baccata*), scrub oak (*Quercus ilicifolia wang.*), mountain laurel (*Kalmia latifolia*), and coastal highbush blueberry (*Vaccinium caesariense*) are dominant in the understory.

Black oak (*Quercus velutina*) is the dominant species in oak-pine and oak dominated forests. Shortleaf pine (*Pinus echinata*) is also present in the oak-pine forest.

Pine forests are primarily dominated by pitch pine. There are commonly scattered areas of blackjack oak, scarlet oak, and hickory found in these areas. Shortleaf pine is also present in the needle-leaved evergreen forest. Mountain laurel and coastal highbush blueberry are dominant in the understory.

It is also important to note that FAATC has established areas for forested habitat mitigation banks to offset habitat losses resulting from future development. Within this mitigation bank is a number of restoration areas where mitigation will occur. While none of the location alternatives impact these restoration areas directly, Alternatives C and D are located within the Forest Mitigation Bank.

The area associated with Alternative B also has a pitch pine tree line located along an embankment that bisects the site. Canopy vegetation in this area consists of approximately 94% pitch pine and 6% mixed broad leaf trees including: red oak (*Quercus rubra*), white oak (*Quercus alba*), bear oak (*Quercus ilicifolia*), chestnut oak

(*Quercus prinus*), sassafras (*Sassafras albidum*), and choke cherry (*Prunus virginiana*. Understory vegetation is composed of black cherry (*Prunus serotina*), red choke berry (*Pyrus arbutifolia*), mountain laurel, and a few widely scattered high bush blueberry (*Vaccinium corymbosum*). The understory is, in most cases, not dense and frequently includes seedlings of all species listed above. Herbaceous vegetation must contend with a thick layer of pine needle duff and includes bracken fern (*Pteridium aquilium*), sweet fern (*Comptonia peregrina* var. *asplenifolia*), green briar (*Smilax sp*.), low bush blueberry (*Vaccinium augustifolium*), bastard toadflax (*Comandra umbellata*), and occasional mixed grasses. Overall, vegetation in and along the tree line is a rather unremarkable representation of dry, upland pine-oak woodlands along the embankment flanked by artificially maintained brush-shrub/scrub oak habitats

Grasslands and Shrub Areas

Grasslands and shrub communities are generally located in the area near Alternative B. Grassland areas at FAATC were originally seeded with rye grass (*Lolium spp*.), alfalfa (*Medicago spp*.), and clover (*Trifolium spp*.) and are maintained by periodic mowing. Fallow grassland areas contain barnyard grass (*Echinochloa spp*.) foxtail grass (*Alopecuris spp*.), panic grass (*Panicum spp*.), lespedeza (*Lespedeza spp*.) and goldenrod (*Solidago spp*.) interspersed with shrub species including sassafras (*Sassafras albidum*), black cherry, blueberry, and black oak.

4.7.2 Wildlife

Given the diversity and availability of habitat at the FAATC, the area supports a wide variety of wildlife. Wildlife species found at FAATC are typical of those found in similar habitats of the Pinelands.

Only terrestrial habitats are present in the areas potentially affected by the four alternatives; therefore, only terrestrial wildlife species are known to be present. Species are listed below based on previous observations and studies conducted at FAATC. These studies and investigations are available for review in the FAATC Environmental Engineering Group offices.

Amphibians

- Eastern red-backed salamander (*Plethodon cinereus*),
- Red salamander (*Pseudotriton ruber*),
- Woodhouse's toad (*Bufo woodhousei*),
- Pine Barrens tree frog (*Hyla andersoni*),
- Spring peeper (*Hyla crucifer*),
- Striped chorus frog (*Pseudacris triseriata kalmi*),
- Bullfrog (*Rana catesbeiana*),
- Green frog (*Rana clamitans*),
- Pickerel frog (*Rana palustris*),
- Southern leopard frog (*Rana sphenocephala*),
- Wood frog (*Rana sylvatica*), and

- Carpenter frog (*Rana virgatipes*).

Reptiles

- Common mud turtle (*Kinosternon hirtipes*),
- Common musk turtle (*Sternotherus odoratus*),
- Snapping turtle (*Chelydra serpentina*),
- Painted turtle (*Chrysemys picta*),
- Spotted turtle (*Clemmys guttata*),
- Red-bellied turtle (*Chrysemys rubriventris*),
- Eastern box turtle (*Terrapene carolina*),
- Eastern fence lizard (*Sceloporus undulates*),
- Ground skink (*Scincella lateralis*),
- Worm snake (*Carphophis amoenus*),
- Scarlet snake (*Cemophora coccinea*),
- Racer (*Coluber constrictor*),
- Ring-neck snake (*Diadophis punctatus*),
- Rat snake (*Elaphe obsoleta*),
- Eastern hognose snake (*Heterodon platyrhinos*),
- Eastern kingsnake (*Lampropeltis getulus*),
- Northern water snake (*Nerodia sipedon*),
- Rough green snake (*Opheodrys aestivus*),
- Northern pine snake (*Pituophis melanoleucus*),
- Brown snake (*Storeria dekayi*),
- Red-bellied snake (*Storeria occipitomaculata*),
- Eastern ribbon snake (*Thamnophis sauritus*),
- Common garter snake (*Thamnophis sirtalis*), and
- Smooth earth snake (*Virginia valeriae*).

Birds

One hundred and seventy three species of birds have been documented visiting the FAATC throughout the year. During the summer, many passerine species arrive to nest in the field and brushland or the woodland habitats throughout the FAATC and the project area. Fall and spring migrations bring an additional diversity of avifauna that potentially uses the project area. The following birds are common year-round resident species that have been observed and recorded in habitats throughout the FAATC and the K9ESA project area:

- European starling (*Sturnus vulgaris*),
- American robin (*Turdus migratorius*),
- Pigeon (*Columba livia*),
- Common grackle (*Quiscalus quiscula*),
- Killdeer (*Charadius vociferous*),
- American crow (*Corvus brachyrhynchos*),

- Laughing gull (*Larus atricilla*),
- Ring-billed gulls (*Larus delawarensis*),
- Herring gulls (*Larus argentatus*),
- Great blue heron (*Ardea herodia*),
- Eastern meadowlark (*Sturnella magna*),
- Tree swallows (*Iridoprocne bicolor*),
- Red-tailed hawk (*Buteo jamaicensis*)
- American kestrels (*Falco sparverius*),
- Brown-headed cowbird (*Molothrus ater*),
- Canada goose (*Branta canadensis*),
- Sparrows (Family Fringillidae),
- Mourning dove (*Zenaida macroura*), and
- Northern bobwhite (*Colinus virgineanus*).

Mammals

- White-tailed deer (*Odocoileus virginianus*)
- Striped skunk (*Mephitis mephitis*)
- Eastern cottontail (*Silvilagus floridanus*)
- Red fox (*Vulpes fulva*)
- Gray fox (*Urocyon cinereoargenteus*)
- Red squirrel (*Tamiascurius hudsonicus*)
- Eastern gray squirrel (*Scirius carolinensis*)
- Opossum (*Didelphis marsupialis*)
- Raccoon (*Procyon lotor*)
- Short-tailed shrew (*Blarina brevicauda*)
- Least shrew (*Cryptotis parva*)
- Masked shrew (*Sorex cinereus*)
- Star-nosed mole (*Condylura cristata*)
- Eastern mole (*Scalopus aquaticus*)
- Hoary bat (*Lasiurus cinereus*)
- Northern long-eared bat (*Myotis septentrionalis*)
- Big brown bat (*Eptesicus fuscus*)
- Little brown myotis (*Myotis lucifugus*)
- Red bat (*Lasiurus borealis*)
- Coyote (*Canis latrans*)
- Long-tailed weasel (*Mustela frenata*)
- Mink (*Mustela vison*)
- River otter (*Lutra canadensis*)
- Southern flying squirrel (*Glaucomys volans*)
- Woodchuck (*Marmota monax*)
- Eastern chipmunk (*Tamias striatus*)
- White-footed mouse (*Peromyscus leucopus*)
- Meadow vole (*Microtus pennsylvanicus*)

- Pine vole (*Pitymys pinetorum*)
- Muskrat (*Ondatra zibethica*)
- House mouse (*Reithrodontomys humulis*), and
- Meadow jumping mouse (*Zapus hudsonius*).

4.7.3 Fish

There are no aquatic habitats within areas potentially affected by the four alternatives; therefore, there are no fish present.

4.7.4 Federally listed Threatened and Endangered Species

Except for an occasional transient bald eagle (*Haliaeetus leucocephalus*), no other federally listed or proposed threatened or endangered flora or fauna are known to occur within the study area.

The study area is within the geographical range of the two federally listed threatened plant species: swamp pink (*Helonias bullata*) and Knieskern's beaked rush (*Rhynchospora knieskernii*). Swamp pink typically occurs in forested wetlands, although occurrence in scrub/shrub wetlands is known. Since there are no wetland habitats that would be directly impacted by any of the proposed locations, it is unlikely that swamp pink is actually present. Knieskern's beaked rush typically occurs in early successional habitats and disturbed areas such as burns, bog-iron deposits, gravel and clay pits, road cuts, mowed roadsides, utility and railroad rights-of-way, cleared home sites, wheel ruts and muddy swales. Knieskern's beaked rush is an obligate wetland species. Since there are no wetland habitats that would be directly impacted by any of the proposed locations, it is unlikely that Knieskern's beaked rush is actually present.

The FAATC, in cooperation with the USFWS, conducted a comprehensive threatened and endangered species survey in 1994 that resulted in a report entitled Rare Species Survey, Federal Aviation Administration Technical Center, Atlantic County, New Jersey, May 1995 (USFWS 1995a). This survey did not indicate any populations of swamp pink or Knieskern's beaked rush at FAATC.

4.7.5 State-listed Threatened and Endangered Species

The NJDEP Office of Natural Lands Management's Natural Heritage Program (NHP) maintains a database containing the status and reported locations of rare and protected species within New Jersey. The NHP has evaluated the potential for endangered, threatened, or otherwise protected species in the project area. The NHP report is listed in Appendix A. Specific location data for the listed species has been removed from the NHP report as requested in their transmittal letter.

The NHP database has records for a number of rare plants and animals that may be within the project area. Lists were provided that address: (1) the occurrences of the rare plants and animals in the project area; (2) records of rare species in the general vicinity of the project site and (3) a list of rare vertebrates in Atlantic County together with a description

of their habitats. Where suitable habitat is present at the project site, these species could be present. The NHP recommends that questions concerning these lists be directed to the NJDEP Endangered and Non-game Species Program.

The NHP database indicated that two state endangered wildlife species (the upland sandpiper, *Bartramia longicauda*, and the Pine Barrens tree frog, *Hyla andersonii*) and one state endangered plant species (Broom crowberry, *Corema conradii*) are present in at FAATC and could be impacted by the project. None of the alternative K9ESA locations contain habitat suitable for the Pine Barrens tree frog or the Broom crowberry.

Alternative B is located on grassland habitat that has been identified as important habitat for the upland sandpiper. It is significant habitat for grasshopper sparrow. None of the other three alternatives contain habitat suitable for the upland sandpiper.

In addition to these species, there are ten species of rare butterfly/moth that are present within or near the project area. Nine of these rare butterfly/moth species are not regulated as threatened and endangered species but are rare within the State of New Jersey (NHP 2001). The frosted elfin is a state-listed threatened species.

The FAATC conducted a comprehensive threatened and endangered species survey in 1994 that resulted in a report entitled Rare Species Survey, Federal Aviation Administration Technical Center, Atlantic County, New Jersey, May 1995 (USFWS 1995a). FAATC-funded studies have focused on the migration patterns and habitat of various species. Table 4-2 presents a list of all threatened, endangered, and rare species documented on the facility as of May 2000.

Table 4-2
Rare, Threatened and Endangered Species at the
Federal Aviation Administration William J. Hughes Technical Center
Egg Harbor Township, Atlantic County, New Jersey

Common Name	Scientific Name	Federal Status	State Status	Pinelands Commission Status
PLANTS				
Pine Barren Gentian	*Gentiana autumnalis*	None	Species of concern	Threatened or Endangered
Broom crowberry	*Corema conradii*	None	Endangered	Threatened or Endangered
Narrow-leaved vervain	*Verbena simplex*	None	Endangered	None
Pine Barren reed grass	*Calalovilfa brevipilis*	None	Species of concern	Threatened or Endangered
BIRDS				
Bald eagle	*Haliaeetus leucocephalus*	Threatened	Endangered	Endangered

Table 4-2
Rare, Threatened and Endangered Species at the Federal Aviation Administration William J. Hughes Technical Center Egg Harbor Township, Atlantic County, New Jersey

Common Name	Scientific Name	Federal Status	State Status	Pinelands Commission Status
Peregrine falcon	*Falco peregrinus*	None	Endangered	Endangered
Osprey	*Pandion haliaetus*	None	Threatened	Threatened
Pied-billed grebe	*Podilymbus podiceps*	None	Endangered (breeding only)	Endangered (breeding only)
Upland sandpiper	*Bartramia longicauda*	None	Endangered	Endangered
Grasshopper sparrow	*Ammodramus savannarum*	None	Threatened	Threatened
Northern harrier	*Circus cyaneus*	None	Endangered (breeding only)	Endangered (breeding only)
Cooper's hawk	*Accipiter cooperii*	None	Threatened	Threatened
Red-headed woodpecker	*Melanerpes erythrocephalus*	None	Threatened	Threatened
Barred owl	*Strix varia*	None	Threatened	Threatened
HERPTILES				
Pine Barrens treefrog	*Hyla andersoni*	None	Endangered	Endangered
Northern pine snake	*Pituophis melanoleucus*	Species of concern	Threatened	Threatened
INSECTS – BUTTERFLIES AND MOTHS				
Buchholz's dart moth	*Agrotis buchholzi*	Species of concern	None	None
Albarufan dagger moth	*Acronicta albarufa*	Species of concern	None	None
Leonard's skipper	*Hesperia leonardus*	Rare/sensitive	Proposed as species of concern	Proposed as species of concern
Frosted elfin	*Callophrys irus*	Rare/sensitive	Threatened	Threatened
A Notodontid moth	*Heterocampa varia*	Rare/sensitive	None	None
Lemmer's pinnion moth	*Lithophane lemmeri*	Rare/sensitive	None	None
Precious underwing moth	*Catocala pretiosa*	Species of concern	None	None

Based on the information from the NHP and FAATC concerning species that may be present, the following summary of species that may be affected by activities at each location alternative is provided:

- Alternative A: Location includes habitat for Cooper's hawk, barred owl, and pine snake.
- Alternative B: Location includes habitat for the grasshopper sparrow and frosted elfin. It also includes potential habitat for upland sandpiper, peregrine falcon, Buchholz's dart moth, Albarufan dagger moth, Leonard's skipper, and a notodontid moth
- Alternative C: Location includes habitat for Cooper's hawk, barred owl, and pine snake.
- Alternative D: Location includes potential habitat for Cooper's hawk and pine snake. It is known breeding habitat for the barred owl.

4.8 Floodplains and Floodways

The K9ESA project area is located within the watershed of the Absecon Creek and includes the Atlantic City Reservoirs. This area is within the area designated by the N.J. Department of Environmental Protection (NJDEP) as Watershed Management Area #15 (Great Egg Harbor).

4.8.1 Floodplains

According to the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map (FIRM) for Egg Harbor Township, none of the proposed alternative K9ESA locations are within the 100-year floodplain (FEMA 1983) (Figure 4-3).

4.8.2 Floodways

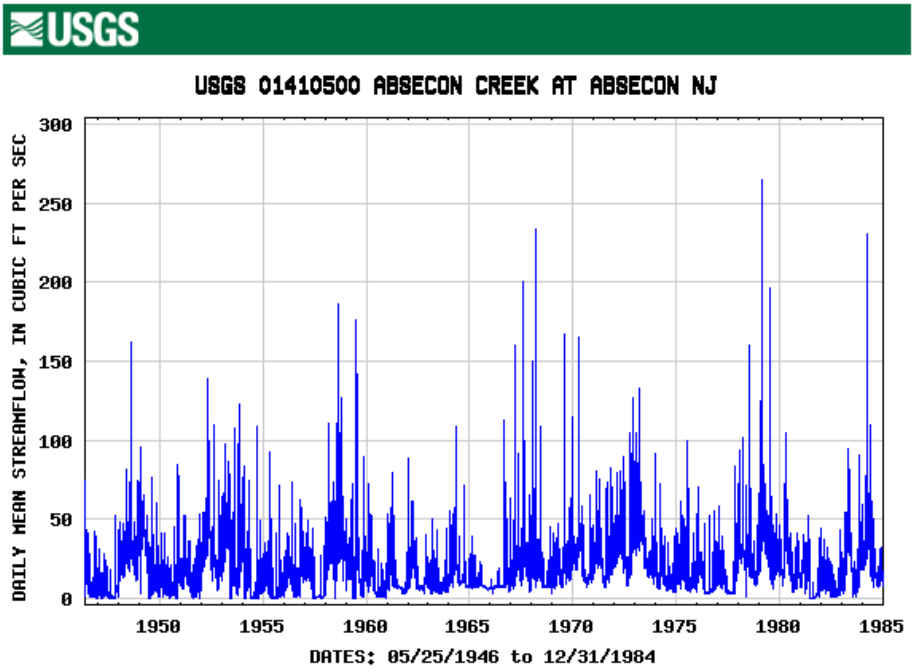
The study area this EA encompasses is located entirely within the Upper Atlantic City Reservoir watershed (which includes two sub-watersheds associated with the North and South branches of the Absecon Creek). The North and South Branches of the Absecon Creek are perennial streams. The North Branch of the Absecon Creek originates on FAATC property and the South Branch of the Absecon Creek originates immediately west of the FAATC property. Surface water in the Upper Atlantic City Reservoir flows through a spillway through a large box culvert eastward under the Garden State Parkway and into the Lower Atlantic City Reservoir. Water flows southeastward through the Lower Atlantic City Reservoir for 1.4 miles and discharges through a spillway into Absecon Creek. Once in Absecon Creek, flow is tidally influenced and generally continues eastward for approximately 3 miles where it discharges into Absecon Bay

(USGS 1993). Absecon Bay is part of the bay and barrier island system typical of the Atlantic Ocean shoreline.

Topography in the area of Alternatives A, C, and D slopes from the highest elevations along the perimeter of the FAATC to the South Branch Absecon Creek. Elevations in these areas decrease from 92 to 26 feet NGVD. In the areas near Alternative B, the topography is highest near the proposed facility site (67 feet) and slopes downward to the northeast into the North Branch Absecon Creek (44 feet).

There are several intermittent drainage ditches that are connected to the Upper Atlantic City Reservoir and detention ponds associated with the existing developed areas of the FAATC. Stormwater runoff in undeveloped portions of the FAATC is directed through grassed swales and ditches toward the Atlantic City Reservoir; however, groundwater infiltration is also a significant process. Stormwater runoff from the majority of impervious areas is directed through stormwater systems into infiltration basins. The stormwater management systems are designed to comply with the Pinelands Commission standards for stormwater runoff.

A U.S. Geological Survey (USGS) gage station is located on the Absecon Creek at Absecon, NJ (Station No. 01410500). Records of flow were maintained at this station from 1946 through 1984.



Monthly flow rates in the Absecon Creek at this location, measured since 1980 range from 11.2 cubic feet per second (CFS) during the dry season (late summer/early fall), to 27.4 CFS during the wetter months (late winter/early spring) with occasional peak flows

exceeding 600 CFS every few years. In general, flow rates are highest between January and April and lowest between August and November.

4.9 Hazardous Materials and Solid Waste

In the vicinity of the alternative locations for the K9ESA, there are three potential hazardous waste sites, identified as Areas of Concern (AOC) that have been identified during past investigations:

- Area F: Air Blast Facility – Possible leaks from three former underground storage tanks may have contaminated soil and groundwater. A "no action" Record of Decision (ROD) requiring no further a remedial activities has been selected for this site.

