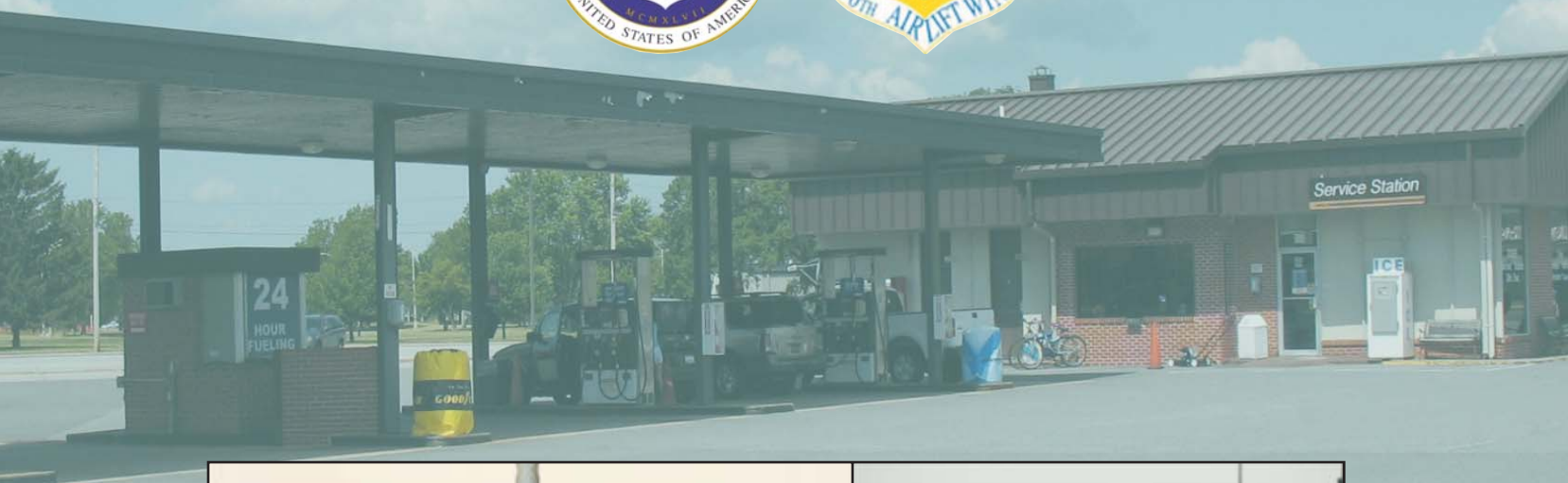


Environmental Assessment for the Construction of a Shoppette, Class Six Store, and Car-Care Facilities at Dover Air Force Base, Kent County, Delaware

FINAL
December 2007



**Prepared by:
Departments of the Army and Air Force
Army and Air Force Exchange Service
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14. ABSTRACT AAFES proposes to construct a new shoppette, a Class Six store, a car-care center with two service bays, and an automated, single-bay car wash for use by authorized patrons at Dover Air Force Base (Dover AFB), Kent County, Delaware. The Proposed Action would also upgrade an existing fuel distribution system and expand its capacity to service customers. Further, the project would require the demolition and disposal of outdated facilities and infrastructure at the site of the Preferred Alternative. The new facilities would be collocated in the central part of the Base. The Preferred Alternative complies with the Dover AFB General Plan and utilizes a site that has already been developed for a similar purpose. The existing shoppette and Class Six store are in poor condition. The construction of the new facilities would enhance customer services on the Base provide AAFES with additional revenue, and mitigate the health and safety risks associated with contaminated soils present at the Preferred Alternative site. The collocation of these services would consolidate similar management responsibilities and reduce traffic to, from, and within Dover AFB. Under the No Action Alternative, AAFES would not construct the new facilities and Dover AFB patrons would continue to utilize separate, outdated facilities. This Environmental Assessment evaluates the Preferred Alternative and the No Action Alternative. Resources evaluated in this EA include: land use; hazardous materials and waste; air quality; geology and soils; water resources; socioeconomics; infrastructure and utilities; and, transportation.					
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**Environmental Assessment for the
Construction of a Shoppette,
Class Six Store, and Car-Care Facilities
at Dover Air Force Base,
Kent County, Delaware**

December 2007



Prepared by:

**Departments of the Army and Air Force
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Operations Center
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Dallas, Texas 75222-5887

Environmental Assessment for the Construction of a Shoppette, Class Six Store, and Car-Care Facilities at Dover Air Force Base, Kent County, Delaware

Proposed Action: Construction of a new shoppette, a Class Six store, a car-care center with two service bays, and an automated, single-bay car wash. New construction would total 11,750 square feet and include retail gasoline sales with 10 multi-product dispensers, a canopy roofing system, and 52 parking spaces.

Report Designation: Environmental Assessment.

Responsible Agency: Department of Air Force.

Point of Contact: Mr. Greg Smith, Project Engineer/Manager, Army and Air Force Exchange Service (AAFES), HQ AAFES, 3911 South Walton Blvd., Dallas, TX 75236-1598, 214-312-2109, SmithGregory@aafes.com.

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Abstract: AAFES proposes to construct a new shoppette, a Class Six store, a car-care center with two service bays, and an automated, single-bay car wash for use by authorized patrons at Dover Air Force Base (Dover AFB), Kent County, Delaware. The Proposed Action would also upgrade an existing fuel distribution system and expand its capacity to service customers. Further, the project would require the demolition and disposal of outdated facilities and infrastructure at the site of the Preferred Alternative. The new facilities would be collocated in the central part of the Base.

The Preferred Alternative complies with the Dover AFB *General Plan* and utilizes a site that has already been developed for a similar purpose. The existing shoppette and Class Six store are in poor condition. The construction of the new facilities would enhance customer services on the Base, provide AAFES with additional revenue, and mitigate the health and safety risks associated with contaminated soils present at the Preferred Alternative site. The collocation of these services would consolidate similar management responsibilities and reduce traffic to, from, and within Dover AFB.

Under the No Action Alternative, AAFES would not construct the new facilities and Dover AFB patrons would continue to utilize separate, outdated facilities.

This Environmental Assessment evaluates the Preferred Alternative and the No Action Alternative. Resources evaluated in this EA include: land use; hazardous materials and waste; air quality; geology and soils; water resources; socioeconomics; infrastructure and utilities; and, transportation.

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Executive Summary

Environmental Assessment for the Construction of a Shoppette, Class Six Store, and Car-Care Facilities at Dover Air Force Base, Kent County, Delaware

This Environmental Assessment (EA) provides an analysis of the potential environmental impacts associated with the demolition and disposal of an existing shoppette and gas station, and the construction of new facilities on site. Alternative locations are also identified and considered as part of the site selection process.

Proposed Action

The Army and Air Force Exchange Service proposes to construct a new shoppette and Class Six store to include a car-care center with two service bays. The Proposed Action also includes the installation and construction of fuel islands for gasoline service and a separate, automated car wash with a single service bay. The purpose of the action is to better serve the needs of the military community through the improvement of shopping and automobile use, repair, and maintenance facilities. The need for the action is to provide consolidated, centrally located facilities on Dover Air Force Base where authorized customers can obtain multiple services at a single location.

Description of Alternatives

This EA considers two alternative site locations for the Proposed Action: the site of the existing Class Six store (Building 211) and the parking lot adjacent to the existing shoppette (Building 517). These alternatives are eliminated from further analysis due to reduced accessibility and physical space limitations. The No Action Alternative and the Preferred Alternative – the site of the existing shoppette and gasoline service station (Building 517) – are carried forward for analysis in this EA. The Preferred Alternative is found to be consistent with all the site-selection criteria described in Section 2.2.1.

Scope of the Environmental Assessment

In accordance with Council on Environmental Quality regulations, resources that are not important or have been covered by prior environmental review are eliminated from further analysis in this EA. Resource areas not discussed in this analysis include: cultural resources, biological resources, floodplains, wetlands, coastal zone management, noise, and airspace. This EA describes

the baseline conditions (affected environment) at Dover Air Force Base and assesses the potential environmental impacts from the Proposed Action on the following resources:

- Land use;
- Hazardous materials and waste;
- Air quality;
- Geology and soils;
- Water quality;
- Socioeconomics;
- Infrastructure and utilities;
- Transportation; and
- Human health and safety.

Potential Environmental Impacts

This EA concludes that no significant impacts to resources would be associated with implementation of the Preferred Alternative or the No Action Alternative. The selection of the Preferred Alternative would result in short-term, negligible impacts to hazardous materials and waste, air quality, water resources, socioeconomics, infrastructure and utilities, and transportation. Land use, geology and soils, and human health and safety would benefit from the implementation of the Preferred Alternative. The selection of the No Action Alternative would result in negative impacts to land use, geology and soils, and human health and safety. Table ES-1 summarizes the environmental consequences of the Proposed Action.

Table ES-1 Comparison of Impacts from Alternatives for the Proposed Action		
Resources / Issues (Threshold Criteria)	Preferred Alternative	No Action Alternative
Land Use (land use controls)	Positive Impact	Negative Impact
Hazardous Materials and Waste (hazardous materials on-site) (release of hazardous materials)	Negligible Impact	No Impact
Air Quality (emissions above <i>de minimis</i>)	Short-Term Negative Impact ^(a)	No Impact
Geology and Soils (soil capability loss)	Positive Impact	Negative Impact
Water Resources (exceeds stormwater capacity) (groundwater within construction limits)	Short-Term Negative Impact ^(a)	No Impact
Socioeconomics (demographic trends) (economic impact)	Negligible Impact	No Impact

Table ES-1		
Comparison of Impacts from Alternatives for the Proposed Action		
Resources / Issues (Threshold Criteria)	Preferred Alternative	No Action Alternative
Infrastructure and Utilities	Negligible Impact	No Impact
Transportation	Negligible Impact	No Impact
Environmental Justice (human health and safety risks)	No Impact	No Impact
Protection of Children (human health and safety risks)	Positive Impact	Negative Impact

Note: (a) Impacts would be minimized through the employment of best management practices (BMPs) during demolition and construction activities.

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Acronyms and Abbreviations

AAFES	Army and Air Force Exchange Service
ACM	asbestos-containing material
AFB	Air Force Base
AFI	Air Force Instruction
AST	aboveground storage tank
BMP	best management practice
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act (1980)
CFR	Code of Federal Regulations
CO	carbon monoxide
COC	Chemicals of Concern
DelMarVa	Delaware/Maryland/Virginia
DNREC	Delaware Department of Natural Resources and Environmental Control
EA	Environmental Assessment
EO	Executive Order
EPA	United States Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
ERP	Environmental Restoration Program
HAP	hazardous air pollutant
MPD	multi-product dispenser (gasoline)
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NO _x	oxides of nitrogen
O ₃	ozone
OSHA	Occupational Safety and Health Administration
Pb	lead
PM ₁₀	particulate matter less than 10 microns in diameter
RBSL	risk-based screening level

Environmental Assessment

SARA	Superfund Amendments and Reauthorization Act
SPCC	spill prevention, control, and countermeasure
SIP	state implementation plan
SO ₂	sulfur dioxide
SSWMP	Sediment and Stormwater Management Plan
TMB	(Delaware) Tank Management Branch
U.S.C.	United States Code
UST	underground storage tank
VOC	volatile organic compound