- AOC 29: Fire Training Area – Test burning and extinguishing of fuel fires have contaminated soils and groundwater. Drums and tanks were stored in a portion of this AOC, formerly known as AOC K. These drums and tanks have leaked onto the ground resulting in soil and groundwater contamination. An "action" ROD has been signed and cleanup design is progressing.

- Area S: Excavation Area West of Tilton Road – Aerial photographs have indicated several surface impoundments and areas of stained soil. A "no action" Record of Decision (ROD) requiring no further a remedial activities has been selected for this site.

Alternative C is located within AOC S. Alternative B is located approximately 1,000 feet from AOC F and AOC 29. There are no AOCs within 300 feet of Alternatives A or D. The location of these areas is shown on Figure 4-5.

4.10 Historical, Architectural, Archeological, and Cultural Resources

A cultural resources survey conducted for the entire FAATC in 1994 did not identify evidence of historic or archaeological resources in the vicinity of any of the proposed activities (Hunter Research 1994a; 1994b).

4.11 Light Emissions and Visual Impacts

The aesthetic value of the project area and potential for light emissions and visual impacts is defined relative to the perspective of adjacent properties and travelers along perimeter routes and internal routes. The majority of the project area is forested uplands with several open fields and densely forested evergreen forests along drainageways and in depressions. Each of the location alternatives for the K9ESA are located over 800 feet within the boundaries of the FAATC.

The current aesthetic value of the site is consistent with other large wooded tracts in the area. From perimeter and internal routes, views into the site in the summer months

extend no more than 50 feet from the road due to the dense vegetation. During the winter months, when the deciduous plants have dropped their leaves, the views into the site extend to over 200 feet and the non-deciduous vegetation, primarily pitch pine, mountain laurel, and Atlantic white cedar, becomes clearly visible.

4.12 Natural Resources and Energy Supply

Aside from the biological resources described earlier in Section 4.7, additional natural resources on the site include geological and soil resources. Energy supply and public services are also provided at FAATC and are described herein.

4.12.1 Geology

The FAATC is located entirely within the Atlantic Coastal Plain physiographic province. The Coastal Plain terrain is gently sloping and is characterized by sandy soil of low to medium fertility.

The project area is underlain by the Cohansey Sand, a sand formation of Miocene Age that ranges in thickness between 26 and 21 feet. The Cohansey Sand overlies the Kirkwood Formation. The Cohansey sand typically consists of fine to coarse grained quartoze sand with lenses of gravel that are one foot thick or less. In most areas, overall clay component is less than 20 percent. Lenses of white, yellow, red, and light gray clay occur generally in the upper part of the formation and may be as much as 25 feet thick. The sand is predominantly yellow (limonite staining), but shades of white, red, brown, and gray also occur. Parallel bedding and cross-stratification are present in the sand (Pinelands Commission, 1980).

4.12.2 Soils

The Soil Survey of Atlantic County (USDA 1990) indicates that there are four separate soil series or classifications represented within the project area as shown in Figure 4-4.

- Alternative A - Sassafras series
- Alternative B – Hammonton series
- Alternative C – Sassafras, Fill Land, and Downer series
- Alternative D – Downer series

A general description of each soil series present within the project area is provided below:

Downer (Do)

The Downer series soils consist of well drained, nearly level to gently sloping, sandy or loamy soils. These soils occupy high positions on the landscape. A representative profile for this soil series, based on depth below land surface, is provided as follows:

0 to 7 inch	dark grayish-brown loamy sand
7 to 17 inches	yellowish-brown loamy sand
17 to 33 inches	yellowish-brown sandy loam
33 to 60 inches	strong-brown loamy sand and yellowish-brown sand

These soils have medium natural fertility and low content of organic matter. Because added fertilizers leach rapidly, raising the level of fertility is difficult. Unless limed, Downer soils are extremely acid or very strongly acid in the surface layer and very strongly acid in the subsoil. Permeability is moderate or moderately rapid and they have a moderate available water capacity. Depth to seasonal high groundwater is greater than 4 feet in these soils (USDA 1990).

Sassafras (Sa)

The Sassafras series soils are nearly level and gently sloping, well-drained, loamy soils. These soils occupy high positions on the landscape. A representative profile for this soil series, based on depth below land surface, is provided as follows:

0 to 10 inches	brown sandy loam
10 to 14 inches	yellowish-brown sandy loam
14 to 18 inches	strong brown heavy sandy loam
18 to 30 inches	yellowish-brown sandy clay loam
30 to 38 inches	brownish-yellow sandy clay loam
38 to 64 inches	yellowish brown loam sand and strong-brown gravelly sand

These soils have medium natural fertility and moderate content of organic matter. Unless limed, Sassafras soils are extremely acid in the surface layer and very strongly acid in the subsoil. Permeability is moderate and these soils have a high available water capacity. Depth to seasonal high groundwater is greater than 5 feet in these soils (USDA 1990).

Hammonton (Ha)

The Hammonton series soils are nearly level, moderately well drained and somewhat poorly drained soils. Most of these soils are moderately well drained. They are in depressional areas and on broad flats and occupy intermediate positions in the landscape. A representative profile for this soil series, based on depth below land surface, is provided as follows:

0 to 8 inches	very dark grayish brown loamy sand
8 to 18 inches	yellowish-brown loamy sand
18 to 36 inches	yellowish-brown sandy loam
36 to 60 inches	brownish-yellow sand with light gray and brownish-gray mottles

These soils have medium natural fertility and low or moderate content of organic matter. Unless limed, Hammonton soils are extremely acid in the surface layer and very strongly acid in the subsoil. Permeability is moderate or moderately rapid and these soils have a

moderate water capacity. Depth to seasonal high groundwater is 1½ to 4 feet in these soils (USDA 1990).

Fill Land (FL)

This land type consists of areas that have been filled with several feet or more of material, mainly quartz sand and gravel. This land type is low in natural fertility, has a very low content of organic matter, and has a low available water capacity. Permeability in most places is rapid.

4.12.3 Energy Supply and Public Services

Electric, natural gas, potable water, and wastewater collection facilities are provided at many, but not all locations, at FAATC. The extent and distribution of these services is shown on Figure 4-6. None of these utilities are presently available at any of the alternative locations. The closest distances from each alternative to each of these four utilizes is provided below:

Alternative	Distance to Electric (feet)	Distance to Water (feet)	Distance to Sewer (feet)	Distance to Gas (feet)
A	1661	3250	1928	2190
B	540	3590	4031	4300
C	1150	5560	5560	5560
D	811	2961	2961	3130

- The lower Cohansey aquifer is the single source of water capable of supplying potable and process water for the FAATC. The FAATC has five production wells, but only uses three, which are located at various sites on the facility, all of which are screened in the Lower Cohansey Sand. Domestic water utility lines run underground throughout the FAATC from the water treatment plant served by these wells (FAATC 2000).

- Conectiv Energy provides electrical service to the FAATC through a transmission line along Wescoat Road. The FAATC maintains electrical distribution equipment and associated rights-of-ways throughout the facility (FAATC 2000).

- South Jersey Gas provides all gas services within the area. The closest gas transmission main is a 10-inch diameter pipe that runs along Delilah Road. From this main, gas is run throughout the FAATC in underground pipes (FAATC 2000).

- Wastewater is collected by a collection system consisting of underground pipes that direct the wastewater to a pumping station on FAATC property. The wastewater is pumped from the pumping station to the ACMUA for treatment (FAATC 2000).

4.13 Noise

The existing noise levels in and around the project were determined as part of this EA. The impact of the project on typical noise-sensitive receptors (residential areas, schools, churches, parks, libraries, and hotels) was evaluated.

Noise sources in the project area include automobile and truck traffic, general aviation, and military aviation. The noise levels within the FAATC tend to follow the contours of the airport runways (FAATC 2000). Airport noise levels vary based on aircraft operations, peaking during military and civilian flight takeoffs and landings. Noise levels associated with operations at the airport are presented in Figure 4-7.

Given that the alternative locations for the K9ESA facility are all located at least 800 feet within the FAATC and are not in the vicinity of adjacent landowners, there are no noise sensitive receptors in the project area.

Alternatives A, C, and D are all located outside of the 60dB sound level associated with the airstrip operations. Alternative B is located at the 65dB noise level contour (FAATC 2000).

4.14 Secondary (Induced) Impacts

The proposed K9ESA facility will be constructed in accordance with local, state, and federal regulations. However, it is recognized that the cumulative affect of legally constructed facilities may result in cumulative, or secondary, impacts. Secondary impacts of the proposed K9ESA facility construction activities to these resources are discussed in Section 5.14.

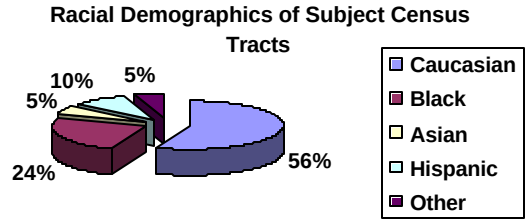
4.15 Socioeconomic Impacts

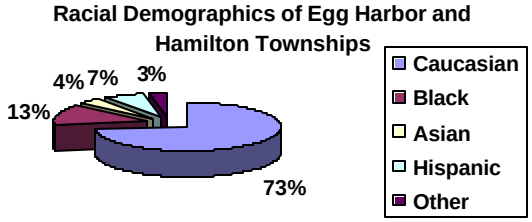
The project area includes the Townships of Egg Harbor and Hamilton, Atlantic County, New Jersey. The Pinelands Commission, under the rules established for Military and Federal Installation management areas, administers development of these lands.

The New Jersey State Development and Redevelopment Plan (SDRP) designates the subject site as a Military and Federal Planning Area. The SDRP has been developed to serve as a planning tool in New Jersey; however, it is not intended for use as a regulatory document.

Census data collected from the U.S. Department of Commerce indicates that the 2000 population of Egg Harbor Township was 30,726 and Hamilton Township was 20,499. Population density in Egg Harbor Township is approximately 456 persons per square

mile; Hamilton Township population density is approximately 184 persons per square mile. The project area encompasses two census tracts (Atlantic County Tracts 114.02 and 117.02). The total population of these two census tracts is 13,351 persons (USDOC 2001). The racial breakdown of these two census tracts, compared with that of Egg Harbor and Hamilton Townships as a whole, is presented as follows:





In general, the population of the two project area census tracts accounted for 26 percent of the total population of Egg Harbor and Hamilton Townships. As presented above, the minority population of the two subject census tracts (44 percent) is greater, by percentage, than that of Egg Harbor and Hamilton Townships as a whole (27 percent).

Unemployment in Atlantic County, based on 1990 U.S. Census data (the most recent available) was approximately 5.5 percent. Atlantic County had an eligible workforce of 128,582 persons. The median annual household income in Atlantic County was $33,716 and approximately 9.4 percent of the population was considered to be below the poverty level (USDOC 2001).

4.16 Water Quality

The New Jersey Surface Water Quality Standards (N.J.A.C. 7:9-4.1 et. seq.) classify the Upper Atlantic City Reservoir as Pinelands Water (PL) (NJDEP 1993). Downstream of the FAATC, the Absecon Creek is classified as a general, non-trout (FW2-NT) surface water and a Saline Estuarine Water (SE1). The North and South Branches of the Absecon Creek are indicated as having moderately impaired biology according to the U.S. EPA Impaired Waterbodies Listing (303d) (EPA 1998).

The principal water resources at the FAATC include both groundwater and surface water. In addition, surficial groundwater at the FAATC is in communication with surface water; therefore, there is significant interaction between ground water and surface water.

The Cohansey aquifer, one of the largest freshwater sources in the northeastern United States, underlies the project area. This aquifer provides water for the streams and reservoirs of the project area and is the principal source of domestic groundwater for Atlantic County and much of southern New Jersey. In the Cohansey aquifer, the median yield of high-capacity production wells used for public supply commonly is over 250 gallons per minute (gal/min). Water is fresh, acidic, highly corrosive, and is low in dissolved solids. Less corrosive water is common in confined aquifers. Iron and manganese levels are locally elevated. Salinity may be elevated in confined parts near coastal areas. Sodium chloride type water is common (Herman et. al 1998).

Atlantic City Municipal Utilities Authority (ACMUA) provides potable water for Atlantic City from nine groundwater wells located adjacent to the Upper Atlantic City Reservoir on the FAATC property. The FAATC has five production wells for potable and process water, but only uses three, which are located at various sites on the facility and are all screened in the Lower Cohansey Sand (FAATC 2000).

4.17 Wetlands

Wetlands and N.J. State Open Waters are defined and regulated under N.J.A.C 7:7A under the legislation of the 1989 Freshwater Wetlands Act (NJDEP 1989). The USFWS updated the FAATC's portion of the National Wetlands Inventory (NWI) Pleasantville Quadrangle in 1993. Generally, wetlands found at the FAATC are associated with the North and South Branch of the Absecon Creek and the Upper Atlantic City Reservoir. These wetlands have a history of alteration due to stream channelization. It is also important to note that the Pinelands Commission regulates development within a 300 feet buffer (transition area) of jurisdictional wetland areas. The locations of the specific wetland communities, open waters, and transition areas within the project area, based on USFWS 1993, are presented in Figure 4-8.

There are no wetlands or wetland boundaries located at any of the K9ESA location alternatives.

4.18 Wild and Scenic Rivers

The Wild and Scenic Rivers Act, as amended, describes those river areas eligible to be included in a system afforded protection under the Act. The Department of Interior (DOI) and the Department of Agriculture (USDA) maintain a National Inventory of river segments that appear to qualify for inclusion in the National Wild and Scenic River System.

There are no river systems in the area of the proposed K9ESA location alternatives and none of the rivers within the FAATC are included in, nor are eligible for inclusion in, the National Wild and Scenic River System.

4.19 Applicable State and Federal Environmental Regulations

Freshwater wetlands, wetland transition areas, floodplains, and all upland areas are areas within the study area that are regulated by the Pinelands Commission. The Pinelands Commission must review elements of the project that require an environmental permit (air permit, sanitary sewer, soil erosion, wetlands, etc.).

- The proposed septic facilities and water well for sanitary use associated with the K9ESA will require a permit application and review of the permit application by NJDEP and the Pinelands Commission.

- Activities at each of alternative locations may be in the vicinity of Federally or State protected species and consultation with the U.S. Fish and Wildlife Service and the NJDEP Endangered and Non-game Species Program is recommended.

- None of the location alternatives impacts wetlands, wetland transition areas, or floodplains.

Based on these factors, the project will require the preparation and submission of a Pinelands Development Permit Application and will be reviewed by the Pinelands Commission.

5.0 Environmental Consequences

5.1 Air Quality

Construction of the proposed K9ESA facility is likely to result in localized, short-term, impacts to ambient air quality. The principal pollutants likely to be produced during construction will be:

- Carbon monoxide (CO) - from vehicles and construction equipment
- Particulates - from dust generated during construction activities

Significant emissions of other air pollutants (nitrogen dioxide, ground-level ozone, sulfur dioxide, and lead) are not expected to result from the construction or operation of proposed projects. However, it is important to note that emergency generators, storage tanks, and other equipment that may be installed as part of the K9ESA may be capable of emitting small quantities of these pollutants. These emission sources from the facility will require a modification of the FAATC's Title V Permit.

The greatest amount of CO emission will be during the initial site clearing and preparation stage from combustion engine exhaust of construction equipment. This stage of construction will occur during the beginning of the project and should be completed within three months. Lower levels of CO exhaust would be expected during facility construction since these tasks require less heavy equipment. These impacts would be temporary in nature and will not significantly impact air quality, since existing regional CO levels are well below the New Jersey standards.

After construction, the potential long-term impacts to air quality will be minimal since the facility will not be heavily manned and there will be no large parking areas provided.

After construction, the proposed projects will not result in a significant increase in vehicular traffic or a change in traffic patterns. In general, there is not expected to be a significant long-term increase in CO emissions. In fact, given the new procedures for visitor check-in at the Security Operations Center (SOC), vehicular CO emissions over the entire FAATC should decrease slightly. Under these new security operating procedures, visitors will leave their vehicles at the SOC in the new visitor parking area, enter the SOC for security processing, and be shuttled to their final destination.

There is a potential increased risk of an air release of chemicals related to the HVAC equipment and explosive materials in the K9ESA; however, proper maintenance of this equipment will not allow emissions of these chemicals. Based on this information, there is no significant impact to air quality as a result of K9ESA relocation. However, the potential emissions from the facility will require a modification of the FAATC's Title V Permit.

5.2 Coastal Resources

As stated in Section 4.2, there are no coastal resources within the area of the proposed K9ESA facility (nor are any located within the FAATC). As a result, there are no potential impacts to coastal resources.

5.3 Compatible Land Uses

The proposed activities include the development of a new K9ESA facility. The proposed project is consistent with the land use regulations established by the Pinelands Commission for the Military and Federal Installation management area and appears to have little negative impact on the physical or natural environment. The proposed K9ESA facility will be in compliance with the Pinelands Comprehensive Management Plan. Regulatory involvement by the Pinelands Commission is predicated on their need to review any environmental permit applications related to the project. There will be environmental permits required for the proposed activities; therefore, there will be a need for Pinelands Commission review of the K9ESA facility.

The environmental consequences relevant for land use are generally those activities that make land unusable for its planned or zoned purposes and consequently, put development pressure on lands not slated for development.

Each of the alternative K9ESA locations are located on FAATC-controlled lands designated as Category C, which are the most restrictive in terms of environmental and development constraints. Given the safety concerns related to the IBD and PTRD associated with the K9ESA, it is not feasible to locate the facility on Category A or B lands. The environmental value of the Category C lands will be replaced using the FAATC's forest mitigation areas, or, in the case of grassland habitats, will be restored on site (by seeding the berms in the facility with native grasses) and in nearby barren areas (by establishing grassland habitats). Based on this plan, there will not be a long-term adverse impact from the project on land use.

There are no private lands that could impact/be impacted by the proposed activities. Based on this information, there are no significant impacts to land use resulting from the K9ESA project.

5.4 Construction Impacts

Construction impacts resulting from the project can be divided into temporary and permanent impacts. The following are references to specific sections of this EA that describe those impacts resulting from the construction of the proposed K9ESA facility:

- Impacts to Air Quality: Section 5.1
- Impacts to Wildlife and Plants: Section 5.7
- Impacts to Hazardous Materials and Solid Waste: Section 5.9

- Light Emissions and Visual Impacts: Section 5.11
- Impacts to Natural Resources and Energy Supply: Section 5.12
- Noise Impacts: Section 5.13
- Socioeconomic Impacts: Section 5.15
- Impacts to Water Quality: Section 5.16

5.5 Department of Transportation Act Section 4(f) Lands

As stated in Section 4.5, there are no DOT Section 4(f) lands in the vicinity of any of the location alternatives for the K9ESA facility. As a result, there are no potential impacts to these lands resulting from the K9ESA facility alternatives.

5.6 Farmlands

As stated in Section 4.6, there are no agricultural or farmlands located within the FAATC. As a result, there are no potential impacts to farmlands by the any of the proposed K9ESA facility alternatives.

5.7 Fish, Wildlife, and Plants

Each of the proposed K9ESA facility alternatives addressed in this EA will have temporary and permanent environmental consequences for plants and wildlife species that utilize the project area. During the siting of each of the four alternatives, several steps were considered to avoid or minimize potential adverse impacts to wetlands, fish and wildlife and environmental resources. These include:

- Siting the facility away from wetlands.
- Siting the facility away from known habitats of Federal, State, and Pinelands Commission threatened and endangered species, rare species or species of concern.

5.7.1 Plants

Each of the K9ESA facility alternatives will require vegetation clearing for the various proposed facilities. Clearing operations associated with these alternatives would result in the permanent loss of oak-dominated forest, pine-dominated forest, mixed oak-pine upland forest, and grass/shrubland areas for access roads, septic facilities, and the facility itself. Table 5-1 provides an approximate breakdown of the vegetative impacts related to the K9ESA alternatives:

Table 5-1
Estimated Vegetation Impacts Related to K9ESA Alternatives
FAA Technical Center, Atlantic County, New Jersey

Vegetation Type	Alternative A	Alternative B	Alternative C	Alternative D
Oak-Dominated Upland Forest	0.0	0.0	0.0	± 6.37
Pine-Dominated Upland Forest	0.0	0.0	± 6.37	0.0
Mixed Oak-Pine Upland Forest	± 6.37	0.31	0.0	0.0
Grass/Shrubland	0.0	5.74	0.0	0.0
Barren Lands	0.0	0.32	0.0	0.0
Total	± 6.37	± 6.37	± 6.37	± 6.37
* All measurements are shown as acres.				