1 Purpose and Need for the Action

1.1 Introduction and Background

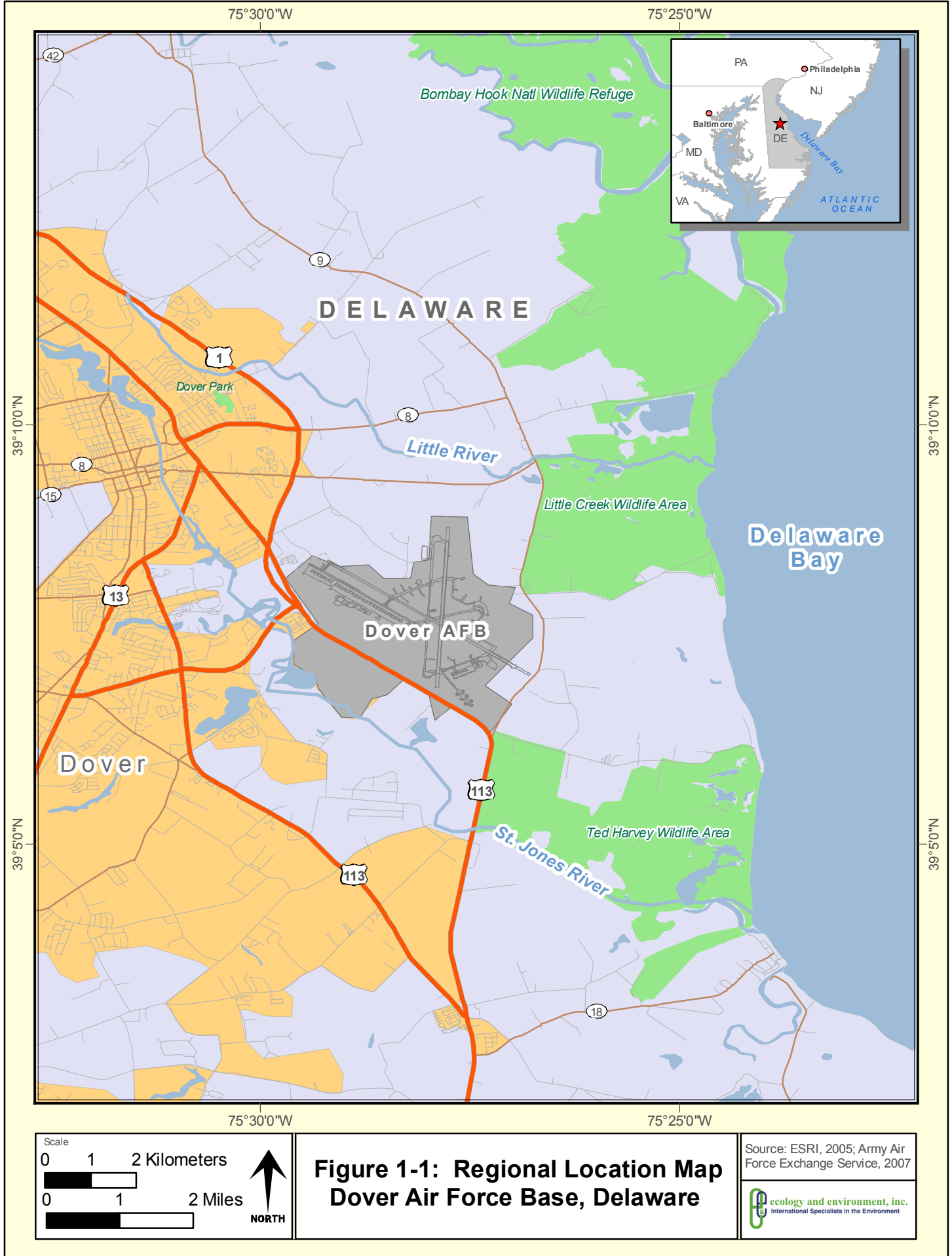
The Army and Air Force Exchange Service (AAFES) proposes to construct a multi-purpose shoppette, a Class Six store, a car-care center with two service bays, and an automated, single-bay car wash at Dover Air Force Base (Dover AFB) in Kent County, Delaware (Figure 1-1). This Environmental Assessment (EA) addresses the potential impacts related to the demolition and disposal of existing infrastructure and the construction of the new facilities, including associated permit requirements. In addition, this report identifies mitigation measures to minimize the environmental consequences of the Proposed Action.

Dover AFB (also referred to herein as ‘the Base’ or ‘the Installation’) has been in operation since 1941 with the primary mission of providing for the global movement of cargo and personnel in a time-sensitive airlift environment. The 436th Airlift Wing is the host unit and provides command and control, and related support functions, to aircraft and personnel conducting worldwide airlift special assignments, exercises, and missions. The Base is home to the first all C-5 Galaxy-equipped airwing in the U.S. Air Force and the only joint services mortuary. In addition, two C-17 Globemaster III aircraft are now stationed at Dover AFB. In total, 17 tenant units reside at Dover AFB, which comprises approximately 25 percent of U.S. Air Force airlift capabilities.

1.2 Purpose and Need for the Proposed Action

The purpose of the action is to better serve the needs of the military community through the improvement of shopping and automobile use, repair, and maintenance facilities. The existing shoppette (Building 517) is obsolete, having been in operation since 1956. The multi-product dispensers (MPDs) at the existing site are stressed at 46,000 gallons per month versus the AAFES standard of 25,000 gallons per month intended to maximize the life of the product. Similarly, the existing Class Six store (Building 211) was constructed in 1954 and is no longer adequate to meet an increasing demand for client services.

The need for the action is to provide consolidated, centrally located facilities on Dover AFB where authorized customers can obtain multiple services at a single location. This would reduce the need to travel off-Base and allow customers to make a single stop for multiple services on the Base. Building and infrastructure design improvements would increase energy efficiency, while reducing potential health and safety risks associated with the operations. In addition, the collocation of the



shoppette, Class Six store, and car-care facilities would expand the AAFES customer service range and consolidate similar functions for management purposes.

1.3 Applicable Regulatory Requirements

The National Environmental Policy Act (NEPA) of 1969 (Public Law 91-190, 42 United States Code [U.S.C.] §4321 et. seq.) is a federal agency mandate for a systematic, interdisciplinary approach to environmental planning and decision making. The intent of NEPA is to minimize adverse impacts to the human environment through information availability, the development of alternative actions, and the implementation of mitigation measures.

This EA was prepared in accordance with NEPA; the Council on Environmental Quality (CEQ) regulations implementing NEPA (40 CFR §§1500-1508); and the Department of the Air Force *Environmental Impact Analysis Process*, Air Force Instruction (AFI) 32-7061 as promulgated by 32 Code of Federal Regulations (CFR) Part 989.

Other environmental regulatory requirements relevant to the Proposed Action include but are not limited to the following:

- Archeological Protection Act, 16 U.S.C 470 et. seq.;
- Clean Air Act, 42 U.S.C. 7401 et. seq.;
- Clean Water Act, 33 U.S.C. 1251 et. seq.;
- Endangered Species Act, 16 U.S.C. 1531 et. seq.;
- National Historic Preservation Act, 16 U.S.C 470 et. seq.;
- Noise Control Act, 42 U.S.C 4901 et. seq.;
- Occupational Safety and Health Act, 29 U.S.C. 651 et. seq.;
- Resource Conservation and Recovery Act, 42 U.S.C. 6901 et. seq.; and
- Toxic Substances Control Act, 15 U.S.C. 2601 et. seq.

In addition, the Proposed Action must comply with a number of Executive Orders (EOs) to include the following:

- EO 11514, *Protection and Enhancement of Environmental Quality*;
- EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*;
- EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*;
- EO 11990, *Protection of Wetlands*.

Table 1-1 summarizes the environmental, safety and health compliance requirements associated with the Proposed Action. Prior to the initiation of demolition and construction activities, plans and documents will be prepared by the contractor to provide environmental, safety and health controls. These plans and documents will be submitted to the contracting officer at Dover AFB for review and approval. Contractor specifications are provided as Appendix A.

Table 1-1		
Environmental, Safety and Health Compliance Requirements		
Source	Responsible Entity	Requirement
Dover AFB General Plan	Dover AFB 436 th Airlift Wing	Consistency
Dover AFB Stormwater Pollution Prevention Plan	Dover AFB 436 th Airlift Wing	Consistency
Dover AFB Architectural Compatibility Plan	Dover AFB 436 th Airlift Wing	Consistency
Dover AFB Hazardous Waste Management Plan	Dover AFB 436 th Airlift Wing	Consistency
Dover AFB Installation Spill Prevention Control and Countermeasure (SPCC) Plan	Dover AFB 436 th Airlift Wing	Consistency
Dover AFB Natural Resources Plan	Dover AFB 436 th Airlift Wing	Consistency
Dover AFB Solid Waste Management Plan	Dover AFB 436 th Airlift Wing	Consistency
Dover AFB Asbestos Operating and Management Plan	Dover AFB 436 th Airlift Wing	Consistency
Occupational Safety and Health Administration (OSHA) Regulations	Contractor and Operations Personnel	Consistency
Fire Protection (UFC 3-600-01)	Dover AFB 436 th Airlift Wing	Consistency
Affirmative Procurement	Dover AFB 436 th Airlift Wing	Documentation
Construction General Permit	AAFES	Submittal of a Sediment and Stormwater Management Plan ^(a)
Delaware AST Regulations	Dover AFB 436 th Airlift Wing	AST Activity Notification ^(b)
Delaware UST Regulations	AAFES	UST System Certification ^(c)
Gasoline Vapor Recovery Regulations	AAFES	Stage I and II Recovery ^(d)
Land Use Controls	Dover AFB 436 th Airlift Wing	Approved Contaminated Media Management Plan
Sanitary Sewer Discharge Permit	AAFES	Not required for discharges less than 25,000 gallons per day
Title V Compliance	Dover AFB 436 th Airlift Wing	Minor Permit Modification ^(e)
General Conformity	AAFES	Air Conformity Analysis and RONA ^(f)

Notes:

- (a) See Appendix G of this Environmental Assessment (EA).
 (b) See Appendix C of this EA.
 (c) See Appendix E of this EA.
 (d) See Appendix D of this EA.
 (e) See Appendix F of this EA.
 (f) See Appendix B of this EA.

Key:

- AAFES = Army and Air Force Exchange Service.
 AFB = Air Force Base.
 AST = aboveground storage tank.
 AT/FP = anti-terrorism/force protection.
 RONA = Record of Non-Applicability.
 UFC = Unified Facilities Criteria.
 UST = underground storage tank.

1.4 Scope of the Environmental Assessment

CEQ regulations (§1501.7) state that the lead agency shall identify and eliminate from detailed study the issues or resources that are not important or have been covered by prior environmental review, narrowing the discussion of these issues in the document to a brief justification that demonstrates a minimal impact on the human environment. Accordingly, only those issues or resources that are potentially affected by the action are carried forward in this analysis. Therefore, this EA describes the baseline conditions (affected environment) at Dover AFB and assesses the potential environmental impacts from the Proposed Action on the following resources: land use, hazardous materials and waste, air quality, geology and soils, water quality, socioeconomics, infrastructure and utilities, transportation, and human health and safety.

Resource areas not discussed in this analysis include: cultural resources, biological resources, floodplains, wetlands, coastal zone management, noise, and airspace.

Cultural Resources

According to recent cultural resource surveys, there are no known cultural resources in or around the site of the Preferred Alternative (Benner 2007).

Biological Resources

As a result of past consultations with the Delaware Department of Natural Resources and Environmental Control (DNREC), the Delaware Forest Service, the U.S. Fish and Wildlife Service, and the National Oceanic and Atmospheric Administration, Dover AFB has been re-designated as a Category II installation due to a limited natural resources land base and the absence of significant natural resources (Benner 2007). A Category II designation precludes the requirements set forth in the Sikes Act (1997, as amended) for the preparation and implementation of an Integrated Natural Resources Management Plan.

Floodplains

The site of the Preferred Alternative is not located within a 100-year or 500-year floodplain (436th Airlift Wing 2007).

Wetlands

No wetlands have been identified on the Preferred Alternative site (436th Airlift Wing 2007).

Coastal Zone Management

Dover AFB is located in the coastal zone regulated by the Delaware Coastal Zone Act, which implements the provisions of the federal Coastal Zone Management Act. The Delaware Coastal Management Program has an approved set of policies utilized to review projects for “federal consistency.” For the purposes of federal actions, the entire state is considered part of the *coastal zone*. In accordance with state regulations, the proposed use of the parcel is not regulated because it is a commercial establishment not involved in manufacturing (DNREC 1999).

Noise

The noise generated from the Proposed Action would be local and short-term, and its impact minimal compared to the noise generated by other operations and activities occurring at Dover AFB (e.g., aircraft operations).

Airspace

Implementation of the Preferred Alternative would not impact local or regional airspace, or aircraft-related operations at Dover AFB.

1.5 Organization of the Document

This EA follows the format established in 32 CFR Part 989, the U.S. Air Force guidelines for implementing the CEQ regulations (40 CFR §1502). Section 1 presents the purpose and need for the action. The alternatives, including the consideration of alternative sites for the Proposed Action, are described in Section 2. The affected environment and environmental consequences are detailed in Sections 3 and 4, respectively. Distribution of the EA, including the solicitation of public comments, is documented in Section 5. Section 6 contains a list of document preparers, and Section 7 provides a list of references utilized in the preparation of this EA. Other documents and resources used to supplement this EA are provided as appendices to this report.

2 Description of the Proposed Action and Alternatives

This section describes the Proposed Action, the site selection process, and the Preferred Alternative. The No Action Alternative is carried forward for analysis as a baseline to which all other alternatives are compared in accordance with NEPA Part 1502.14(d). Alternatives that do not support the purpose and need for the action as described in Section 1 are not considered to be valid options.

2.1 Description of the Proposed Action

AAFES proposes to construct a new 8,150-square-foot shoppette and Class Six store, and a car-care center with two service bays of approximately 2,650 square feet. The scope of the project also includes fuel islands for gasoline service and an automated, single-bay car wash of approximately 950 square feet. In total, the Proposed Action involves approximately 11,750 square feet of new construction.

New construction would consist of a reinforced concrete slab/foundation with steel or concrete framing, including complete mechanical, electrical, and life/safety systems. The proposed facilities would tie into existing utility services and communications systems and would provide for pavement, walks, curbs, gutters, storm drainage, retention walls, and site improvements, as necessary. The car wash would be equipped with a water reclamation system capable of recycling approximately 70 to 75 percent of used water; approximately 25 to 30 percent would be discharged to the sanitary sewer system. These collocated facilities would include retail gasoline sales through the installation of two 20,000-gallon underground storage tanks (USTs; one for high octane and diesel and one for low octane); 10 MPDs; a canopy roofing system; and, 52 parking spaces for use by authorized patrons at Dover AFB. New construction would be in accordance with all applicable Department of Defense Unified Facilities Criteria (UFC) provisions.