5.7.2 Wildlife

Alternatives A, C, and D would primarily impact those wildlife species dependant on upland forest habitats. Alternative B would primarily impact those wildlife species dependant on grassland/shrubland habitats. Potential impacts to species of special concern and regulated species are discussed in Section 5.7.5. Areas to be impacted by the K9ESA facility do not directly impact any wildlife species and individual animals will not be present during the winter construction starting after November 15. Direct impacts to wildlife species resulting from the projects are minimal due to the limited area of construction and the nature of its use. In addition, some functional ecological value will be recovered by seeding the berms in the facility with native warm season grasses. Any site chosen will create a de-facto conservation area by limiting construction of inhabitable buildings within 856 feet of this the explosive storage site. Based on this information, there are no significant impacts to wildlife resulting from any of the K9ESA alternatives.

5.7.3 Fish

None of the alternatives proposed for the K9ESA facility contain aquatic habitat; therefore, there are no fish present. Based on this information, there are no potential impacts to fish.

5.7.4 Federally-listed Threatened and Endangered Species

As indicated in Section 4.7.4, there are no Federally listed threatened or endangered species present at any of the location alternatives for the K9ESA. Based on this information, there are no anticipated impacts to federally listed threatened or endangered species.

5.7.5 State-listed Threatened and Endangered Species

Based on the information from the NHP and FAATC concerning species of concern that may be present, state-listed species of concern may be affected by activities at each location alternative. The nature and extent of these impacts is described in Table 5-2.

Table 5-2
State-Listed Threatened and Endangered Species Impacts Related to K9ESA Alternatives
FAA Technical Center, Atlantic County, New Jersey

Species	Alternative A	Alternative B	Alternative C	Alternative D
Cooper's Hawk	Permanently eliminates 6.37 acres of potential habitat	Not present	Permanently eliminates 6.37 acres of potential habitat	Permanently eliminates 6.37 acres of potential habitat
Barred Owl				
Pine Snake				
Upland Sandpiper	Not present	Impact to 6.37 acres of habitat. 0.91 acres of grasshopper sparrow habitat will be removed. Some will be restored during future CERCLA mitigation. Functional ecological value will be recovered by seeding the berms in the facility with native grasses.	Not present	Not present
Grasshopper Sparrow				
Peregrine Falcon				
Buchholz's Dart Moth				
Albarufan Dagger Moth				
Leonard's Skipper				
Frosted Elfin				
Notodontid Moth				

The potential impacts to these species would be permanent for each alternative since the improvements associated with the K9ESA are permanent.

5.8 Floodplains and Floodways

According to the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map (FIRM) for Egg Harbor Township, none of the proposed K9ESA facility alternatives are within the 100-year floodplain (FEMA 1983). Based on this information, there are no potential impacts to floodplains and floodways.

5.9 Hazardous Materials and Solid Waste

In the vicinity of the alternative locations for the K9ESA, there are three potential hazardous waste sites, identified as Areas of Concern (AOC) that have been identified during past investigations:

- Area F: Air Blast Facility – Possible leaks from three former underground storage tanks may have contaminated soil and groundwater. A "no action" Record of Decision (ROD) requiring no further a remedial activities has been selected for this site.

- AOC 29: Fire Training Area – Test burning and extinguishing of fuel fires have contaminated soils and groundwater. Drums and tanks were stored in a portion of this AOC, formerly known as AOC K. These drums and tanks have leaked onto the ground resulting in soil and groundwater contamination. An "action" ROD has been signed and cleanup design is progressing.

- Area S: Excavation Area West of Tilton Road – Aerial photographs have indicated several surface impoundments and areas of stained soil. A "no action" Record of Decision (ROD) requiring no further a remedial activities has been selected for this site.

Alternative C is located within AOC S. Alternative B is located approximately 1,000 feet from AOC F and AOC 29. There are no AOCs within 300 feet of Alternatives A or D. The location of these areas is shown on Figure 4-5.

The RODs authorized for these AOCs are not impacted by, nor do they impact future use at the proposed development areas.

It is important to note, EPA and the FAA will consult and monitor all aspects of the design and development on all AOCs to ensure that negative impacts to the cleanup process are avoided or receive appropriate remedial action.

5.10 Historical, Architectural, Archaeological, and Cultural Resources

A cultural resources survey conducted for the entire FAATC in 1994 did not identify evidence of historic or archaeological resources in the vicinity of any of the proposed K9ESA alternatives (Hunter Research 1994). Based on this information, none of the alternatives would impact this resource.

5.11 Light Emissions and Visual Impacts

The aesthetic value of the project area and potential for light emissions and visual impacts is defined relative to the perspective of adjacent properties and travelers along perimeter routes and internal routes. The majority of the project area is forested uplands with several open fields and densely forested evergreen forests along drainageways and in depressions. Each of the location alternatives for the K9ESA are located over 800 feet within the boundaries of the FAATC and will not be visible to the general public. The exterior lighting associated with the operation of this facility will be minimal, requiring only spot lighting of entranceways.

Based on this information, there are no light emissions or visual impacts associated with the any of the K9ESA alternatives.

5.12 Natural Resources and Energy Supply

Aside from the biological resources described earlier in Section 5.7, additional natural resources on the site include geological and soil resources. Energy supply and public services are also provided at FAATC and are described herein. The proposed K9ESA facility facilities will require limited excavation for building foundations and utilities. In general, building foundations are constructed to a depth of approximately 4 feet. The construction of the K9ESA will not affect underlying geology or the stability of surrounding soils at any of the alternative locations.

Water will be provided by an on-site well; however bottled water will be provided for drinking. Wastewater will be handled using a septic system to be installed at the selected site. Electric service will be provided using overhead wires. Natural gas is not anticipated for operations at the facility.

5.12.1 Geology and Soils

The nature of the soils and underlying geology directly impact the suitability of each alternative location for construction of foundations and septic fields. The impacts of the project on these resources (and of these resources on the project) are presented in Table 5-3.

Table 5-3
Soil Suitability for K9ESA Facility Alternatives
FAA Technical Center, Atlantic County, New Jersey

Alternative Location	Suitability for Structures/Foundations	Suitability for Septic-tank Absorption Fields
Alternative A (Sassafras soils)	No significant limitations	Good – but sometimes rapid permeability in substratum
Alternative B (Hammonton soils)	No significant limitations	Moderate- Seasonal high water table at 1½ to 4 feet. Drainage needed.
Alternative C (Sassafras, Fill Land, and Downer soils)	No significant limitations (However, high variability in fill land)	Good – but sometimes rapid permeability in substratum.
Alternative D (Downer soils)	No significant limitations	Good

5.12.2 Utilities and Public Services

Electric, natural gas, potable water, and wastewater collection facilities are not currently available at any of the potential alternative locations. Gas is not required at the selected site. Electric service will need to be extended to the facility from the nearest available line. Distance to electric services for each alternative is as follows:

Alternative	Distance to Electric (feet)
A	1661
B	540
C	1150
D	811

Due to the necessary remote placement of the facility, and the large distances from available services, sanitary water and sanitary services will be provided using a well and septic field. The placement of a well and associated infrastructure will require a permit from the New Jersey Department of Environmental Protection. Potable water will be provided using bottled water. The Lower Cohansey Sand aquifer is the local source of

groundwater capable of supplying process water for the K9ESA. Based on the estimated number of persons using the facility each day (4 people) and the nature of the activities, the facility will require pumping of groundwater to support 60 gallons per day. This volume of water is a minimal withdrawal and will not significantly impact the aquifer.

The placement of a septic leach field and associated infrastructure will require soils that are suitable for septic disposal (see Section 5.12.1) and a permit from the New Jersey Department of Environmental Protection. This volume of wastewater disposal (approximately 60 gallons per day) is minimal and will not significantly impact the aquifer.

Since public water, gas, and sanitary sewer services at FAATC will be unaffected and the electrical demand for the K9ESA facility will be minimal, there will be no significant impact to utilities and public services at the FAATC from the proposed facilities.

5.13 Noise

Potential noise-related impacts resulting from the K9ESA facility are minimal and short-term. In general, ambient noise levels in the vicinity of the airport are already elevated. Alternative B is located within the envelope of noise generated by the airfield operations. Alternatives A, C, and D, are not impacted significantly by airfield operations noise.

5.13.1 Construction-Related Impacts

Construction of the proposed K9ESA facility would result in intermittent short-term noise effects primarily associated with the operation of onsite construction equipment, construction vehicles, and offsite haul trucks. The basic construction activities associated with the K9ESA facility are vegetation clearing, grading, building construction, and utilities installation. The construction period will be complete within approximately 6 months. Construction activities would operate approximately 8 to 10 hours per day. Typical noise levels associated with expected construction equipment are presented in Table 5-4.

Table 5-4
Typical Noise Levels (dB(A))
For Construction Equipment
Egg Harbor Township, Atlantic County, New Jersey

Equipment Type	Noise Level at 50 Feet
Earthmoving	
Dozers	80
Tractors	80
Scrapers	88
Graders	85
Trucks	91
Other	
Saws	78
Drop hammer	85

5.13.2 Operation and Maintenance Impacts

Daily maintenance and operational activities associated with the K9ESA facility could result in minor increases in ambient noise levels, primarily associated with the operation of HVAC equipment. The operation of landscaping equipment and human voices would occasionally generate minor intermittent noise.

The proposed project would not result in a significant long-term increase in average daily vehicle traffic associated with the long-term operation of the project. The K9ESA facility will house 4 persons on a daily basis. As a result, no increase in predicted traffic noise levels are anticipated for long-term operation of the proposed project.

5.14 Secondary (Induced) Impacts

The constant changes in aviation technology and security concerns resulting from the terrorist attacks of September 11, 2001 demand structural, functional, and operational changes at FAATC if it is to complete its mission. As a result, there have been, and will continue to be, intermittent small development projects throughout the FAATC. Although the impacts from these projects are addressed individually through the National Environmental Policy Act (NEPA) process, the cumulative effects of these projects must also be considered. Key cumulative impacts include those to surface and ground water quality and vegetative communities.

5.14.1 Ground Water Quality

The septic leach field may decrease groundwater quality by adding wastewater contaminants into the ground water table. While piecemeal usage of septic fields at the FAATC could have cumulative affects, septic field usage is very limited at the facility and the impacts will not be significant.

5.14.2 Vegetative Communities

Other cumulative impacts include the cumulative losses of upland forest habitats resulting from the development of these lands by small development projects. The recognition of these cumulative impacts has resulted in the establishment of woodland mitigation banks on other lands owned by FAATC. The use of these mitigation banks is encouraged to maintain the functional viability of woodland habitats in the area.

5.14.3 Utilities

The incremental, cumulative increase for the demand of public utilities, especially potable water and wastewater handling, can accumulate to the point where additional projects may not be possible without significant utility improvements. Since water and wastewater will not be provided by the local utility, there will be no significant cumulative impact to these services. Electric needs from the facility are minimal and will not result in a cumulative impact to the electrical system.

5.15 Socioeconomic Impacts

A review of existing demographic data indicates that the two census tracts that encompass the project area account for 26 percent of the total population of Egg Harbor and Hamilton Townships. The minority population of the two subject census tracts is 17 percent higher than that of Egg Harbor and Hamilton Townships as a whole.

Environmental Justice has been defined by a variety of organizations interested in the topic. EPA's Office of Environmental Justice offers the following definition:

"The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including racial, ethnic, or socioeconomic group should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies."

The goal of this "fair treatment" is not to shift risks among populations, but to identify potential disproportionately high and adverse effects and identify alternatives that may mitigate these impacts.

Based on this definition, it must be determined if the proposed K9ESA facility present disproportionately high and adverse effects to the minority population. This is initially more of a concern at FAATC, where the minority population is greater by percentage than in surrounding areas.

After conducting a review of local demographics and the proposed activities, it was concluded that there is no adverse impact to minority populations or regional demographics because:

- The K9ESA facilities have no impact on surrounding communities (minority or otherwise) and are being conducted on federally owned lands. There are no significant noise sources from these facilities and each of the alternative location has been located far enough from the site boundary to not present a safety concern to adjacent communities. The K9ESA facility alternatives are located to preferentially minimize off-site impact, regardless of minority populations.

- The K9ESA facility location alternatives are not “preferentially located” in areas of higher minority population.

With respect to socio-economics, the project is expected to have a significant positive impact:

- The proposed project will increase the safety and security of the commercial aviation industry. Construction of the K9ESA allows the expansion of aviation security operations at their present location. Actual safety and the perception of a

safe aviation industry are essential to ensuring the strength and expansion of the national economy.

There will be an increase in employment opportunities for nearby residents for short-term construction jobs.

5.16 Water Quality

The proposed K9ESA facility will result in a minimal increase in the rate and volume of stormwater runoff from the area. In general, the only impervious surfaces will include the concrete pads under the explosive magazines and the building area, a total of 5,600 square feet. These surfaces will have drainage features that will allow water to drain to the surrounding area. The remainder of the facility will be pervious materials (earthen berm, gravel floors and parking area.

Another potential source of impact to water quality will be the use of a septic system at the site to handle the wastewater from the facility. The facility is designed to accommodate as many as 4 full-time (one 8-hour shift) personnel. Therefore, the septic system has been sized to accommodate 60 gallons per day (less than that of a typical residence).

5.16.1 Surface Water

The small area of impervious surface added to the area will result in a small increase in surface water runoff. However, since most of the additional runoff generated will be within the earthen berm surrounding the facility there will be little to no additional runoff generated by the project. Therefore, there is no significant impact from the facility on surface water quality, regardless of the selected location.

A soil erosion and sediment control plan will be prepared prior to initiating site work for the K9ESA. Implementation of the plan will minimize sedimentation in offsite areas. Based on consultation with the Cape-Atlantic Soil Conservation District (SCD) office, development and clearing of the K9ESA may require certification of the soil erosion and sediment control plan by the SCD (Appendix C).

Runoff over cleared areas will contain a high concentration of suspended sediment that will be directed to temporary soil erosion basins constructed in low-lying areas. Since these temporary sediment control basins will not have a surface water discharge, nearby surface water quality will not be affected by construction activities. Construction entrances will be stabilized with stone to clean truck tires before they leave the site.

In summary, the implementation of soil erosion and sedimentation control measures will eliminate significant impacts to surface water quality during construction.

5.16.2 Groundwater

The K9ESA facility will require an increase in potable and sanitary water usage and will rely on a septic system for disposal of wastewater.

Water will be provided by a new well with a 1 HP pump installed near the facility; however, bottled water will be provided for drinking. The well will be screened in the Cohansey aquifer and would pump a minimal amount of water (less than 200 gallons per day) for washing and cleaning purposes. This is a minimal amount of water (comparable to a single family residence) and will not result in a significant impact to ground water resources at the FAATC.

Septic disposal will be provided using a 30-foot by 40-foot infiltration field to be constructed adjacent to the facility. This system is sized to accommodate 60 gallons per day based on 4 full-time employees per day using the facility. This is a minimal amount of wastewater for septic disposal. One factor that should be considered in selecting an alternative location is the distance between the septic field and the nearest surface water feature. The further the distance, the better since the potential impacts of wastewater contamination lessen significantly with distance. According to Pinelands Commission regulations, septic fields may not be placed within 300 feet of a wetland or other water body. Distances to waterbodies/wetlands for each of the alternative locations are as follows:

- Alternative A: Maximum of 1,060 feet to wetlands
- Alternative B: Maximum of 1,045 feet to wetlands
- Alternative C: Maximum of 906 feet to wetlands
- Alternative D: Maximum of 2,050 feet to wetlands.

Based on the large distances between all of the proposed locations and the nearest waterbodies/wetlands, there should be no significant impact from the facility on groundwater or surface water resources.

5.17 Wetlands

There are no wetlands or wetland transition areas located at any of the K9ESA location alternatives. The distances to waterbodies/wetlands for each of the alternative locations are presented in the Section 5.16. Based on this information, the proposed K9ESA facility will not affect wetlands.

5.18 Wild and Scenic Rivers

There are no river systems in the area of the proposed K9ESA location alternatives and none of the rivers within the FAATC are included in, nor are eligible for inclusion in, the National Wild and Scenic River System. Based on this information, the K9ESA facility will not impact wild and scenic rivers.

6.0 Mitigation Measures

Based on the environmental consequences resulting from the selected alternative for the proposed K9ESA facility, there are potential environmental impacts to biological resources. Specifically, the principal potential impacts are those associated with the loss of 6.37 acres of specialized habitat for species of special concern (grassland birds and moths). Of this habitat area, 0.91 acre is potential grasshopper sparrow habitat. Some of this habitat area will be rehabilitated upon completion of the proposed action.

Frosted elfin (FE) habitat, characterized by brush shrub-scrub oak habitats with wild indigo (*Baptisia sp.*) is located throughout Alternative B but is concentrated to the east and west. Individual sightings of FE have been recorded east, west and south east of the site; however, no FE have actually been observed on the site. The site is also identified as grasshopper sparrow (GS) habitat. Habitat for upland sandpiper and several globally/New Jersey rare moths (Albarufan Dagger moth, a Notodontid Moth, and Leonard's Skipper), is sparsely distributed through habitat of the site.

The construction of the K9ESA facility and access roadways will result in the permanent loss of some of this habitat. In addition, associated infrastructure such as stormwater and sanitary facilities will temporarily disturb this habitat. There were no potential significant impacts to any other resources considered.

It is also important to note that the preferred alternative will allow restoration and enhancement of an existing colony of FE at the former K9ESA. The former site was developed as a temporary facility prior to the listing of FE. This colony site is reported to be the largest in the world (Schweitzer 1994).

A combination of siting and location options, construction controls, operational controls, and a re-vegetation plan were considered as mitigating factors for the preferred alternative.

Siting and Location Mitigating Factors

The following considerations were made in the placement and internal design of the K9ESA at the preferred alternative to minimize or eliminate potential impacts to species of concern and their associated habitat:

- Site has been shifted to take full advantage of grasshopper sparrow non-critical habitat buffer (USFWS 1995a). Impacts to FE habitat appear to be similar across all possible designs; therefore, reduction in impacts to grasshopper sparrow was driving factor.

- The sanitary disposal (septic) field will be constructed within the disturbed construction site to avoid additional impacts to habitats of concern.

- Only one road will be developed to and from the site to minimize habitat impacts.

- Re-vegetation of the work area outside of the K9ESA perimeter fence and its associated 25 foot buffer will include planting 292 *Baptisia*, a compensation of 2:1 for every *Baptisia* plant removed. It is anticipated re-vegetation with *Baptisia* will provide a more consistent connecting "corridor" between FE observed to the east and west of the site.

- There appears to be a relationship between windbreaks and FE (Schweitzer 1994), it is believed that berms will provide the preferred windbreaks. As a result, the berms will be vegetated with native warm season grasses.

Construction Controls

The following steps shall be taken in the construction of the K9ESA to minimize or eliminate potential impacts to species of special concern and their associated habitat:

- Work shall be conducted during the fall after November 1 and should be completed prior to April 15 of the following year.

- Temporary fencing will be constructed around the work area.

- No vehicle traffic, parking, material staging (new or old) will be allowed outside of the work area fencing.

- Staging area shall be confined to the construction work area or the old borrow pit to the north which is currently being used as a dirt storage area.

- Access road will be developed along existing assess roads to the site and will have the least impact to FE and GS any additional road impacts will be part of CERCLA related mitigation for a combination of activities.

- Existing roads will not be widened but may, within existing shoulders, but may be upgraded to support truck traffic.