The Proposed Action also includes the demolition and disposal of existing facilities and infrastructure.

2.2 Alternatives

2.2.1 Site-Selection Criteria

In accordance with 32 CFR Part 989.8(c), the development of selection criteria is an effective mechanism for the identification, comparison, and evaluation of reasonable alternatives. The following site-selection criteria were developed to be consistent with the purpose and need for the action and to address pertinent environmental, safety and health factors. These site-selection criteria were used to evaluate alternative sites for the Proposed Action and identify reasonable alternatives for evaluation in this EA (Table 2-1):

- **Compliance with the Dover AFB General Plan.** Construction of the new AAFES facilities must not conflict with plans for the long-range development of Dover AFB. New development should be in accordance with the land use categories identified in the *General Plan* (see Section 3.1, “Land Use”).
- **Consistent with the AAFES Mission.** AAFES aims to provide adequate services to Base personnel in a timely and efficient manner through the establishment of central, collocated facilities with high visibility.
- **Adequate Space to Accommodate New Facilities.** The new facilities require a minimum of 4 acres to accommodate the Proposed Action.
- **Minimize Environmental, Safety and Health Impacts.** AAFES must ensure the health and safety of customers, contractors, and other visitors to Dover AFB. When possible, new construction should include the remediation of known contaminants in the environment.

Table 2-1 Comparison of Alternative Sites for the Proposed Action				
Alternative Site Locations	Selection Criteria			
	Land Use Consistency	High Visibility and Accessibility	Minimum of 4 Acres	Remediation Opportunity
Existing Class Six Store (Building 211)	Yes	No	No	No
Parking Lot Adjacent to the Existing Shoppette	Yes	Yes	No	Yes
Existing Shoppette (Building 517) (<i>Preferred Alternative</i>)	Yes	Yes	Yes	Yes

2.2.2 Summary of Evaluation Criteria Table

Two alternative sites for the Proposed Action—the site of the existing Class Six store (Building 211) and the parking lot adjacent to the existing shoppette (Building 517)—were evaluated based on the site-selection criteria and the purpose and need for the action.

Site of the Existing Class Six Store (Building 211)

The site of the existing Class Six store (Building 211) complies with the land use designations put forth in the Dover AFB *General Plan*, but lacks the central location of the Preferred Alternative site which enhances the visibility of, and offers improved customer access to, the new facilities. Further, this site does not fulfill the physical space requirements (4 acres or more) required for construction of the new facilities. The site is not known to contain soil and/or groundwater contamination and, as such, does not offer a remediation opportunity. This alternative site location has been eliminated from further consideration.

Parking Lot Adjacent to the Existing Shoppette

The parking lot adjacent to the Preferred Alternative site complies with the land use designations put forth in the Dover AFB *General Plan* and offers the central location desired by AAFES and Base personnel. This site contains contaminated soils and groundwater due to its former utilization as an airfield landing strip and would benefit from the clean-up associated with the Proposed Action. However, the parking lot is less than 4 acres and does not meet the physical space requirements for construction of the new facilities. This alternative site location has been eliminated from further consideration.

2.2.3 Alternatives Carried Forward for Further Analysis

The Preferred Alternative is consistent with all of the site-selection criteria noted above and will be carried forward in this analysis, along with the No Action Alternative.

Site of the Existing Shoppette (Preferred Alternative)

As described in Section 2.1, the Proposed Action evaluated in this EA is to construct the new facilities on the site of the existing shoppette and gasoline service station (Building 517), and the abandoned airfield pavement to the south and southwest of Tuskegee Avenue. This triangular tract of land consists of approximately 4.1 acres and is bounded by Atlantic Street to the north, Evreux (12th Street) to the east, and by a chapel (Building 419) and bowling alley (Building 420) to the west and southwest. This site is zoned community (commercial) and its current utilization is consistent with this designation (see Section 3.1 for further discussion). The Preferred Alternative site consists of pavement and maintained lawn, and no other natural vegetation is established.

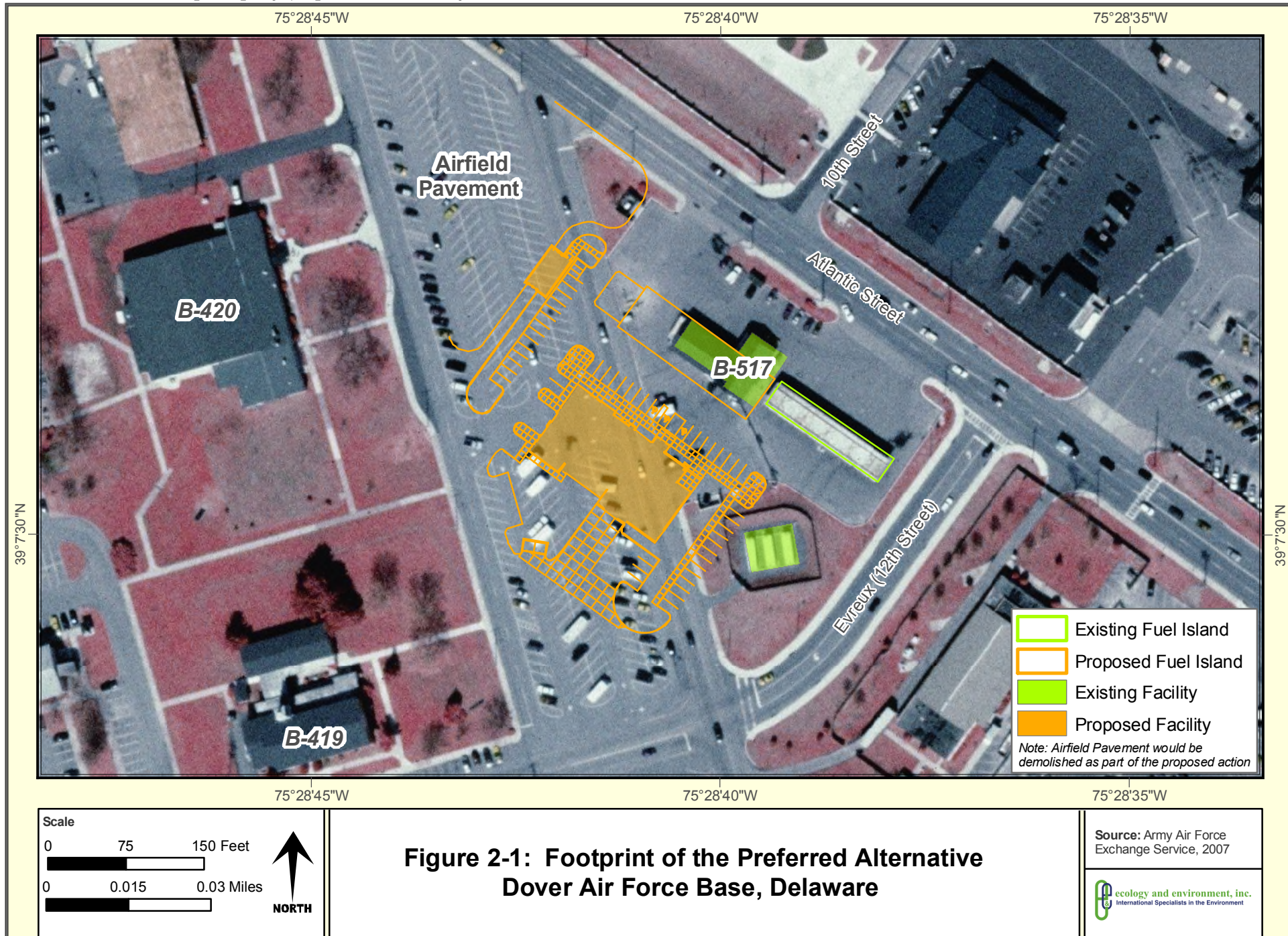
The Preferred Alternative also includes the demolition and disposal of the existing shoppette, fuel distribution system, pavement, and utilities infrastructure. This consists of the dismantling and disposal of three 10,000-gallon aboveground storage tanks (ASTs) and four MPDs, and the demolition and recycling of the existing pavement to include 190,000 square feet (18-inch width) of a

former airfield landing strip. Figure 2-1 depicts the footprint of the Preferred Alternative, including the facilities that would require demolition.

No Action Alternative

Under the No Action Alternative, AAFES would not construct the new shopette, Class Six store, and car-care facilities. Authorized personnel would continue to utilize the existing shopette and Class Six store, both of which are more than 50 years old. The existing MPDs would continue to operate in excess of the AAFES standard of 25,000 gallons per month. Base personnel would not benefit from the expanded customer services and AAFES would not receive additional revenue from these services. AAFES services would not be consolidated, increasing travel on the Base and to external destinations. The contaminated soils would remain *in-situ* and existing land use controls would continue to be enforced to protect sensitive populations from exposure to fuel and lead contaminants. The amount of impervious surface would not change and, consequently, runoff rates would not be reduced.

Appendix H contains site photographs that supplement the site selection process and the development of alternatives for analysis.



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3 Affected Environment

This section details the relevant environmental conditions at Dover AFB for resources that would be potentially affected by the implementation of the Preferred Alternative. The limit of disturbance for the Preferred Alternative would be approximately 4 acres. In compliance with the guidelines contained in NEPA, the CEQ regulations, and 32 CFR 989, the description of the affected environment focuses on those resources potentially subject to impacts.

3.1 Land Use

Land use describes the activities that take place in a particular area and generally refers to human modification and occupation of land, usually for residential or commercial purposes. Dover AFB is located on the Delaware/Maryland/Virginia (DelMarVa) Peninsula and includes approximately 3,827 acres of land. The northwest-southeast airfield divides the main installation into two primary sections:

- (1) Open space, recreational areas, and limited amounts of industrial land uses are located to the east; and,
- (2) Lodging quarters, the Base golf course, and other housing facilities are west of U.S. 113 and east of the St. Jones River.

The majority of land on the Base has been classified as ‘urban’ and only a limited amount of land is available for development. As such, land use planning at Dover AFB focuses on compatible development and the consolidation of services to improve facilities management.

Land use on the Base consists of the following designations:

- Airfield (i.e., runways, taxiways, and aprons);
- Aircraft operations and maintenance;
- Industrial;
- Administrative;
- Community (commercial);
- Community (service);
- Medical;
- Housing (family);
- Housing (unaccompanied);
- Outdoor recreation;

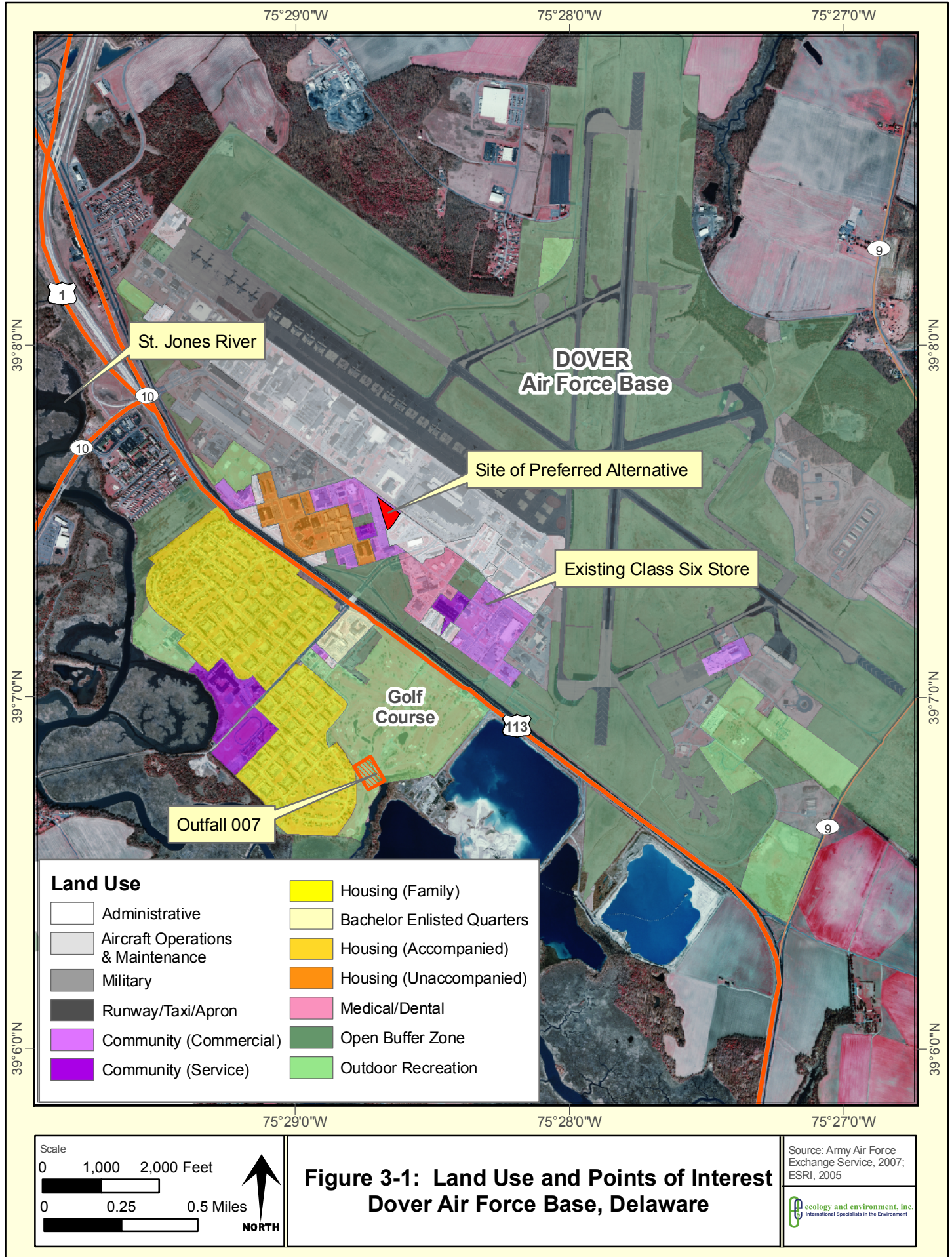
- Open space; and,
- Water.