Operational Controls

The following operational controls will be employed at the K9ESA facility upon completion to ensure the minimization or elimination of potential impacts to species of concern and their associated habitat:

- There will be a three (3) foot buffer outside of the security fence in which vegetation will be maintained as required by the project proponent with ACX-42 approved methods. Basically this will be an area necessary to maintain the fence. The limited buffer size will minimize habitat impacts. The area beyond this buffer zone, out side of the fence, will be maintained under the current FAA Technical Center mowing plan.

- Herbicides will not be used outside of the fenced facility. If herbicide must be used inside the fenced facility it shall be "Round-Up" or other ACX-42 approved herbicide.

- Site will require restriction on land use within the IBD and PTD of the facility, effectively providing conservation lands for the frosted elfin, grasshopper sparrow and other species of concern.

Re-Vegetation Plan

After the K9ESA has been completed, the following steps will be conducted to rehabilitate habitat impacted by construction activities associated with the site:

1. The earthen berms, septic field, and 25' fence buffer area surrounding the facility will be hydroseeded with a grassland seed mix specifically designed for use at the FAATC in the fall after November 1 or early Spring.

    a. Application rate is 22.5 lbs/acre.

    b. After seeding, the area should be stabilized with hydromulch, erosion control blanket or straw mulch.

    c. Hydroseeding to be conducted by pre-qualified local landscaping company familiar with custom blended grass seeding.

2. The 25' fence buffer area surrounding the facility will be planted with native wild indigo. The berms will not be planted with wild indigo. Planting must be conducted after hydroseeding is complete.

    a. Gather seeds from wild indigo plants during late summer from adjacent areas.

    b. Grow seeds at local nursery in native soils until 2 inches tall.

    c. Transplant wild indigo seedlings in groups of 15 to 20 plants on 1 foot centers (292 individual plants) after May 1.

It is important to note that there are other activities associated with a CERCLA project occurring in the general area. There are also impacts to these same habitats associated with this CERCLA project. Mitigation for FE and GS occur as part of CERCLA related mitigation for a combination of activities. The habitat and mitigation needs for the other moth species of concern moths will be considered in the overall CERCLA mitigation. Studies to support this CERCLA mitigation are in progress, plots have been established and soil amendments are being added to determine the appropriate actions needed to obtain a working mitigation area. A request is currently being processed through the FAA Technical Center Master Planning and Siting Board to have the former K9ESA facility set aside as FE habitat.

7.0 Conclusions

Based on this EA, it is concluded that the proposed K9ESA facility will not have a significant environmental impact, does not constitute a major Federal Action, and will not be environmentally controversial. The following are the major findings supporting this conclusion:

1. There are no significant impacts to any environmental or socio-economic resources and the project will not result in significant cumulative impacts.

2. Potential impacts to grassland/shrubland habitat that potentially supports threatened and endangered species will be mitigated for using by restoring grassland habitat on berms and during future CERCLA grassland mitigation.

8.0 Permits and Approvals

A variety of local, state, and county licenses, permits, certifications, and approvals are required before the construction activities can commence. A complete listing of these licenses, permits, certifications, and approvals is provided in Table 8-1.

Table 8-1
Required Licenses, Permits, Certifications, and Approvals
K9ESA Facility
Egg Harbor Township, Atlantic County, New Jersey

Organization	Facility/Phase	Description	Type of Approval	Status
Cape-Atlantic Soil Conservation District	K9ESA Facility	Approval of Soil Erosion and Sedimentation Control Plans	Certification	Awaiting Application
N.J. Department of Environmental Protection – Division of Water Quality	K9ESA Facility	Septic System Approval	Permit	Awaiting Application
N.J. Department of Environmental Protection – Division of Water Quality	K9ESA Facility	Well Approval	Permit	Awaiting Application
N.J. Pinelands Commission	K9ESA Facility	Development Approval	Permit	Awaiting Application

9.0 Preparer's Qualifications

Principal Author: Dane G. Pehrman, Black & Veatch Special Projects Corp.

Education:
B.S., Biology. Stockton State College, 1987

Registration/Certification:
Certified Wetland Delineator, 1990

Professional Affiliations:
Society of Environmental Toxicology and Chemistry
Society of American Military Engineers

Relevant Experience:

- **William J. Hughes FAA Technical Center, Security Improvements Program, Atlantic City International Airport, Atlantic County, NJ.** Prepared an NEPA environmental assessment (EA) to evaluate the environmental impacts of constructing improvements to the Security Operations Center and a new mail and parcel screening facility at the FAATC. The EA/EIS evaluated project alternatives and selected an alternative that minimized environmental impacts. (2001 – 2002).

- **William J. Hughes FAA Technical Center, Federal Air Marshals Training Facilities, Atlantic City International Airport, Atlantic County, NJ.** Prepared an NEPA environmental assessment (EA) to evaluate the environmental impacts of constructing a firing range, training facilities, and housing improvements for the Federal Air Marshals. The EA/EIS evaluated project alternatives and selected an alternative that minimized environmental impacts. (2001 – 2002).

- **Puerto Rico Infrastructure Financing Authority, East-Central Reservoir Project, Gurabo, Puerto Rico.** Responsible for preparation of Alternatives Analysis, Socio-Economic and Environmental Justice portions of the Environmental Impact Statement and quality technical review of entire EIS for this project. Management and oversight of technical staff responsible for other portions of the EIS. (2/00 to present)

- **Puerto Rico Infrastructure Financing Authority, Dorado Wastewater Treatment Plant, Dorado, Puerto Rico.** Responsible for preparation of Alternatives Analysis and Environmental Justice portions of a NEPA EIS required by USEPA to approve a permit application for a deep ocean sewer outfall. Mr. Pehrman was also responsible for quality technical review of entire EIS for this project. Management and oversight of technical staff and local consultants responsible for other portions of the EIS. (2/98 to present)

- **Federal Government of Argentina, Rio Reconquista Flood Improvement and Sanitation Project, Buenos Aires, Argentina.** Managed the sediment characterization, dredging design, and disposal component of the project. Under his direction, the characterization, design, and specifications were assembled within budget and on schedule, although the funding financial institutions consistently shortened the schedule. (1995–1998)

- **Federal Government of Argentina, Matanza-Riachuelo Flood Control and Sanitation Project, Buenos Aires, Argentina.** Managed a team of local professionals and ex-patriot experts to prepare an Environmental Impact Statement (EIS) required for World Bank funding of this flood control and sanitation project south of Buenos Aires, Argentina. The EIS was required to be compliant with the United States NEPA. (1997 – 1998).

- **Taylor Wiseman & Taylor/N.J Department of Transportation, Tilton Road Intersection Improvements, City of Northfield, Atlantic County, N.J.** Hired as subcontractor to prepare environmental documents and a CED to qualify the Tilton Road/New Road Intersection Improvement project for Federal funding. Identified important issues that included the potential for hazardous material in the project right-of way. The CED also required the assessment of air, noise, ecological, and socio-economic impacts resulting from the project during and after construction. (1998 – 1999).

- **Puerto Rico Aqueduct and Sewer Authority, Carraizo Reservoir Project, Puerto Rico.** Conducted a field delineation of wetlands for 14 proposed dredge disposal sites encompassing 1,200 acres and obtained a JD from the Jacksonville District Corps of Engineers in three weeks. Prepared conceptual wetland mitigation plans for construction of onsite areas for compensatory wetland creation. Developed a sampling plan and oversaw the collection and processing of fish samples from a drinking water reservoir in Loiza, Puerto Rico. Was also the project manager and principal author for an NEPA EIS developed to determine viable alternatives to provide drinking water to the residents of San Juan, Puerto Rico. The EIS was used to successfully obtain the required permits and approvals for dredging 6 million cubic yards of material from the reservoir. (1996 to 1997).

- **Urban Engineers, Inc., Norfolk-Southern Intermodal Facility, Secaucus, Union County, N.J.** Project manager responsible for the wetland delineation and environmental permitting for a 28-acre site intermodal facility in Secaucus, Hudson Co., NJ. The project required wetland permits for fill of a 0.30-acre isolated wetland from the Army Corps of Engineers (NY). Mr. Pehrman oversaw the applications for a Section 404 jurisdictional determination and a Nationwide Permit 26, both of which were approved within 45 days of submission. Also oversaw application for a Stream Encroachment Permit and 401 Water Quality Certification for fill of a tidal ditch isolated wetland. (1998-1999).

- **Southwestern Power Administration/DOE, NEPA EA to Evaluate Vegetation Control Procedures along 1,150 Miles of Powerline Right-of-Ways and at 36 Substations and Pole Yards. Oklahoma, Arkansas, and Missouri.** Prepared an NEPA environmental assessment (EA) to evaluate the environmental impacts of vegetation control strategies along 1,150 miles of rights-of-way. The EA/EIS evaluated mechanical- and herbicide-based control strategies and was used to develop their vegetation control strategy to minimize environmental impacts. A key issue for this project was the identification of a Federally-threatened plant (Missouri bladderpod) along 50 miles of potential habitat crossed by the ROW. Communities of this plant were located using low-altitude video camera fly over to identify potentially viable habitat and field surveys to confirm their presence. The EA developed strategies to avoid impacts, based on the nature of the herbicides proposed and the flowering season for the plant. (1994 – 1996).

10.0 Listing of Agencies and Persons Consulted

Mr. Lawrence Schmidt, NJDEP Office of Program Coordination, Trenton, NJ.

Mr. Clifford Day, U.S. Fish and Wildlife Service, Pleasantville, NJ.

Mr. Frank Burns, Cape-Atlantic Soil Conservation District, Mays Landing, NJ.

Mr. Todd DeJesus, The Pinelands Commission, New Lisbon, NJ.

Lt. Col. John Elwood, New Jersey Air National Guard, Pleasantville, NJ.

Mr. Thomas Rafter, South Jersey Transportation Authority, Atlantic City International Airport, Egg Harbor Township, NJ.

Mr. William Roach, U.S. Environmental Protection Agency, Region 2. New York, New York.

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12.0 Figures

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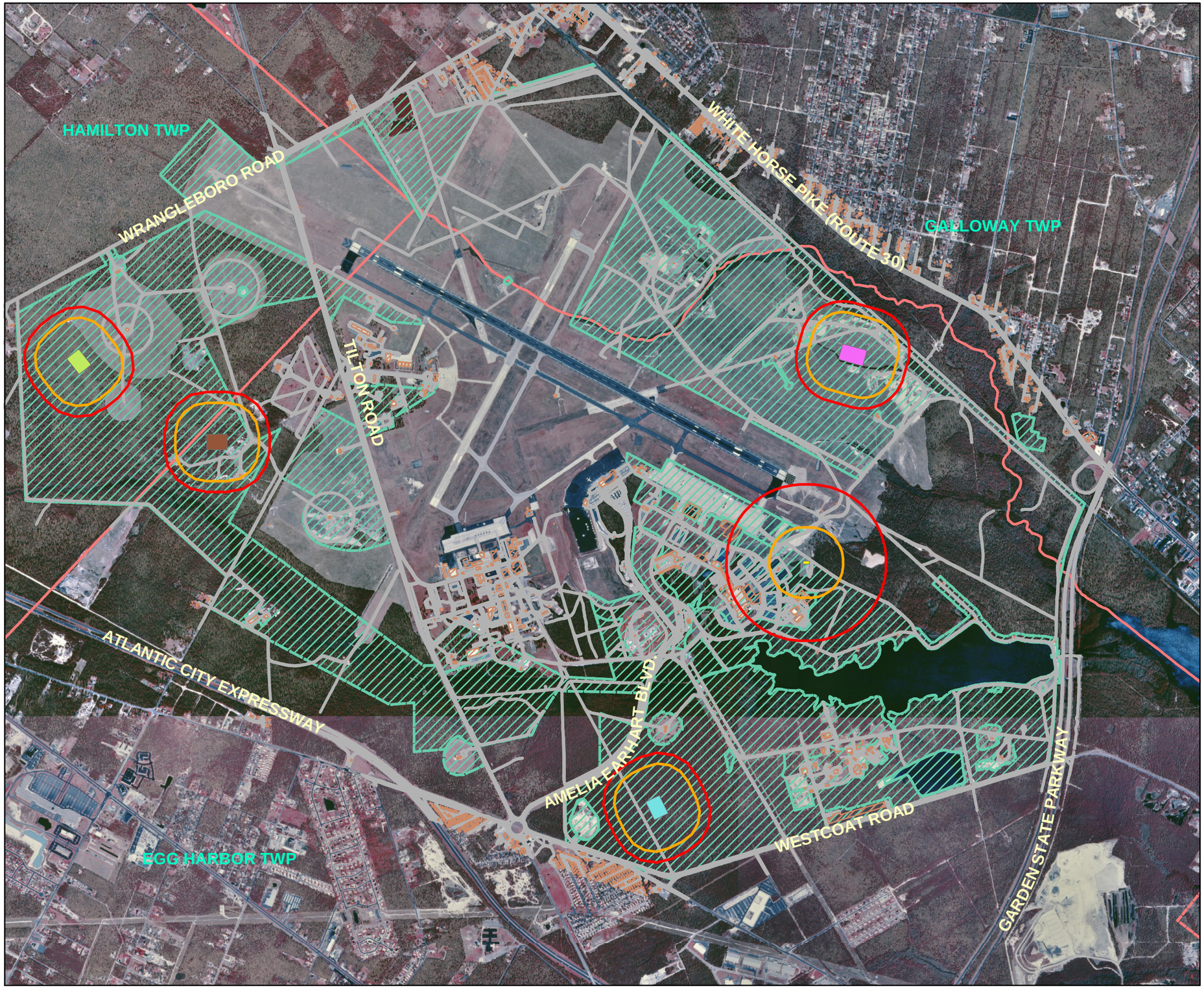

Legend

- Existing K9ESA Location
- Alternative A
- Alternative B
- Alternative C
- Alternative D
- IBD
- PTRD
- Roads
- FAATC Controlled Lands

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Feet
1 inch equals 2,000 feet

Black & Veatch Special Projects Corp.
Turnersville, New Jersey

Environmental Assessment
Relocation of K-9 Explosives Storage Area
William J. Hughes FAA Technical Center

Figure 3-1
Alternative K9ESA Facility Locations

Drawn By: DGP	Project No: 041151.0200
Approved By: DGP	Date: July 3, 2003

Legend

Land Use Category

- Category A
- Category B
- Category C
- Existing K9ESA Location
- Alternative A
- Alternative B
- Alternative C
- Alternative D
- IBD
- PTRD
- Roads

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Feet
1 inch equals 2,000 feet

Black & Veatch Special Projects Corp.
Turnersville, New Jersey

Environmental Assessment
Relocation of K-9 Explosives Storage Area
William J. Hughes FAA Technical Center

Figure 4-1
Land Use Categories

Drawn By: DGP	Project No: 041151.0200
Approved By: DGP	Date: July 3, 2003

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This map product has not been developed nor verified by a professional land surveyor and shall not be, nor is licenced to be, used in matters requiring cadestral delineation and/or location of true ground and/or vertical controls. Some subject points, lines, and areas may be approximate.

Legend

- Barren Land
- Landscaped Area
- Emergent Wetland
- Herbaceous
- Scrub-Shrub
- Pitch Pine Lowland Forest
- Oak-Dominated Upland Forest
- Mixed Oak-Pine Upland Forest
- Pine-Dominated Upland Forest
- Urban/Developed Land
- Atlantic City Reservoir
- Existing K9ESA Location
- Alternative A
- Alternative B
- Alternative C
- Alternative D
- IBD
- PTRD
- Roads

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Feet
1 inch equals 2,000 feet

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Turnersville, New Jersey

Environmental Assessment
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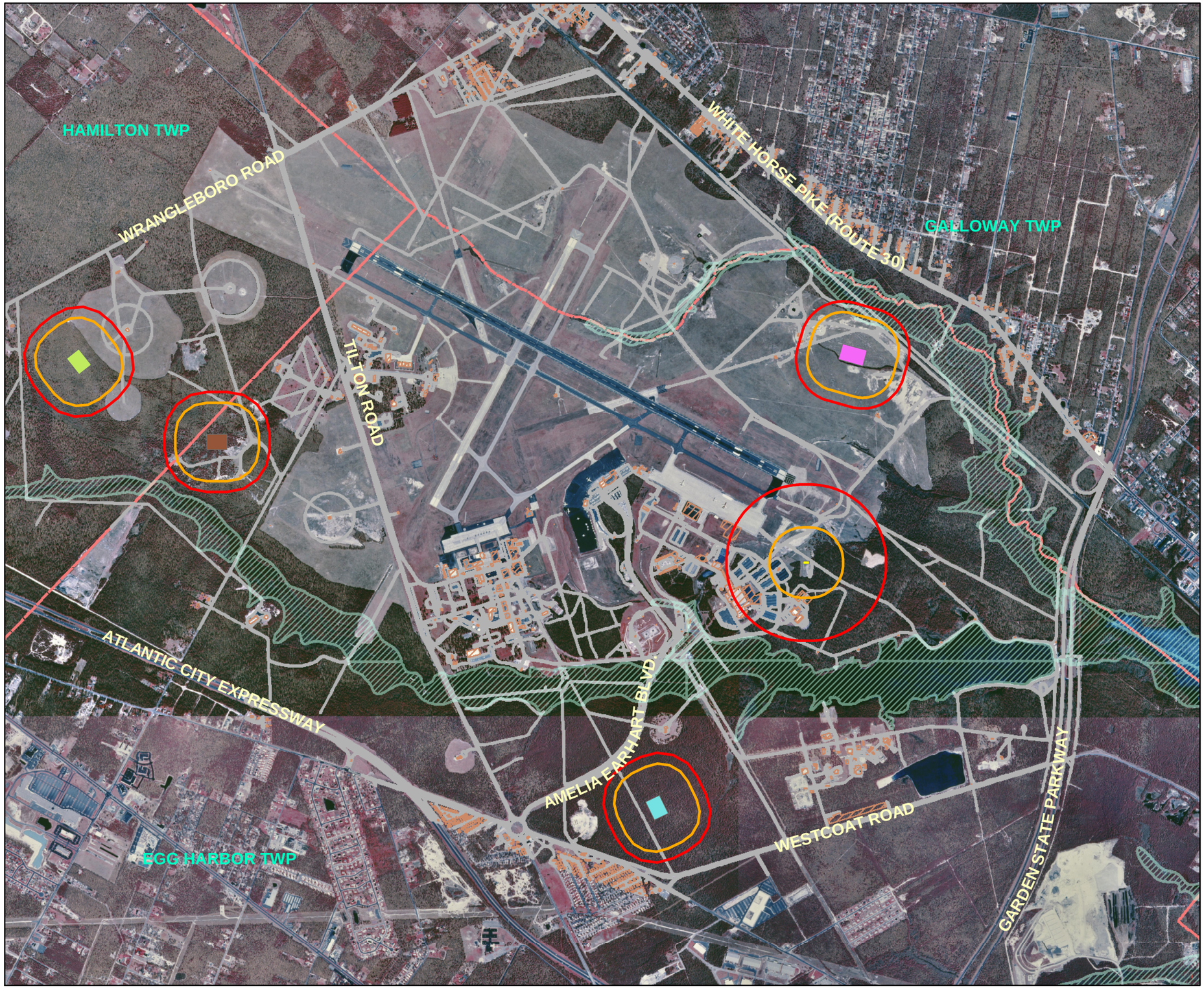
Figure 4-2
Vegetation Communities

Drawn By: DGP	Project No: 041151.0200
Approved By: DGP	Date: July 3, 2003



Legend

- 100-Year Floodplain
- Roads
- Existing K9ESA Location
- Alternative A
- Alternative B
- Alternative C
- Alternative D
- IBD
- PTRD

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Feet
1 inch equals 2,000 feet

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Turnersville, New Jersey

Environmental Assessment
Relocation of K-9 Explosives Storage Area
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Figure 4-3
FEMA Floodplains

Drawn By: DGP	Project No: 041151.0200
Approved By: DGP	Date: July 3, 2003

Legend

Soil Series

- Atsion sand
- Aura loam
- Aura sand
- Downer loam
- Evesboro
- Fort Mott
- Galloway
- Hammonton
- Lakehurst
- Manahawkin
- Matawan sand
- Mullica sand
- Pits, sand
- Psamments
- Sassafras
- Udorthent
- Water
- Woodstown
- Existing K9ESA Location
- Alternative A
- Alternative B
- Alternative C
- Alternative D
- IBD
- PTRD
- Roads