Figure 3-1 depicts the Dover AFB land use designations as defined by the *General Plan*.

The Preferred Alternative site is located within the ‘Community (Service)’ land use designation. Per the *General Plan*, land use categories consistent with the ‘Community (Service)’ designation include the ‘Administrative’ and ‘Community (Commercial)’ land use categories. The ‘Community (Service)’ designation contains approximately 45 acres of land and is represented in both the central part of the Base and adjacent to the housing areas. The ‘Administrative’ land use category occupies approximately 47 acres on the Installation. Although administrative facilities are clustered throughout the Base, the majority are centrally located west of Atlantic Street. The ‘Community (Commercial)’ land use category consists of approximately 60 acres.

The Preferred Alternative site is an active Environmental Restoration Program (ERP) site (Site ST04). The DNERC Tank Management Branch (TMB) reviewed a Dover AFB request for approval of a “no further action” determination for this ERP site. Samples taken during a remedial investigation indicated that chemicals of concern (COC) in soils fell below TMB risk-based screening levels (RBSLs). The TMB approved the Installation’s request for “no further action” with the following conditions pertaining to excavated soils:

- “Any excavated soils comprise solid waste and may not be re-used as ‘clean fill.’ Excavated soils may be (a) incorporated into landscaping on-site provided they are seeded or otherwise secured against erosion, or (b) used as random fill on-site provided they are not placed in drainage ways or in locations where persons on-site may come into direct contact with them. On-site re-use of excavated soils must be approved in advance by the TMB;
- If excavated soils are transported off-site, they must be hauled by a State-licensed solid waste hauler and disposed or remediated in an approved manner;
- If excavated soils are remediated on-site (e.g., a ‘biopile’), a plan to accomplish the remediation must be approved in advance by the TMB; and,
- If the petroleum compounds remaining in the soil or ground water on-site are disturbed in the future by excavation, boring, dewatering or other means, a contaminated media management plan must be approved in advance by the TMB” (DNREC 2005c).



3.2 Hazardous Materials and Waste

Hazardous material is defined by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), the Solid Waste Disposal Act, and the Emergency Planning and Community Right-to-Know Act (EPCRA) as a substance that, because of quantity, concentration, or physical or chemical characteristics may present substantial danger to public health, welfare, or the environment. The term hazardous waste, as defined by the Resource Conservation and Recovery Act (RCRA), means any solid, liquid, contained gaseous, or semi-solid waste, or any combination of wastes that poses a substantive present or potential hazard to human health or the environment. Hazardous wastes must exhibit a characteristic of toxicity, reactivity, ignitibility, or corrosively, or be listed as a hazardous waste as indicated in 40 CFR Parts 261 and 263.

In 1989, the U.S. Environmental Protection Agency (EPA) put Dover AFB on the National Priorities List of sites to be investigated pursuant to CERCLA (or the Superfund Amendments and Reauthorization Act [SARA]). The listing was due to the presence of hazardous materials (solvents, metals, and polychlorinated biphenyls) in groundwater and soils found at several on-Base locations. At present, hazardous waste generated at Dover AFB includes used petroleum products, tires, antifreeze, and other automobile and aircraft fluids.

3.2.1 Site ST04

Site ST04, the Preferred Alternative site, contains environmental contamination due to leaks in previous USTs and the past use of the airfield landing strip (i.e., jet fuel contaminants). In 1989, a leak in one of the five former USTs was discovered and the 10,000-gallon tank was subsequently removed. The remaining storage tanks were removed during the 1990s.

A 1993 Basewide Remedial Investigation detected the presence of chlorinated solvents in deep groundwater underneath Site ST04. These non-petroleum contaminants originate from upgradient sites and are being addressed under CERCLA remedial actions. Due to the presence of groundwater contaminants, monitoring wells are located throughout the Preferred Alternative site. As depicted in Table 3-1, contaminant levels in soil and groundwater at Site ST04 currently meet standards under the Delaware Risk-Based Corrective Action Program.

Table 3-1
Soil and Groundwater Study Results for Site ST04

Chemicals of Concern (COC)	Tier I Standards for POE > 500 feet		September 1993 Remedial Investigation Maximum Concentration		October 2001 Tier I Investigation Maximum Concentration	
	SOIL _{GW} (µg/kg)	GW (µg/L)	Soil (µg/kg)	GW (µg/L)	Soil (µg/kg)	GW (µg/L)
Benzene	150,000	19,000	61	130	ND	ND
Toluene	>750,000	>520,000	240	ND	ND	ND
Ethylbenzene	>630,000	>170,000	88	23	ND	ND
Xylene (mixed isomers)	>500,000	>200,000	630	2	ND	ND
Isopropylbenzene (Cumene)	>8,200	>50,000	NA	NA	ND	ND
MTBE (if in service after 1 January 1978)	7,900	12,000	NA	NA	ND	ND
Lead (Total)	400,000	NR	23.3	NR	8,600	NR
Lead (Dissolved)	NR	15	NR	3.1	ND	ND
1,2-Dichloroethane (EDC)	76,000	33,000	ND	1	ND	ND
1,2-Dibromoethane (EDB)	100,000	13,000	ND	ND	ND	ND
Naphthalene	>620,000	>31,000	22,000	27	ND	ND

Source: DNREC 2005c.

Note: Delaware Risk-Based Corrective Action Process (DERBCAP) standards.

Key:

µg/kg = micrograms per kilogram.

µg/L = micrograms per liter.

> = greater than.

EDB = ethylene dibromide.

EDC = ethylene dichloride.

GW = groundwater.

MTBE = methyl tertiary butyl ether.

NA = Not Analyzed.

ND = Non-Detect.

NR = Not Required.

POE = point of exposure.

SOIL_{GW} = Soil criteria intended to protect groundwater quality.