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Feet
1 inch equals 2,000 feet

Black & Veatch Special Projects Corp.
Turnersville, New Jersey

Environmental Assessment
Relocation of K-9 Explosives Storage Area
William J. Hughes FAA Technical Center

Figure 4-4
Soils Map

Drawn By: DGP	Project No: 041151.0200
Approved By: DGP	Date: July 3, 2003

Legend

AOC Status

- No Action
- Long Term Monitoring
- Active Remediation
- Area of Concern U

- Existing K9ESA Location
- Alternative A
- Alternative B
- Alternative C
- Alternative D
- IBD
- PTRD
- Roads

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Feet

1 inch equals 2,000 feet

Black & Veatch Special Projects Corp.
Turnersville, New Jersey

Environmental Assessment
Relocation of K-9 Explosives Storage Area
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Figure 4-5
Solid and Hazardous Waste Areas Map

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Approved By: DGP	Date: July 3, 2003

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Legend

- Water Lines
- Electric Lines
- Gas Lines
- Sewer Lines

- Existing K9ESA Location
- Alternative A
- Alternative B
- Alternative C
- Alternative D
- IBD
- PTRD
- Roads

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Feet
1 inch equals 2,000 feet

Black & Veatch Special Projects Corp.
Turnersville, New Jersey

Environmental Assessment
Relocation of K-9 Explosives Storage Area
William J. Hughes FAA Technical Center

Figure 4-6
Utilities Map

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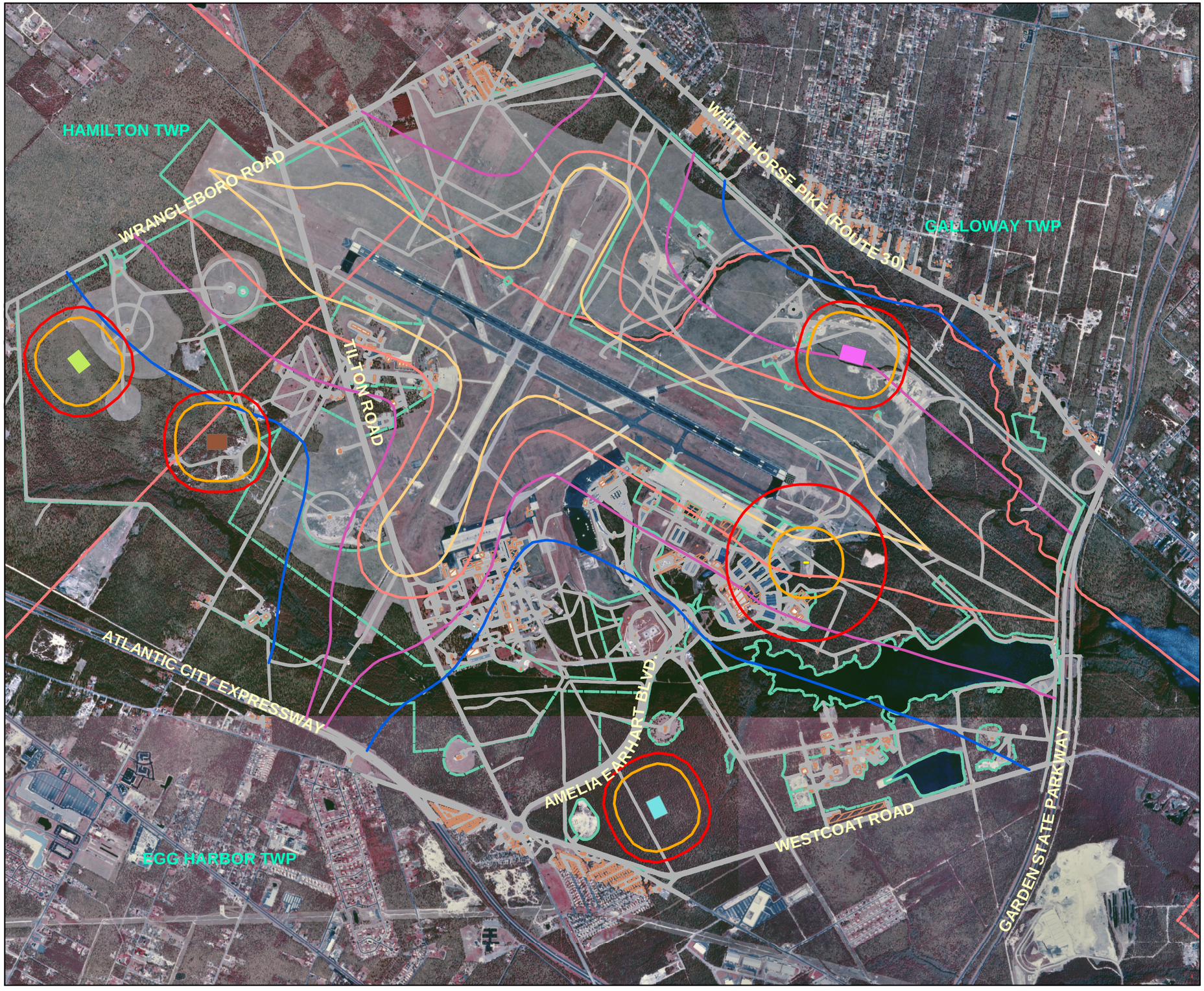

Legend

Noise Level (dBA)

- 60
- 65
- 70
- 75

- Existing K9ESA Location
- Alternative A
- Alternative B
- Alternative C
- Alternative D
- IBD
- PTRD
- Roads

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Feet
1 inch equals 2,000 feet

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Turnersville, New Jersey

Environmental Assessment
Relocation of K-9 Explosives Storage Area
William J. Hughes FAA Technical Center

Figure 4-7
Existing Noise Levels

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Approved By: DGP	Date: July 3, 2003

Legend

Wetland Class

- Open Water
- Shrub-Scrub
- Conifer-Dominated Forest
- Deciduous Tree-Dominated Forest
- Emergent
- Lacustrine
- Wetland Buffer

- Existing K9ESA Location
- Alternative A
- Alternative B
- Alternative C
- Alternative D
- IBD
- PTRD
- Roads

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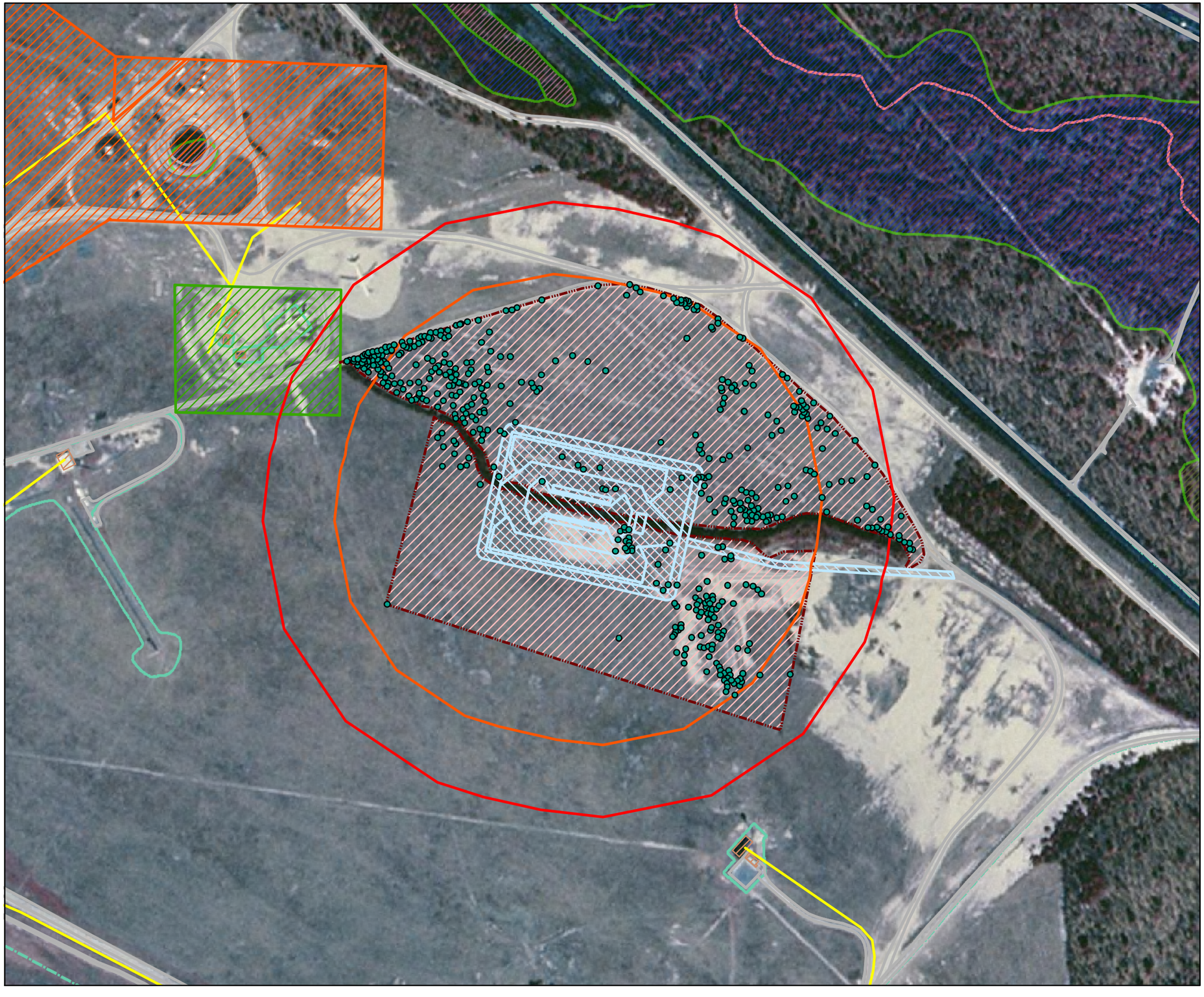
Feet
1 inch equals 2,000 feet

Black & Veatch Special Projects Corp.
Turnersville, New Jersey

Environmental Assessment
Relocation of K-9 Explosives Storage Area
William J. Hughes FAA Technical Center

Figure 4-8
Wetland Classifications and Buffers

Drawn By: DGP	Project No: 041151.0200
Approved By: DGP	Date: July 3, 2003



Legend

- Selected Alternative
- PTRD for Selected Alternative
- IBD for Selected Alternative
- Baptisia Survey Area
- Baptisia Locations

Wetland Class

- Open Water
- Shrub-Scrub
- Conifer-Dominated Forest
- Deciduous Tree-Dominated Forest
- Emergent
- Lacustrine

AOC Status

- No Action
- Long Term Monitoring
- Active Remediation
- Electric Lines
- FAATC Controlled Lands
- Township Boundaries
- Roads

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0 112.5225 450 675 900

Feet

1 inch equals 300 feet

Black & Veatch Special Projects Corp.
Turnersville, New Jersey

Environmental Assessment
Relocation of K-9 Explosives Storage Area
William J. Hughes FAA Technical Center

Figure 6-1
Selected Alternative and
Important Habitat Features

Drawn By: DGP	Project No: 041151.0200
Approved By: DGP	Date: July 3, 2003

13.0 Appendices

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Appendix A - Natural Heritage Program Report

State of New Jersey

DONALD T. DIFRANCESCO
Acting Governor

Department of Environmental Protection
Division of Parks and Forestry
Office of Natural Lands Management
Natural Heritage Program
P.O. Box 404
Trenton, NJ 08625-0404
Tel. #609-984-1339
Fax. #609-984-1427

Robert C. Shinn, Jr.
Commissioner

November 27, 2001

Dane G. Pehrman
Black and Veach
3501 Route 42, Unit 7A, Suite 184
Turnersville, NJ 08012

Re: FAA Technical Center - EA for Security Upgrades

Dear Mr. Pehrman:

Thank you for your data request regarding rare species information for the above referenced project site in Hamilton and Galloway Townships, Atlantic County.

The Natural Heritage Data Base has records for occurrences of pine barrens treefrog, upland sandpiper, ten rare butterfly/moth species and *Corema conradii* that may be on the site, and for pine barrens treefrog that may be on or in the immediate vicinity of the site. The attached lists provide more information about these occurrences. **Because some species are sensitive to disturbance or sought by collectors, this information is provided to you on the condition that no specific locational data are released to the general public. This is not intended to preclude your submission of this information to regulatory agencies from which you are seeking permits.**

Also attached is a list of rare species and natural communities that have been documented from Atlantic County. This county list can be used as a master species list for directing further inventory work. If suitable habitat is present at the project site, these species have potential to be present. If you have questions concerning the wildlife records or wildlife species mentioned in this response, we recommend you contact the Division of Fish and Wildlife, Endangered and Nongame Species Program.

The Natural Heritage Program reviews its data periodically to identify priority sites for natural diversity in the State. Included as priority sites are some of the State's best habitats for rare and endangered species and natural communities. One of these sites is located within or near the areas you have outlined. Please refer to the enclosed Natural Heritage Priority Site Map for the location and boundary of this site. On the back of each Priority Site Map is a report describing the significance of the site.

PLEASE SEE THE ATTACHED 'CAUTIONS AND RESTRICTIONS ON NHP DATA'.

Thank you for consulting the Natural Heritage Program. The attached invoice details the

payment due for processing this data request. Feel free to contact us again regarding any future data requests.

Sincerely,

Herbert A. Lord

Herbert A. Lord
Data Request Specialist

cc: Thomas F. Breden
Lawrence Niles
NHP File No. 01-3907445

NATURAL LANDS MANAGEMENT

CAUTIONS AND RESTRICTIONS ON NATURAL HERITAGE DATA

The quantity and quality of data collected by the Natural Heritage Program is dependent on the research and observations of many individuals and organizations. Not all of this information is the result of comprehensive or site-specific field surveys. Some natural areas in New Jersey have never been thoroughly surveyed. As a result, new locations for plant and animal species are continuously added to the data base. Since data acquisition is a dynamic, ongoing process, the Natural Heritage Program cannot provide a definitive statement on the presence, absence, or condition of biological elements in any part of New Jersey. Information supplied by the Natural Heritage Program summarizes existing data known to the program at the time of the request regarding the biological elements or locations in question. They should never be regarded as final statements on the elements or areas being considered, nor should they be substituted for on-site surveys required for environmental assessments. The attached data is provided as one source of information to assist others in the preservation of natural diversity.

This office cannot provide a letter of interpretation or a statement addressing the classification of wetlands as defined by the Freshwater Wetlands Act. Requests for such determination should be sent to the DEP Land Use Regulation Program, P.O. Box 401, Trenton, NJ 08625-0401.

This cautions and restrictions notice must be included whenever information provided by the Natural Heritage Database is published.

26 NOV 2001

POSSIBLY ON PROJECT SITE
RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN
THE NEW JERSEY NATURAL HERITAGE DATABASE

NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK	DATE OBSERVED	IDENT.	LOCATION
*** Vertebrates									
BARTRAMIA LONGICAUDA	UPLAND SANDPIPER		E		G5	S1B	1992-07-15	Y	
HYLA ANDERSONII	PINE BARRENS TREEFROG		E		G4	S3	1994-SPRING	Y	
*** Invertebrates									
ACRONICTA ALBARUFA	BARRENS DAGGERMOTH				G3G4	SU	1994-08-03	Y	
AGROTIS BUCHHOLZI	BUCHHOLZ'S DART				G2	S2	1994-07-30	Y	
CALLOPHRYS IRUS	FROSTED ELFIN				G3	S2S3	1994-05-24	Y	
CATOCALA PRETIOSA PRETIOSA	PRECIOUS UNDERWING				G4T2T3	S2S3	1994-07-05	Y	

Sensitive Information Not Released

POSSIBLY ON PROJECT SITE
RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN
THE NEW JERSEY NATURAL HERITAGE DATABASE

NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK	DATE OBSERVED	IDENT.	LOCATION
FARONTA RUBRIPENNIS	PINK STREAK				G3G4	S3	1994-07-30	Y	
GLENA PLUMOSARIA					G4	SU	1994-06-12	Y	
HESPERIA LEONARDUS	LEONARD'S SKIPPER				G4	S2	1994-09-09	Y	
HETEROCAMPA VARIA	A NOTODONTID MOTH				G3G4	S3	1994-07-30	Y	
LITHOPHANE LEMMERI	LEMMER'S PINION MOTH				G3G4	S2	1994-03-24	Y	
SEMIOTHISA EREMIATA	THREE-LINED ANGLE MOTH				G4	SU	1994-08-03	Y	

Sensitive Information Not Released

26 NOV 2001

POSSIBLY ON PROJECT SITE

RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN

THE NEW JERSEY NATURAL HERITAGE DATABASE

NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK	DATE OBSERVED	IDENT.	LOCATION
*** Vascular plants									
COREMA CONRADII	BROOM CROWBERRY		E	LP	G4	S1	1994-09-01	Y	

13 Records Processed

Sensitive Information Not Released

26 NOV 2001

ON OR IN IMMEDIATE VICINITY OF PROJECT SITE
RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN
THE NEW JERSEY NATURAL HERITAGE DATABASE

NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK	DATE OBSERVED	IDENT.	LOCATION
*** Vertebrates									
HYLA ANDERSONII	PINE BARRENS TREEFROG		E		G4	S3	1994-07-06	Y	

1 Records Processed

Sensitive Information Not Released

Frequently Asked Questions About Natural Heritage Priority Sites

What are Natural Heritage Priority Sites?
Through its Natural Heritage Database, the Office of Natural Lands Management (ONLM) identifies critically important areas to conserve New Jersey's biological diversity. The database provides detailed, up-to-date information on rare species and natural communities to planners, developers, and conservation agencies for use in resource management, environmental impact assessment, and both public and private land protection efforts.

Using the database, ONLM has identified Natural Heritage Priority Sites that represent some of the best remaining habitat for rare species and exemplary natural communities in the state. These areas should be considered to be top priorities for the preservation of biological diversity in New Jersey. If these sites become degraded or destroyed, we may lose some of the unique components of our natural heritage.

ONLM has identified 389 priority sites over the course of more than 10 years. We have received assistance from many partner individuals and agencies over this time. The Nature Conservancy and the DEP Endangered and Nongame Species Program have provided key information or assisted with the delineation of a number of the sites.

How are Natural Heritage Priority Site maps used in conservation of biological diversity?
Natural Heritage Priority Site maps are used by individuals and agencies concerned with the protection and management of land. The maps have been used by municipalities preparing natural resource inventories; public and private conservation organizations preparing open space acquisition goals; land developers and consultants identifying environmentally sensitive lands; and public and private landowners developing land management plans.

Natural Heritage Priority Sites contain some of the best and most viable occurrences of endangered and threatened species and natural communities, but they do not cover all known habitat for endangered and threatened species in New Jersey. If information is needed on whether or not endangered or threatened species have been documented from a particular piece of land, a Natural Heritage Database search can be requested by contacting the Office of Natural Lands Management at the address below.

What do the boundaries of the sites contain?
The boundaries of each Natural Heritage Priority Site are drawn to encompass critical habitat for the rare species or natural communities. Often the boundaries extend to include additional buffer lands that should be managed to protect the habitat. A justification for the boundary is provided for each site. The term "primary bounds" is sometimes used to refer to boundaries enclosing critical habitat. The term "secondary bounds" is sometimes used to refer to boundaries enclosing additional buffer. In maps where both primary and secondary boundaries are described, only the outermost boundary is provided in the mapping.

What is the background map that the sites are drawn upon?
The sites are portrayed on background maps produced from a digital copy of the U.S. Geological Survey 7.5 minute topographic maps. The background maps contain topographic lines as well as streams, lakes, roads, towns and place names. These background maps do not always reflect recent changes in land development. Some may be more than 20 years old. Some sites appear to be shifted in position against this topo map. This shift is due to the fact that most sites have been digitized against a background of rectified aerial photography, and some of the digitized USGS topo maps do not align with this photography.

What do "public lands" depict on the maps?
The "public lands" shaded on these maps are state-owned open space lands that have been digitized as a GIS coverage by the state Green Acres Program. This information is provided to show patterns of State land ownership in the vicinity of the Priority Site. The public lands are areas such as State Parks and Forests, Wildlife Management Areas, and Natural Lands Trust preserves. They do not currently include lands owned by other state

agencies, federal, county or municipal governments or nonprofit conservation organizations. This GIS coverage is constantly being updated, and therefore future editions of the maps will likely contain additional public lands that are not currently mapped as such.

What is the biodiversity significance rank and how is it used?

Each site is ranked according to its significance for biological diversity using a scale developed by The Nature Conservancy and the network of Natural Heritage Programs. The ranks can be used to distinguish between sites that are of global significance for conservation of biological diversity vs. those that are of state significance. The scale ranges from B1 to B5 with sites ranked B1-B3 generally being of global significance and sites ranked B4-B5 being of state significance. The specific definitions for each rank are as follows:

B1 - Outstanding significance, generally the "last of the least" in the world, such as the only known occurrence of any element (species or natural community), the best or an excellent occurrence of an element ranked critically imperiled globally, or a concentration (4+) of good or excellent occurrences of elements that are imperiled or critically imperiled globally. The site should be viable and defensible for the elements or ecological processes contained.

B2 - Very high significance, such as the most outstanding occurrence of any natural community. Also includes areas containing other occurrences of elements that are critically imperiled globally, a good or excellent occurrence of an element that is imperiled globally, an excellent occurrence of an element that is rare globally, or a concentration (4+) of good occurrences of globally rare elements or viable occurrences of globally imperiled elements.

B3 - High significance, such as any other viable occurrence of an element that is globally imperiled, a good occurrence of a globally rare element, an excellent occurrence of any natural community, or a concentration (4+) of good or excellent occurrences of elements that are critically imperiled in the State.

B4 - Moderate significance, such as a viable occurrence of a globally rare element, a good occurrence of any natural community, a good or excellent occurrence or only viable state occurrence of an element that is critically imperiled in the State, an excellent occurrence of an element that is imperiled in the State, or a concentration (4+) of good occurrences of elements that are imperiled in the State or excellent occurrences of elements that are rare in the State.

B5 - Of general biodiversity interest.

How can I obtain Natural Heritage Priority Site maps for an area of interest to me?

Natural Heritage Priority Site hard copy maps can be obtained by submitting a written request accompanied by a check or money order made payable to the Office of Natural Lands Management at the following address:

Office of Natural Lands Management
P.O. Box 404
Trenton, NJ 08625-0404
Phone: 609-984-1339; Fax: 609-984-1427; Email: ONLM@dep.state.nj.us

Individual 8.5" X 11" maps are available at the following rate:

1 - 10 site maps & reports:	$1.50/site
11 - 20 site maps & reports:	$1.00/site
> 20 sites:	$0.50/site

Full sets of the June 1999 atlas (389 sites) are available for $40

Digital GIS Coverage of Natural Heritage Priority Sites

A final digital version of the ArcView GIS file of the Natural Heritage Priority Sites will be available in the near future. Until then, a beta test version of the digital files can be obtained on the internet at the following address:
http://www.state.nj.us/dep/gis/ -Click on "GIS Data Downloads" and then "Select a data layer" and then "statewide". There is no charge for downloading the GIS data.

How often are the maps updated?

The Natural Heritage Priority Site information is constantly being updated in the Natural Heritage Database. New sites will be added and some of the boundaries will be revised in the next edition of the maps, to be made available in October 1999.

August 13, 1999

NJ Department of Environmental Protection
Division of Parks and Forestry
Natural Lands Management

Natural Heritage Priority Site
Atlantic City Airport Site

Locational Information

Quad Name: Pleasantville
County: Atlantic
Municipality Egg Harbor Twp ; Galloway Twp

Description of Site

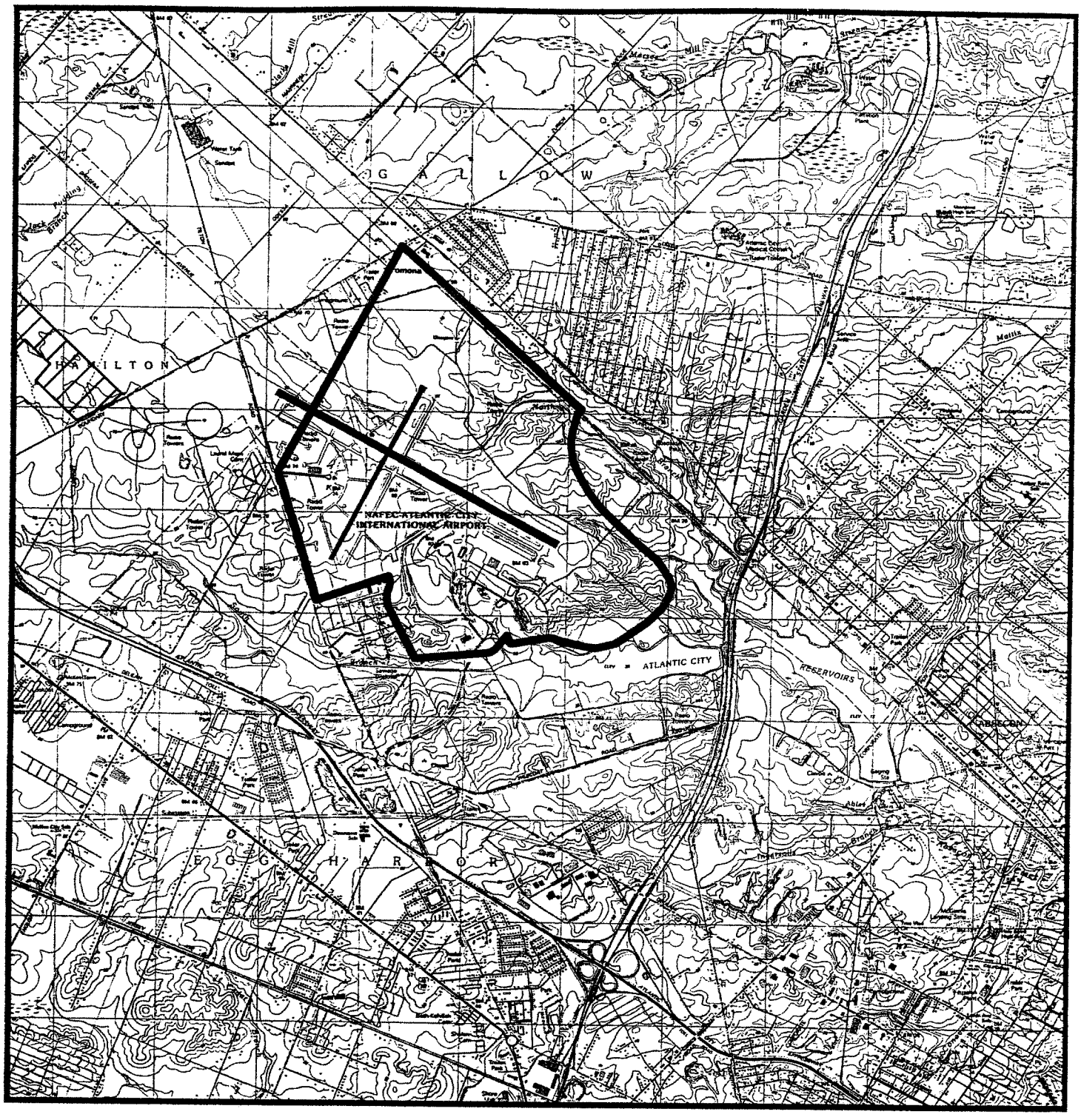
The site is the NAFEC Atlantic City Airport property and surrounding area. This includes maintained areas along and around the runways and portions of outer coastal plain woodland habitat to the north and northeast.

Boundary Justification

Boundaries drawn to include habitat for rare animal and plant species.

Biodiversity Rank B4

Site contains an excellent population of a State endangered bird species. Also includes a State threatened bird species and a plant species of special concern.



Natural Heritage Priority Site

Atlantic City Airport Site

Atlantic County

NJ Department of Environmental Protection
Division of Parks and Forestry
Natural Lands Management

0.7 0 0.7 Miles

Priority Site
Public Land

N
W E
S

EXPLANATIONS OF CODES USED IN NATURAL HERITAGE REPORTS

FEDERAL STATUS CODES

The following U.S. Fish and Wildlife Service categories and their definitions of endangered and threatened plants and animals have been modified from the U.S. Fish and Wildlife Service (F.R. Vol. 50 No. 188; Vol. 61, No. 40; F.R. 50 CFR Part 17). Federal Status codes reported for species follow the most recent listing.

LE	Taxa formally listed as endangered.
LT	Taxa formally listed as threatened.
PE	Taxa already proposed to be formally listed as endangered.
PT	Taxa already proposed to be formally listed as threatened.
C	Taxa for which the Service currently has on file sufficient information on biological vulnerability and threat(s) to support proposals to list them as endangered or threatened species.
S/A	Similarity of appearance species.

STATE STATUS CODES

Two animal lists provide state status codes after the Endangered and Nongame Species Conservation Act of 1973 (NSSA 23:2A-13 et. seq.): the list of endangered species (N.J.A.C. 7:25-4.13) and the list defining status of indigenous, nongame wildlife species of New Jersey (N.J.A.C. 7:25-4.17(a)). The status of animal species is determined by the Nongame and Endangered Species Program (ENSP). The state status codes and definitions provided reflect the most recent lists that were revised in the New Jersey Register, Monday, June 3, 1991.

D	Declining species-a species which has exhibited a continued decline in population numbers over the years.
E	Endangered species-an endangered species is one whose prospects for survival within the state are in immediate danger due to one or many factors - a loss of habitat, over exploitation, predation, competition, disease. An endangered species requires immediate assistance or extinction will probably follow.
EX	Extirpated species-a species that formerly occurred in New Jersey, but is not now known to exist within the state.
I	Introduced species-a species not native to New Jersey that could not have established itself here without the assistance of man.
INC	Increasing species-a species whose population has exhibited a significant increase, beyond the normal range of its life cycle, over a long term period.
T	Threatened species-a species that may become endangered if conditions surrounding the species begin to or continue to deteriorate.
P	Peripheral species-a species whose occurrence in New Jersey is at the extreme edge of its present natural range.
S	Stable species-a species whose population is not undergoing any long-term increase/decrease within its natural cycle.
U	Undetermined species-a species about which there is not enough information available to determine the status.

Status for animals separated by a slash(/) indicate a duel status. First status refers to the state breeding population, and the second status refers to the migratory or winter population.

Plant taxa listed as endangered are from New Jersey's official Endangered Plant Species List N.J.S.A. 1318-15.151 et seq.

E Native New Jersey plant species whose survival in the State or nation is in jeopardy.

REGIONAL STATUS CODES FOR PLANTS

LP Indicates taxa listed by the Pinelands Commission as endangered or threatened within their legal jurisdiction. Not all species currently tracked by the Pinelands Commission are tracked by the Natural Heritage Program. A complete list of endangered and threatened Pineland species is included in the New Jersey Pinelands Comprehensive Management Plan.

EXPLANATION OF GLOBAL AND STATE ELEMENT RANKS

The Nature Conservancy has developed a ranking system for use in identifying elements (rare species and natural communities) of natural diversity most endangered with extinction. Each element is ranked according to its global, national, and state (or subnational in other countries) rarity. These ranks are used to prioritize conservation work so that the most endangered elements receive attention first. Definitions for element ranks are after The Nature Conservancy (1982: Chapter 4, 4.1-1 through 4.4.1.3-3).

GLOBAL ELEMENT RANKS

G1 Critically imperiled globally because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres) or because of some factor(s) making it especially vulnerable to extinction.

G2 Imperiled globally because of rarity (6 to 20 occurrences or few remaining individuals or acres) or because of some factor(s) making it very vulnerable to extinction throughout its range.

G3 Either very rare and local throughout its range or found locally (even abundantly at some of its locations) in a restricted range (e.g., a single western state, a physiographic region in the East) or because of other factors making it vulnerable to extinction throughout it's range; with the number of occurrences in the range of 21 to 100.

G4 Apparently secure globally; although it may be quite rare in parts of its range, especially at the periphery.

G5 Demonstrably secure globally; although it may be quite rare in parts of its range, especially at the periphery.

GH Of historical occurrence throughout its range i.e., formerly part of the established biota, with the expectation that it may be rediscovered.

GU Possibly in peril range-wide but status uncertain; more information needed.

GX Believed to be extinct throughout range (e.g., passenger pigeon) with virtually no likelihood that it will be rediscovered.

G? Species has not yet been ranked.

STATE ELEMENT RANKS

S1 Critically imperiled in New Jersey because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres). Elements so ranked are often restricted to very specialized conditions or habitats and/or restricted to an extremely small geographical area of the state. Also included are elements which were formerly more abundant, but because of habitat destruction or some other critical factor of its biology, they have been demonstrably reduced in abundance. In essence, these are elements for which, even with intensive searching, sizable additional occurrences are unlikely to be discovered.

S2 Imperiled in New Jersey because of rarity (6 to 20 occurrences). Historically many of these elements may have been more frequent but are now known from very few extant occurrences, primarily because of habitat destruction. Diligent searching may yield additional occurrences.

S3 Rare in state with 21 to 100 occurrences (plant species in this category have only 21 to 50 occurrences). Includes elements which are widely distributed in the state but with small populations/acreage or elements with restricted distribution, but locally abundant. Not yet imperiled in state but may soon be if current trends continue. Searching often yields additional occurrences.

S4 Apparently secure in state, with many occurrences.

S5 Demonstrably secure in state and essentially ineradicable under present conditions.

SA Accidental in state, including species (usually birds or butterflies) recorded once or twice or only at very great intervals, hundreds or even thousands of miles outside their usual range; a few of these species may even have bred on the one or two occasions they were recorded; examples include European strays or western birds on the East Coast and vice-versa.

SE Elements that are clearly exotic in New Jersey including those taxa not native to North America (introduced taxa) or taxa deliberately or accidentally introduced into the State from other parts of North America (adventive taxa). Taxa ranked SE are not a conservation priority (viable introduced occurrences of G1 or G2 elements may be exceptions).

SH Elements of historical occurrence in New Jersey. Despite some searching of historical occurrences and/or potential habitat, no extant occurrences are known. Since not all of the historical occurrences have been field surveyed, and unsearched potential habitat remains, historically ranked taxa are considered possibly extant, and remain a conservation priority for continued field work.

SP Element has potential to occur in New Jersey, but no occurrences have been reported.

SR Elements reported from New Jersey, but without persuasive documentation which would provide a basis for either accepting or rejecting the report. In some instances documentation may exist, but as of yet, its source or location has not been determined.

SRF Elements erroneously reported from New Jersey, but this error persists in the literature.

SU Elements believed to be in peril but the degree of rarity uncertain. Also included are rare taxa of uncertain taxonomical standing. More information is needed to resolve rank.

SX Elements that have been determined or are presumed to be extirpated from New Jersey. All historical occurrences have been searched and a reasonable search of potential habitat has been completed. Extirpated taxa are not a current conservation priority.

SXC Elements presumed extirpated from New Jersey, but native populations collected from the wild exist in cultivation.

SZ Not of practical conservation concern in New Jersey, because there are no definable occurrences, although the taxon is native and appears regularly in the state. An SZ rank will generally be used for long distance migrants whose occurrences during their migrations are too irregular (in terms of repeated visitation to the same locations), transitory, and dispersed to be reliably identified, mapped and protected. In other words, the migrant regularly passes through the state, but enduring, mappable element occurrences cannot be defined.

Typically, the SZ rank applies to a non-breeding population (N) in the state - for example, birds on migration. An SZ rank may in a few instances also apply to a breeding population (B), for example certain lepidoptera which regularly die out every year with no significant return migration.

Although the SZ rank typically applies to migrants, it should not be used indiscriminately. Just because a species is on migration does not mean it receives an SZ rank. SZ will only apply when the migrants occur in an irregular, transitory and dispersed manner.

B Refers to the breeding population of the element in the state.

N Refers to the non-breeding population of the element in the state.

T Element ranks containing a "T" indicate that the infraspecific taxon is being ranked differently than the full species. For example *Stachys palustris* var. *homotricha* is ranked "G5T? SH" meaning the full species is globally secure but the global rarity of the var. *homotricha* has not been determined; in New Jersey the variety is ranked historic.

Q Elements containing a "Q" in the global portion of its rank indicates that the taxon is of questionable, or uncertain taxonomical standing, e.g., some authors regard it as a full species, while others treat it at the subspecific level.

.1 Elements documented from a single location.

Note: To express uncertainty, the most likely rank is assigned and a question mark added (e.g., G2?). A range is indicated by combining two ranks (e.g., G1G2, S1S3).

IDENTIFICATION CODES

These codes refer to whether the identification of the species or community has been checked by a reliable individual and is indicative of significant habitat.

Y Identification has been verified and is indicative of significant habitat.

BLANK Identification has not been verified but there is no reason to believe it is not indicative of significant habitat.

? Either it has not been determined if the record is indicative of significant habitat or the identification of the species or community may be confusing or disputed.

6 JAN 2001

ATLANTIC COUNTY

RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN

THE NEW JERSEY NATURAL HERITAGE DATABASE

	NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK
** Vertebrates							
	ACCIPITER COOPERII	COOPER'S HAWK		T/T		G5	S3B,S4N
	AMBYSTOMA TIGRINUM TIGRINUM	EASTERN TIGER SALAMANDER		E		G5T5	S2
	AMMODRAMUS SAVANNARUM	GRASSHOPPER SPARROW		T/S		G5	S2B
	ARDEA HERODIAS	GREAT BLUE HERON		S/S		G5	S2B,S4N
	BARTRAMIA LONGICAUDA	UPLAND SANDPIPER		E		G5	S1B
	CHARADRIUS MELODUS	PIPING PLOVER	LT	E		G3	S1B
	CIRCUS CYANEUS	NORTHERN HARRIER		E/U		G5	S1B,S3N
	CISTOTHORUS PLATENSIS	SEDGE WREN		E		G5	S1B
	CLEMMYS INSCULPTA	WOOD TURTLE		T		G4	S3
	CLEMMYS MUHLENBERGII	BOG TURTLE	LT	E		G3	S2
	EGRETTA CAERULEA	LITTLE BLUE HERON		S/S		G5	S2B
	EGRETTA THULA	SNOWY EGRET		S/S		G5	S3B,S4N
	EGRETTA TRICOLOR	TRICOLORED HERON		INC/S		G5	S3B
	ELAPHE GUTTATA GUTTATA	CORN SNAKE		E		G5T5	S1
	FALCO PEREGRINUS	PEREGRINE FALCON		E		G4	S1B,S?N
	HALIAEETUS LEUCOCEPHALUS	BALD EAGLE	LT	E		G4	S1B,S2N
	HYLA ANDERSONII	PINE BARRENS TREEFROG		E		G4	S3
	HYLA CHRYSOSCELIS	COPE'S GRAY TREEFROG		E		G5	S2
	LATERALLUS JAMAICENSIS	BLACK RAIL		T/T		G4	S2B
	MELANERPES ERYTHROCEPHALUS	RED-HEADED WOODPECKER		T/T		G5	S2B,S2N
	NYCTANASSA VIOLACEA	YELLOW-CROWNED NIGHT-HERON		T/T		G5	S2B
	NYCTICORAX NYCTICORAX	BLACK-CROWNED NIGHT-HERON		T/S		G5	S3B,S4N
	PANDION HALIAETUS	OSPREY		T/T		G5	S2B
	PITUOPHIS MELANOLEUCUS MELANOLEUCUS	NORTHERN PINE SNAKE		T		G4T4	S3
	PLEGADIS FALCINELLUS	GLOSSY IBIS		D/S		G5	S3B,S4N
	PODILYMBUS PODICEPS	PIED-BILLED GREBE		E/S		G5	S1B,S3N
	POOECETES GRAMINEUS	VESPER SPARROW		E		G5	S1B,S2N
	PSEUDOTRITON MONTANUS MONTANUS	EASTERN MUD SALAMANDER		T		G5T5	S1

JAN 2001

ATLANTIC COUNTY

RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN

THE NEW JERSEY NATURAL HERITAGE DATABASE

	NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK
	RYNCHOPS NIGER	BLACK SKIMMER		E		G5	S1B
	STERNA ANTILLARUM	LEAST TERN		E		G4	S1B
	STERNA HIRUNDO	COMMON TERN		D/S		G5	S3B
	STERNA NILOTICA	GULL-BILLED TERN		S		G5	S1B
	STRIX VARIA	BARRED OWL		T/T		G5	S3B
	SYNAPTOMYS COOPERI	SOUTHERN BOG LEMMING		U		G5	S2
* Ecosystems							
	BRACKISH TIDAL MARSH COMPLEX	BRACKISH TIDAL MARSH COMPLEX				G4	S2?
	COASTAL DUNE SHRUBLAND	COASTAL DUNE SHRUBLAND				G4	S2?
	COASTAL PLAIN INTERMITTENT POND	VERNAL POND				G3?	S2S3
	FRESHWATER TIDAL MARSH COMPLEX	FRESHWATER TIDAL MARSH COMPLEX				G4?	S3?
	MARINE INTERTIDAL GRAVEL/SAND BEACH COMMUNITY	MARINE INTERTIDAL GRAVEL/SAND BEACH COMMUNITY				GU	SU
	PINE BARREN SAVANNA	PINE BARREN SAVANNA				G2	S2S3
	PITCH PINE LOWLAND FOREST	PITCH PINE LOWLAND FOREST				G3	S3
* Invertebrates							
	ACRONICTA ALBARUFA	BARRENS DAGGERMOTH				G3G4	SU
	AGROTIS BUCHHOLZI	BUCHHOLZ'S DART				G2	S2
	CALLOPHRYS HESSELI	HESSEL'S HAIRSTREAK				G3G4	S3S4
	CALLOPHRYS IRUS	FROSTED ELFIN				G3	S2S3
	CATOCALA PRETIOSA PRETIOSA	PRECIOUS UNDERWING				G4T2T3	S2S3
	CELITHEMIS MARTHA	MARTHA'S PENNANT				G4	S3S4
	CUCULLIA ALFARATA					G4	S2?
	DASYCHIRA LEUCOPHAEA	A LYMANTID MOTH				G4	SH
	DATANA RANAECEPS	A HAND-MAID MOTH				G3G4	S3S4
	ENALLAGMA PICTUM	SCARLET BLUET				G3	S3
	FARONTA RUBRIPENNIS	PINK STREAK				G3G4	S3

JAN 2001

ATLANTIC COUNTY

RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN

THE NEW JERSEY NATURAL HERITAGE DATABASE

NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK
GLENA PLUMOSARIA					G4	SU
GOMPHUS APOMYIUS	BANNER CLUBTAIL				G4	S1
GRAMMIA PLACENTIA	PLACENTIA TIGER MOTH				G4	S1S3
HESPERIA ATTALUS SLOSSONAE	DOTTED SKIPPER				G3G4T3	S2S3
HESPERIA LEONARDUS	LEONARD'S SKIPPER				G4	S2
HETEROCAMPA VARIA	A NOTODONTID MOTH				G3G4	S3
LIBELLULA AXILENA	BAR-WINGED SKIMMER				G5	S2BS3B,S ZN
LITHOPHANE LEMMERI	LEMMER'S PINION MOTH				G3G4	S2
MEROLONCHE DOLLI	DOLL'S MEROLONCHE				G3G4	S1S3
METARRANTHIS PILOSARIA	COASTAL BOG METARRANTHIS				G3G4	S3S4
METARRANTHIS SP 1	A GEOMETRID MOTH				G3	S2
MONOLEUCA SEMIFASCIA	A SLUG MOTH				G4G5	S2S3
NEONYMPHA AREOLATA	A SATYR				G4G5T3T4	S3
SEPTENTRIONALIS PAPAIPEMA STENOCELIS	CHAIN FERN BORER MOTH				G4	S3
PROBLEMA BULENTA	RARE SKIPPER				G2G3	S2
SCOPULA PURATA	CHALKY WAVE				G4	S3S4
SEMIOTHISA EREMIATA	THREE-LINED ANGLE MOTH				G4	SU
SOMATOCHLORA PROVOCANS	TREETOP EMERALD				G4	S2S3
SPARTINIPHAGA CARTERAE	CARTER'S NOCTUID MOTH				G2G3	S2
SYMPETRUM AMBIGUUM	BLUE-FACED MEADOWHAWK				G5	S2
* Nonvascular plants						
SPHAGNUM MACROPHYLLUM	SPHAGNUM				G3	S2
SPHAGNUM PORTORICENSE	SPHAGNUM				G5	S2
** Other types						
BALD EAGLE WINTERING SITE	BALD EAGLE WINTERING SITE				G?	S?
COASTAL HERON ROOKERY	COASTAL HERON ROOKERY				GU	S3

6 JAN 2001

ATLANTIC COUNTY

RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN

THE NEW JERSEY NATURAL HERITAGE DATABASE

	NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK
	MIGRATORY SHOREBIRD CONCENTRATION SITE	MIGRATORY SHOREBIRD CONCENTRATION SITE				G?	S?
** Vascular plants							
	AESCHYNOMENE VIRGINICA	SENSITIVE JOINT-VETCH	LT	E	LP	G2	S1
	AMARANTHUS PUMILUS	SEA-BEACH PIGWEED	LT	E		G2	S1
	ARETHUSA BULBOSA	DRAGON MOUTH				G4	S2
	ARISTIDA VIRGATA	WAND-LIKE THREE-AWNED GRASS				G5T4T5	S2
	ARNICA ACAULIS	LEOPARD'S BANE				G5	SX.1
	ASCLEPIAS LANCEOLATA	SMOOTH ORANGE MILKWEED				G5	S2
	ASCLEPIAS RUBRA	RED MILKWEED			LP	G4G5	S2
	BOLTONIA ASTEROIDES VAR GLASTIFOLIA	BOLTONIA		E		G5T?	S1
	CALAMOVILFA BREVIPILIS	PINE BARREN REEDGRASS			LP	G4	S4
	CAREX BARRATTII	BARRATT'S SEDGE			LP	G3G4	S4
	CAREX CUMULATA	CLUSTERED SEDGE		E		G4?	SH
	CHENOPODIUM RUBRUM	RED GOOSEFOOT		E		G5	S1
	CIRSIUM VIRGINIANUM	VIRGINIA THISTLE		E		G3	S1
	CLITORIA MARIANA	BUTTERFLY PEA		E		G5	S1
	COELORACHIS RUGOSA	WRINKLED JOINTGRASS		E		G5	S1
	COREMA CONRADII	BROOM CROWBERRY		E	LP	G4	S1
	COREOPSIS ROSEA	PINK TICKSEED			LP	G3	S2
	CROTONOPSIS ELLIPTICA	ELLIPTICAL RUSHFOIL			LP	G5	S2
	CUSCUTA CORYLI	HAZEL DODDER				G5	S2
	CYPERUS POLYSTACHYOS	COAST FLATSEDGE		E		G5	S1
	CYPERUS RETROFRACTUS	ROUGH FLATSEDGE		E		G5	SH
	CYPERUS SCHWEINITZII	SCHWEINITZII'S FLAT SEDGE		E		G5	S1
	DESMODIUM SESSILIFOLIUM	SESSILE-LEAVED TICK-TREFOIL		E		G5	S1
	DESMODIUM STRICTUM	PINELAND TICK-TREFOIL			LP	G4	S2
	ELEOCHARIS EQUISETOIDES	KNOTTED SPIKERUSH		E	LP	G4	S1

5 JAN 2001

ATLANTIC COUNTY

RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN

THE NEW JERSEY NATURAL HERITAGE DATABASE

NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK
ERIANTHUS ALOPECUROIDES	SILVER PLUMEGRASS				G5	SH
ERIOCAULON PARKERI	PARKER'S PIPEWORT				G3	S2
ERIOPHORUM TENELLUM	ROUGH COTTONGRASS		E		G5	S1
ERYNGIUM AQUATICUM	MARSH RATTLESNAKE MASTER				G4	S3
EUPATORIUM COELESTINUM	BLUE BONESET				G5	S3
EUPATORIUM RESINOSUM	PINE BARREN BONESET		E	LP	G3	S2
GENTIANA AUTUMNALIS	PINE BARREN GENTIAN			LP	G3	S3
GLAUX MARITIMA	SEA-BEACH MILKWORT		E		G5	SH
GNAPHALIUM HELLERI	HELLER'S EVERLASTING		E		G4G5	SH
HEDYOTIS UNIFLORA	CLUSTERED BLUET				G5	S3
HELONIAS BULLATA	SWAMP-PINK	LT	E	LP	G3	S3
HIERACIUM KALMII	CANADA HAWKWEED		E		G5	SH
HYPERICUM ADPRESSUM	BARTON'S ST. JOHN'S-WORT		E		G2G3	S2
JUNCUS CAESARIENSIS	NEW JERSEY RUSH		E	LP	G2	S2
JUNCUS TORREYI	TORREY'S RUSH		E		G5	S1
KUHNIA EUPATORIOIDES	FALSE BONESET		E		G5	S1
LEMNA PERPUSILLA	MINUTE DUCKWEED		E		G5	S1
LINUM INTERCURSUM	SANDPLAIN FLAX		E		G4	S1
LISTERA AUSTRALIS	SOUTHERN TWAYBLADE			LP	G4	S2
LOBELIA BOYKINII	BOYKIN'S LOBELIA		E	LP	G2G3	S1
LOBELIA CANBYI	CANBY'S LOBELIA			LP	G4	S3
LUDWIGIA LINEARIS	LINEAR-LEAVED LUDWIGIA			LP	G5	S2
MALAXIS UNIFOLIA	GREEN ADDER'S-MOUTH				G5	S2
MUHLENBERGIA CAPILLARIS	LONG-AWNED SMOKE GRASS		E		G5	S1
MUHLENBERGIA TORREYANA	PINE BARREN SMOKE GRASS			LP	G3	S3
MYRIOPHYLLUM TENELLUM	SLENDER WATER-MILFOIL		E		G5	S1
NARTHECIUM AMERICANUM	BOG ASPHODEL	C	E	LP	G2	S2
NYMPHOIDES CORDATA	FLOATING HEART			LP	G5	S3
OENOTHERA HUMIFUSA	SEA-SIDE EVENING PRIMROSE		E		G5	S1
ONOSMODIUM VIRGINIANUM	VIRGINIA FALSE-GROMWELL		E		G4	S1

6 JAN 2001

ATLANTIC COUNTY

RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN
THE NEW JERSEY NATURAL HERITAGE DATABASE

NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK
OPHIOGLOSSUM VULGATUM VAR PSEUDOPODUM	ADDER'S-TONGUE FERN				G5T5	S3
PANICUM HIRSTII	HIRSTS' PANIC GRASS	C	E	LP	G1	S1
PANICUM SCABRIUSCULUM	SHEATHED PANIC GRASS				G4	S2
PANICUM WRIGHTIANUM	WRIGHT'S PANIC GRASS				G4	S2
PASPALUM DISSECTUM	MUDBANK PASPALUM				G4?	S2
PLATANTHERA CILIARIS	YELLOW-FRINGED ORCHID			LP	G5	S2
PLATANTHERA CRISTATA	CRESTED YELLOW ORCHID			LP	G5	S3
PLATANTHERA INTEGRA	YELLOW FRINGELESS ORCHID		E	LP	G3G4	S1
PLUCHEA CAMPHORATA	CAMPHORWEED				G5	SX.1
POLYGONUM GLAUCUM	SEA-BEACH KNOTWEED		E		G3	S1
PRENANTHES AUTUMNALIS	PINE BARREN RATTLESNAKE ROOT			LP	G4G5	S2
PRUNUS ANGUSTIFOLIA	CHICKASAW PLUM		E		G5	S2
PUCCINELLIA FASCICULATA	TORREY'S MEADOW GRASS				GU	S2
PYRUS ANGUSTIFOLIA	NARROW-LEAVED WILD CRABAPPLE				G5?	S2
RANUNCULUS CYMBALARIA	SEA-SIDE CROWFOOT		E		G5	SH
RHEXIA ARISTOSA	AWNED MEADOWBEAUTY		E	LP	G3	S1
RHYNCHOSPORA CEPHALANTHA	LARGE-HEADED BEAKED RUSH			LP	G5	S3
RHYNCHOSPORA INUNDATA	HORNED BEAKED RUSH			LP	G3G4	S2
RHYNCHOSPORA KNIESKERNII	KNIESKERN'S BEAKED RUSH	LT	E	LP	G1	S1
RHYNCHOSPORA MICROCEPHALA	SMALL-HEADED BEAKED RUSH		E		G5T5	S1
RHYNCHOSPORA NITENS	SHORT-BEAKED BALDRUSH				G4	S2
RHYNCHOSPORA PALLIDA	PALE BEAK RUSH				G3	S3
RHYNCHOSPORA SCIRPOIDES	LONGBEAKED BALDRUSH				G4	S2
RUMEX HASTATULUS	HEART-WINGED SORRELL				G5	SX.1
SAGITTARIA TERES	SLENDER ARROW HEAD		E		G3	S1
SCHIZAEA PUSILLA	CURLY GRASS FERN			LP	G3	S3
SCHWALBEA AMERICANA	CHAFFSEED	LE	E	LP	G2	S1
SCIRPUS LONGII	LONG'S BULRUSH		E	LP	G2	S2
SCLERIA MINOR	SLENDER NUT RUSH			LP	G4	S4

6 JAN 2001

ATLANTIC COUNTY

RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN

THE NEW JERSEY NATURAL HERITAGE DATABASE

NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK
SCLERIA PAUCIFLORA	FEW-FLOWERED NUT RUSH				G5	S2
SENECIO TOMENTOSUS	WOOLY RAGWORT				G4G5	S2
SESUVIUM MARITIMUM	SEA-BEACH PURSLANE				G5	S2
SOLIDAGO STRICTA	WAND-LIKE GOLDENROD			LP	G5	S3
SPIRANTHES LACINIATA	LACE-LIP LADIES'-TRESSES		E		G4G5	S1
SPIRANTHES ODORATA	FRAGRANT LADIES'-TRESSES				G5	S2
STYLISMA PICKERINGII VAR PICKERINGII	PICKERING'S MORNING-GLORY		E	LP	G4T2T3	S1
TIPULARIA DISCOLOR	CRANEFLY ORCHID				G4G5	S3
UTRICULARIA OLIVACEA	DWARF WHITE BLADDERWORT		E	LP	G4	S1.1
UTRICULARIA PURPUREA	PURPLE BLADDERWORT			LP	G5	S3
UTRICULARIA RESUPINATA	REVERSED BLADDERWORT		E	LP	G4	S1
UVULARIA PUBERULA VAR NITIDA	PINE BARREN BELLWORT		E		G5T3?	S2
VERBENA SIMPLEX	NARROW-LEAVED VERVAIN		E		G5	S1
VIOLA BRITTONIANA	COAST VIOLET				G4G5	S3
VULPIA ELLIOTEA	SQUIRREL FESCUE		E		G5	SH
XYRIS CAROLINIANA	SAND YELLOW-EYED GRASS		E	LP	G4G5	S1
XYRIS FIMBRIATA	FRINGED YELLOW-EYED GRASS		E		G5	S1

178 Records Processed

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Appendix B - Scoping Letter and Responses

BLACK & VEATCH

3501 Route 42, Unit 7A
Suite184
Turnersville, NJ 08012

Tel: 856.307.2230
Fax: 856.307.2270

Black & Veatch Special Projects Corporation

August 27, 2002

Mr. Lawrence Schmidt
NJDEP Office of Program Coordination
CN 418
Trenton, NJ 08625-0418

Subject: Scoping Letter: FONSI/EA for Relocation of K-9 Explosive Storage Area
William J. Hughes FAA Technical Center
Atlantic City International Airport, Atlantic County, New Jersey

Dear Sir:

Black & Veatch Special Projects Corp. (BVSPC) has been contracted by the William J. Hughes Federal Aviation Administration Technical Center (FAATC) to develop environmental documents for the relocation of the K-9 Explosives Storage Area. The Aviation and Transportation Security Act (ATSA), signed into law on November 19, 2001, has substantially increased the workload and responsibility of aviation security personnel at FAA (AAR-500). Due to this need, the existing facilities for these personnel must be expanded; however, this expansion will place personnel within an unsafe distance of the existing K-9 Explosives Storage Area. As a result, the K-9 Explosives Storage Area must be relocated to a more remote location within the FAATC.

In support of this proposed action, a *draft* Finding of No Significant Action (FONSI) and an Environmental Assessment (EA) are currently being prepared by BVSPC on behalf of the FAATC. In accordance with the provisions of the NEPA, we are requesting your review and comments on the proposed actions. For your information, we have attached the draft "Purpose and Need" and "Alternatives Considered" narratives from the draft EA. Please respond in writing to this request within 30 days. The primary FAATC contact is Paul Chubb at 609-485-4179. If you have any additional questions, please contact me at 856-307-2230.

Sincerely,

BLACK &VEATCH SPECIAL PROJECTS CORP.

Dane G. Pehrman
Project Manager

enclosures

State of New Jersey
Department of Environmental Protection

E. McGreevey
Governor

Bradley M
Commi

Office of Program Coordination
PO Box 418
Trenton, NJ 08625-0418
Phone 609-292-2662
Fax 609-292-4608
Larry.schmidt@dep.state.nj.us

September 16, 2002

Mr. Dane G. Pehrman
Black & Veatch
3501 Route 42
Unit 7A
Turnersville, NJ 08012

RE: **Scoping Comments - FONSI & EA**
Relocation of K-9 Explosive Storage Area
William J. Hughes FAA Technical Center
Atlantic City International Airport

Dear Mr. Pehrman:

The Office of Program Coordination of the New Jersey Department of Environmental Protection (NJDEP) has completed its review of the preliminary information regarding the preparation of a Finding Of No Significant Impact (FONSI) and Environmental Assessment (EA) for the Relocation of the K-9 Explosive Storage Area at the William J. Hughes FAA Technical Center at the Atlantic City International Airport. We offer the following scoping comments regarding potential impacts to natural resources.

The NJDEP does not want to hamper activities at the Technical Center, however, wildlife precautionary measures should be addressed in the EA during the selection of alternatives to avoid potential impacts to frosted elfin, and to avoid degradation or removal of forested and grassland bird habitat.

Thank you for giving the NJDEP the opportunity to be part of the scoping process.

Sincerely,

Lawrence Schmidt
Director
Office of Program Coordination

BLACK & VEATCH

3501 Route 42, Unit 7A
Suite184
Turnersville, NJ 08012

Tel: 856.307.2230
Fax: 856.307.2270

Black & Veatch Special Projects Corporation

August 27, 2002

Mr. Clifford Day
U.S. Fish and Wildlife Service
927 North Main Street
Building D
Pleasantville, NJ 08232

Subject: Scoping Letter: FONSI/EA for Relocation of K-9 Explosive Storage Area
William J. Hughes FAA Technical Center
Atlantic City International Airport, Atlantic County, New Jersey

Dear Sir:

Black & Veatch Special Projects Corp. (BVSPC) has been contracted by the William J. Hughes Federal Aviation Administration Technical Center (FAATC) to develop environmental documents for the relocation of the K-9 Explosives Storage Area. The Aviation and Transportation Security Act (ATSA), signed into law on November 19, 2001, has substantially increased the workload and responsibility of aviation security personnel at FAA (AAR-500). Due to this need, the existing facilities for these personnel must be expanded; however, this expansion will place personnel within an unsafe distance of the existing K-9 Explosives Storage Area. As a result, the K-9 Explosives Storage Area must be relocated to a more remote location within the FAATC.

In support of this proposed action, a *draft* Finding of No Significant Action (FONSI) and an Environmental Assessment (EA) are currently being prepared by BVSPC on behalf of the FAATC. In accordance with the provisions of the NEPA, we are requesting your review and comments on the proposed actions. For your information, we have attached the draft "Purpose and Need" and "Alternatives Considered" narratives from the draft EA. Please respond in writing to this request within 30 days. The primary FAATC contact is Paul Chubb at 609-485-4179. If you have any additional questions, please contact me at 856-307-2230.

Sincerely,

BLACK &VEATCH SPECIAL PROJECTS CORP.

Dane G. Pehrman
Project Manager

enclosures

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New Jersey Field Office
Ecological Services
927 North Main Street, Building D
Pleasantville, New Jersey 08232
Tel: 609/646 9310
Fax: 609/646 0352
http://njfieldoffice.fws.gov

In Reply Refer to:

ES-02/610

OCT 7 2002

Dane G. Pehrman, Project Manager
Black & Veatch
3501 Route 42, Unit 7A
Suite 184
Turnersville, New Jersey 08012

Dear Mr. Pehrman:

This responds to your August 27, 2002 request to the U.S. Fish and Wildlife Service (Service) for information on the presence of federally listed endangered and threatened species within the vicinity of the proposed relocation of the K-9 Explosive Storage Area within the William J. Hughes Federal Aviation Administration Technical Center (FAATC), Atlantic City International Airport, Atlantic County, New Jersey. The Service understands that through the Aviation and Transportation Security Act of 2001, there has been an increase in aviation security personnel resulting in the need for an expanded personnel facility. This expansion will place personnel in an unsafe distance from the existing K-9 Explosives Storage Area. According to Bureau of Alcohol, Tobacco, and Firearms regulations (ATF P 5400.7), a minimum distance of 875-feet from inhabited buildings and 687-feet from public travel routes is required. Four alternative locations have been chosen for the relocation of the K-9 Explosive Storage Area. These sites range from completely undeveloped forested areas to those with minimal development. Currently none of these sites contain power and sewage infrastructures; therefore, construction of these facilities must be completed before the K-9 Explosive Storage Area is moved.

AUTHORITY

This response is provided pursuant to the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) (ESA) to ensure the protection of federally listed endangered and threatened species. These comments do not address all Service concerns for fish and wildlife resources and do not preclude separate review and comments by the Service pursuant to the December 22, 1993 Memorandum of Agreement among the U.S. Environmental Protection Agency, New Jersey Department of Environmental Protection (NJDEP), and the Service, if project implementation requires a permit from the NJDEP pursuant to the New Jersey Freshwater Wetlands Protection Act (N.J.S.A. 13:9B *et seq.*); nor do they preclude comments on any forthcoming environmental documents pursuant to the National Environmental Policy Act of 1969 as amended (83 Stat. 852; 42 U.S.C. 4321 *et seq.*) or the Fish and Wildlife Coordination Act (48 Stat. 401:16 U.S.C. 661 *et seq*).

FEDERALLY LISTED SPECIES

Except for an occasional transient bald eagle (*Haliaeetus leucocephalus*), no other federally listed or proposed endangered or threatened flora or fauna under Service jurisdiction are known to occur within the vicinity of the proposed project site. Therefore, no further consultation pursuant to Section 7 of the ESA is required by the Service. If additional information on federally listed species becomes available, or if project plans change, this determination may be reconsidered.

SERVICE RECOMMENDATIONS

Alternative A

This site is located in a forested tract, southwest of the existing K-9 Explosives Storage Area. A known nest site of the State-listed (threatened) Cooper's hawk (*Accipiter cooperii*) is located adjacent to this site along the Access Road of the FAATC. Additionally, residential developments occur south of the site along Delilah Road. Considering the existing development pressures within Atlantic County, further residential development adjacent to this site is likely, which may cause further encroachment on the above-mentioned minimum safe distance allowances. Therefore, the Service does not recommend placing the K-9 Explosives Storage Area in this location.

Alternative B

This area is located northeast of the existing K-9 Explosives Storage Area within a scrub/shrub vegetative cover type. The Globally and State rare (G2,S2) Buckholz's dart (*Agrotis buchholzi*) and the Albarufan or Barren's dagger moth (*Acronicta alburufa*) are found in this location. Due to this tract being slightly developed by the FAATC, this area has the highest potential to be restored, with the proper conservation measures, following placement of the Storage Area. The Service recommends placing the Storage Area in this location.

Alternative C and D

These sites are located on the west side of the FAATC in a completely forested area. A known den site of the State-listed (threatened) Northern pine snake (*Pituophis melanoleucus melanoleucus*) is found within these sites. The development of these areas would be detrimental to this pine snake population. The Service does not recommend placing the K-9 Explosives Storage Area in this location.

NEW JERSEY STATE LAW

New Jersey State law (Endangered and Nongame Species Conservation Act of 1973, as amended, N.J.S.A. 23:2A *et seq.*) prohibits taking, possessing, transporting, exporting,

processing, selling, or shipping listed species. "Take" is defined by the law as harassing, hunting, capturing, or killing, or attempting to do so. We recommend that you contact the New Jersey Endangered and Nongame Species Program (address enclosed) and FAATC environmental biologists John Floyd and Tom Hupf, for further information about the State-listed species previously mentioned and the best habitat management practices.

Current information regarding federally listed and candidate species occurring in New Jersey is enclosed. The Service encourages federal agencies and other planners to consider federal candidate species in project planning. Information is also enclosed regarding permit requirements for activities in wetlands.

Please contact Lisa Solberg of my staff at (609) 646-9310, extension 47 if you have any questions about the enclosed material or require further assistance regarding federally listed endangered or threatened species.

Sincerely,

John C. Staples
Assistant Supervisor

Enclosures

FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES IN NEW JERSEY

An **ENDANGERED** species is any species that is in danger of extinction throughout all or a significant portion of its range.

A **THREATENED** species is any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

	COMMON NAME	SCIENTIFIC NAME	STATUS
FISHES	**Shortnose sturgeon***	*Acipenser brevirostrum*	E
REPTILES	**Bog turtle**	*Clemmys muhlenbergii*	T
	Atlantic Ridley turtle*	*Lepidochelys kempii*	E
	Green turtle*	*Chelonia mydas*	T
	Hawksbill turtle*	*Eretmochelys imbricata*	E
	Leatherback turtle*	*Dermochelys coriacea*	E
	Loggerhead turtle*	*Caretta caretta*	T
BIRDS	**Bald eagle**	*Haliaeetus leucocephalus*	T
	Piping plover	*Charadrius melodus*	T
	Roseate tern	*Sterna dougallii dougallii*	E
MAMMALS	**Eastern cougar**	*Felis concolor couguar*	E+
	Indiana bat	*Myotis sodalis*	E
	Gray wolf	*Canis lupus*	E+
	Delmarva fox squirrel	*Sciurus niger cinereus*	E+
	Blue whale*	*Balaenoptera musculus*	E
	Finback whale*	*Balaenoptera physalus*	E
	Humpback whale*	*Megaptera novaeangliae*	E
	Right whale*	*Balaena glacialis*	E
	Sei whale*	*Balaenoptera borealis*	E
	Sperm whale*	*Physeter macrocephalus*	E

	COMMON NAME	SCIENTIFIC NAME	STATUS
INVERTEBRATES	**Dwarf wedgemussel**	*Alasmidonta heterodon*	E
	Northeastern beach tiger beetle	*Cicindela dorsalis dorsalis*	T
	Mitchell saytr butterfly	*Neonympha m. mitchellii*	E+
	American burying beetle	*Nicrophorus americanus*	E+
PLANTS	**Small whorled pogonia**	*Isotria medeoloides*	T
	Swamp pink	*Helonias bullata*	T
	Knieskern's beaked-rush	*Rhynchospora knieskernii*	T
	American chaffseed	*Schwalbea americana*	E
	Sensitive joint-vetch	*Aeschynomene virginica*	T
	Seabeach amaranth	*Amaranthus pumilus*	T

STATUS:			
E	endangered species	PE	proposed endangered
T	threatened species	PT	proposed threatened
+	presumed extirpated**		

* Except for sea turtle nesting habitat, principal responsibility for these species is vested with the National Marine Fisheries Service.

** Current records indicate the species does not presently occur in New Jersey, although the species did occur in the State historically.

Note: for a complete listing of Endangered and Threatened Wildlife and Plants, refer to 50 CFR 17.11 and 17.12.

For further information, please contact:

U.S. Fish and Wildlife Service
New Jersey Field Office
927 N. Main Street, Building D
Pleasantville, New Jersey 08232
Phone: (609) 646-9310
Fax: (609) 646-0352

Revised 12/06/00

	COMMON NAME	SCIENTIFIC NAME	STATUS
INVERTEBRATES	**Dwarf wedgemussel**	*Alasmidonta heterodon*	E
	Northeastern beach tiger beetle	*Cicindela dorsalis dorsalis*	T
	Mitchell saytr butterfly	*Neonympha m. mitchellii*	E+
	American burying beetle	*Nicrophorus americanus*	E+
PLANTS	**Small whorled pogonia**	*Isotria medeoloides*	T
	Swamp pink	*Helonias bullata*	T
	Knieskern's beaked-rush	*Rhynchospora knieskernii*	T
	American chaffseed	*Schwalbea americana*	E
	Sensitive joint-vetch	*Aeschynomene virginica*	T
	Seabeach amaranth	*Amaranthus pumilus*	T

STATUS:			
E	endangered species	PE	proposed endangered
T	threatened species	PT	proposed threatened
+	presumed extirpated**		

* Except for sea turtle nesting habitat, principal responsibility for these species is vested with the National Marine Fisheries Service.

** Current records indicate the species does not presently occur in New Jersey, although the species did occur in the State historically.

Note: for a complete listing of Endangered and Threatened Wildlife and Plants, refer to 50 CFR 17.11 and 17.12.

For further information, please contact:

U.S. Fish and Wildlife Service
New Jersey Field Office
927 N. Main Street, Building D
Pleasantville, New Jersey 08232
Phone: (609) 646-9310
Fax: (609) 646-0352

Revised 12/06/00

FEDERAL CANDIDATE SPECIES IN NEW JERSEY

CANDIDATE SPECIES are species that appear to warrant consideration for addition to the federal List of Endangered and Threatened Wildlife and Plants. Although these species receive no substantive or procedural protection under the Endangered Species Act, the U.S. Fish and Wildlife Service encourages federal agencies and other planners to give consideration to these species in the environmental planning process.

SPECIES	SCIENTIFIC NAME
Bog asphodel	*Narthecium americanum*
Hirst's panic grass	*Panicum hirstii*

Note: For complete listings of taxa under review as candidate species, refer to Federal Register Vol. 64, No. 205, October 25, 1999 (Endangered and Threatened Wildlife and Plants; Review of Plant and Animal Taxa that are Candidates for Listing as Endangered or Threatened Species).

Revised 11/99

FEDERAL CANDIDATE AND STATE-LISTED SPECIES

Candidate species are species under consideration by the U.S. Fish and Wildlife Service (Service) for possible inclusion on the List of Endangered and Threatened Wildlife and Plants. Although these species receive no substantive or procedural protection under the Endangered Species Act, the Service encourages federal agencies and other planners to consider federal candidate species in project planning.

The New Jersey Natural Heritage Program maintains the most up-to-date information on federal candidate species and State-listed species in New Jersey and may be contacted at the following address:

Mr. Thomas Breden
Natural Heritage Program
Division of Parks and Forestry
P.O. Box 404
Trenton, New Jersey 08625
(609) 984-0097

Additionally, information on New Jersey's State-listed wildlife species may be obtained from the following office:

Dr. Larry Niles
Endangered and Nongame Species Program
Division of Fish and Wildlife
P.O. Box 400
Trenton, New Jersey 08625
(609) 292-9400

If information from either of the aforementioned sources reveals the presence of any federal candidate species within a project area, the Service should be contacted to ensure that these species are not adversely affected by project activities.

Revised 08/00

BLACK & VEATCH

3501 Route 42, Unit 7A
Suite184
Turnersville, NJ 08012

Tel: 856.307.2230
Fax: 856.307.2270

Black & Veatch Special Projects Corporation

August 27, 2002

Mr. Frank Burns
Cape-Atlantic Soil Conservation District
6260 Old Harding Highway
Mays Landing, NJ 08330

Subject: Scoping Letter: FONSI/EA for Relocation of K-9 Explosive Storage Area
William J. Hughes FAA Technical Center
Atlantic City International Airport, Atlantic County, New Jersey

Dear Sir:

Black & Veatch Special Projects Corp. (BVSPC) has been contracted by the William J. Hughes Federal Aviation Administration Technical Center (FAATC) to develop environmental documents for the relocation of the K-9 Explosives Storage Area. The Aviation and Transportation Security Act (ATSA), signed into law on November 19, 2001, has substantially increased the workload and responsibility of aviation security personnel at FAA (AAR-500). Due to this need, the existing facilities for these personnel must be expanded; however, this expansion will place personnel within an unsafe distance of the existing K-9 Explosives Storage Area. As a result, the K-9 Explosives Storage Area must be relocated to a more remote location within the FAATC.

In support of this proposed action, a *draft* Finding of No Significant Action (FONSI) and an Environmental Assessment (EA) are currently being prepared by BVSPC on behalf of the FAATC. In accordance with the provisions of the NEPA, we are requesting your review and comments on the proposed actions. For your information, we have attached the draft "Purpose and Need" and "Alternatives Considered" narratives from the draft EA. Please respond in writing to this request within 30 days. The primary FAATC contact is Paul Chubb at 609-485-4179. If you have any additional questions, please contact me at 856-307-2230.

Sincerely,

BLACK &VEATCH SPECIAL PROJECTS CORP.

Dane G. Pehrman
Project Manager

enclosures

CAPE ATLANTIC
CONSERVATION DISTRICT

6260 Old Harding Highway
Mays Landing, New Jersey 08330
Phone (609) 625-3144 Fax (609) 625-7360
www.capeatlantic.org

September 9, 2002

Dane G. Pehrman
Black & Veatch
3501 Route 42, Unit 7A
Suite 184
Turnersville, NJ 08012

Re: FONSI/EA for Relocation of K-9 Explosive Storage Facility
William J. Hughes FAA Technical Center
Atlantic City International Airport
Egg Harbor Township

Dear Mr. Pehrman,

The District has received your letter dated August 27, 2002 regarding the above referenced project. Please be advised that a Certification for a Soil Erosion and Sediment Control Plan will be required if land disturbance activities will be in excess of 5,000 square feet, and the disturbance will occur in a area where stormwater runoff generated during construction activity can discharge to an environmentally sensitive area. These areas may include wetlands, waterways, water bodies, and stormwater basins or facilities.

Also, I am the primary contact for all projects within the William J. Hughes FAA Technical Center. All correspondence such be directed to my attention. Please revise your records

Please contact me at the District Office if you have any questions regarding this matter.

Sincerely,

David Reilly

David Reilly
Site Inspector

BLACK & VEATCH

3501 Route 42, Unit 7A
Suite184
Turnersville, NJ 08012

Tel: 856.307.2230
Fax: 856.307.2270

Black & Veatch Special Projects Corporation

August 27, 2002

Mr. Todd DeJesus
The Pinelands Commission
P.O. Box 7
New Lisbon, NJ 08064

Subject: Scoping Letter: FONSI/EA for Relocation of K-9 Explosive Storage Area
William J. Hughes FAA Technical Center
Atlantic City International Airport, Atlantic County, New Jersey

Dear Sir:

Black & Veatch Special Projects Corp. (BVSPC) has been contracted by the William J. Hughes Federal Aviation Administration Technical Center (FAATC) to develop environmental documents for the relocation of the K-9 Explosives Storage Area. The Aviation and Transportation Security Act (ATSA), signed into law on November 19, 2001, has substantially increased the workload and responsibility of aviation security personnel at FAA (AAR-500). Due to this need, the existing facilities for these personnel must be expanded; however, this expansion will place personnel within an unsafe distance of the existing K-9 Explosives Storage Area. As a result, the K-9 Explosives Storage Area must be relocated to a more remote location within the FAATC.

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Sincerely,

BLACK &VEATCH SPECIAL PROJECTS CORP.

Dane G. Pehrman
Project Manager

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Turnersville, NJ 08012

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Black & Veatch Special Projects Corporation

August 27, 2002

Lt. Col. John Elwood
New Jersey Air National Guard
400 Langley Road
ANGB, ACY IAP
Pleasantville, NJ 08232-9500

Subject: Scoping Letter: FONSI/EA for Relocation of K-9 Explosive Storage Area
William J. Hughes FAA Technical Center
Atlantic City International Airport, Atlantic County, New Jersey

Dear Sir:

Black & Veatch Special Projects Corp. (BVSPC) has been contracted by the William J. Hughes Federal Aviation Administration Technical Center (FAATC) to develop environmental documents for the relocation of the K-9 Explosives Storage Area. The Aviation and Transportation Security Act (ATSA), signed into law on November 19, 2001, has substantially increased the workload and responsibility of aviation security personnel at FAA (AAR-500). Due to this need, the existing facilities for these personnel must be expanded; however, this expansion will place personnel within an unsafe distance of the existing K-9 Explosives Storage Area. As a result, the K-9 Explosives Storage Area must be relocated to a more remote location within the FAATC.

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Sincerely,

BLACK &VEATCH SPECIAL PROJECTS CORP.

Dane G. Pehrman
Project Manager

enclosures

BLACK & VEATCH

3501 Route 42, Unit 7A
Suite184
Turnersville, NJ 08012

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Fax: 856.307.2270

Black & Veatch Special Projects Corporation

August 27, 2002

Mr. Thomas Rafter
South Jersey Transportation Authority
106 Atlantic City International Airport
Egg Harbor Township, NJ 08234-9590

Subject: Scoping Letter: FONSI/EA for Relocation of K-9 Explosive Storage Area
William J. Hughes FAA Technical Center
Atlantic City International Airport, Atlantic County, New Jersey

Dear Sir:

Black & Veatch Special Projects Corp. (BVSPC) has been contracted by the William J. Hughes Federal Aviation Administration Technical Center (FAATC) to develop environmental documents for the relocation of the K-9 Explosives Storage Area. The Aviation and Transportation Security Act (ATSA), signed into law on November 19, 2001, has substantially increased the workload and responsibility of aviation security personnel at FAA (AAR-500). Due to this need, the existing facilities for these personnel must be expanded; however, this expansion will place personnel within an unsafe distance of the existing K-9 Explosives Storage Area. As a result, the K-9 Explosives Storage Area must be relocated to a more remote location within the FAATC.

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Sincerely,

BLACK &VEATCH SPECIAL PROJECTS CORP.

Dane G. Pehrman
Project Manager

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BLACK & VEATCH

3501 Route 42, Unit 7A
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Turnersville, NJ 08012

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Fax: 856.307.2270

Black & Veatch Special Projects Corporation

August 27, 2002

Mr. William Roach
U.S. EPA – Federal Facilities Section
290 Broadway
New York, NY 10007-1866

Subject: Scoping Letter: FONSI/EA for Relocation of K-9 Explosive Storage Area
William J. Hughes FAA Technical Center
Atlantic City International Airport, Atlantic County, New Jersey

Dear Sir:

Black & Veatch Special Projects Corp. (BVSPC) has been contracted by the William J. Hughes Federal Aviation Administration Technical Center (FAATC) to develop environmental documents for the relocation of the K-9 Explosives Storage Area. The Aviation and Transportation Security Act (ATSA), signed into law on November 19, 2001, has substantially increased the workload and responsibility of aviation security personnel at FAA (AAR-500). Due to this need, the existing facilities for these personnel must be expanded; however, this expansion will place personnel within an unsafe distance of the existing K-9 Explosives Storage Area. As a result, the K-9 Explosives Storage Area must be relocated to a more remote location within the FAATC.

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Sincerely,

BLACK &VEATCH SPECIAL PROJECTS CORP.

Dane G. Pehrman
Project Manager

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Appendix C – Public Notifications (Pending Draft Review)

Appendix D – Public Response to Draft EA and Response to Comments (Pending Draft Review)

BLACK & VEATCH