3.2.2 Gasoline Storage Tanks

Three 10,000-gallon ASTs currently service the existing fuel island (i.e., four MPDs) on the site of the Preferred Alternative.

3.2.3 Asbestos and Lead Paint

Past asbestos surveys indicate the presence of friable and non-friable asbestos-containing material (ACM) in the majority of Base buildings built prior to 1980. Similarly, previous survey results have demonstrated the use of lead-based paint on buildings constructed prior to 1980. The existing shopette is known to contain asbestos and lead-based paint (Freysinger 2007).

3.3 Air Quality

The Clean Air Act, as amended in 1990 (Public Law 101-549), requires that federal agency actions conform to applicable implementation plans to meet and maintain the National Ambient Air Quality Standards (NAAQS) for criteria pollutants. Established by the EPA, NAAQS set safe concentration levels for six criteria pollutants, which include particulate matter measuring less than 10 microns in diameter (PM₁₀), sulfur dioxide (SO₂), carbon monoxide (CO), nitrous oxides (NO_x), ozone (O₃), and lead (Pb). The EPA tracks compliance with NAAQS through the designation of air-sheds as *attainment*, *nonattainment*, *maintenance*, or *unclassifiable*. These designations establish the minimum requirements for acceptable national air quality and – for ozone and particulate matter – are further classified by the extent their concentration levels exceed the NAAQS.

Compliance with the NAAQS is delegated to the state or local air quality control agencies. In addition, each state has the option of enacting more stringent air pollution control regulations than those imposed at the federal level.

General Conformity

The General Conformity Rule has been promulgated by the EPA to ensure that the actions of federal departments or agencies conform to an applicable state implementation plan (SIP). This rule covers direct and indirect emissions of criteria pollutants or their precursors that are caused by a federal action, are reasonably foreseeable, and can practically be controlled by the federal agency through its continuing program responsibility. Conformity is demonstrated if the total net emissions expected to result from a federal action in a *nonattainment* or *maintenance* area will not:

- Cause or contribute to any new violation of any NAAQS;
- Interfere with provisions in the applicable SIP for maintenance of any standard;
- Increase the frequency or severity of any existing violation; or,
- Delay the timely attainment of a standard, interim emission reduction or milestone including, where applicable, emission levels specified in the applicable SIP for purposes of demonstrating reasonable further progress, attainment, or maintenance.

A federal action is exempt from the General Conformity Rule if total net emissions are below the specified *de minimis* levels (Table 3-2) and it does not have ‘significant’ regional implications. The regional requirement pertains to an aggregated emission inventory for *nonattainment* or *maintenance* areas – that is, emissions must represent 10 percent or less of the total inventory for a particular pollutant or otherwise be exempt per 40 CFR 51.153. Total net emissions include direct and indirect emissions from all stationary point and area sources, construction sources, and mobile sources caused by the federal action and not covered by another permitting program.

Table 3-2 Air Quality <i>De Minimis</i> Levels	
Pollutant	Tons per Year
Ozone (Volatile Organic Compounds or Nitrogen Oxides)	
Serious nonattainment areas	50
Severe nonattainment areas	25
Extreme nonattainment areas	10
Marginal and moderate ozone nonattainment and ozone maintenance areas outside an ozone transport region	100
Marginal and Moderate Nonattainment and Ozone Maintenance Areas Inside an Ozone Transport Region	
Volatile organic compounds	50
Nitrogen oxides	100
Carbon Monoxide	
All nonattainment and maintenance areas	100
Sulfur Dioxide or Nitrogen Dioxide	
All nonattainment and maintenance areas	100
Particulate Matter	
Moderate nonattainment and maintenance areas	100
Serious nonattainment areas	70
Lead	
All nonattainment and maintenance areas	25

Source: 40 CFR 51.

On April 15, 2004, the EPA assigned designations for the 8-hour ozone standard, which were finalized one year later on April 15, 2005, and replaced the existing 1-hour standard. Under the Clean Air Act, Kent County had been classified as a *severe nonattainment* area for ground-level ozone with respect to the 1-hour NAAQS, but has been reclassified as *moderate nonattainment* with respect to the 8-hour NAAQS. Dover AFB is in attainment with all other criteria pollutants.

Emissions of hazardous air pollutants (HAP) occur at Dover AFB with the major sources being aircraft and vehicle use and maintenance. Volatile organic compound (VOC) emissions primarily result from the handling and storage of gasoline and diesel fuels. Secondary emission sources include solvent use, paints, thinners, and coatings.

3.4 Geology and Soils

Kent County is part of the Atlantic Coastal Plain Physiographic Province. This Province is generally flat and seaward sloping with some moderately steep local relief, and is typically underlain by semi-consolidated to unconsolidated sediments that consist of silt, clay, and sand with some gravel and lignite. The topography is nearly level to gently sloping and soils are predominantly sand and silt. The sandy silt of the tertiary Calvert Formation and the surficial mantle soil of the Columbia Formation underlie the Preferred Alternative site. The resident soils are not classified as hydric because the water table ranges in depth from approximately 8 feet to 14 feet below the surface (H. Michael Bohnsack Architects 2007).

3.5 Water Resources

Shallow groundwater at Dover AFB is found in the Columbia aquifer. The Frederica, Cheswold, and Piney Point aquifers occur, but are not shallow. The unconfined Columbia aquifer is the uppermost aquifer beneath Dover AFB and holds the water table that ranges from 29 feet below ground surface to within a few feet below ground surface near the St. Jones River (Agency for Toxic Substances and Disease Registry 2003). Groundwater generally flows southwest toward the St. Jones River and its tributaries. Past investigations have confirmed the presence of fuel and lead contamination in the Columbia aquifer (DiSalvo 2007).

The St. Jones River and the Little River are the primary surface water systems associated with Dover AFB. Both of these river systems are classified as 303(d)-listed water bodies – “impaired” that violate water quality standards or fail to meet their designated uses due to elevated levels of contamination. The St. Jones flows along the southern boundary of the Base, while the Little River traverses the northern part of Dover AFB (see Figure 1-1).

The drainage system at Dover AFB consists of a series of inlets, manholes, belowground pipes, culverts, and ditches that divert surface water runoff from the Base into the tributaries of these rivers. Surface drainage at Dover AFB is divided into nine drainage sub-basins. Stormwater drains from the northern and eastern parts of the Base into the Little River; the southern and western portions of the Installation drain into the St. Jones River (436th Airlift Wing 2007). Stormwater from the Preferred Alternative site drains through the golf course, which tends to flood during heavy rain events because of undersized culverts leading to the St. Jones River. In 1999, a wet meadow was constructed on the golf course as part of wetland mitigation for the installation of stormwater quality

control devices (DiSalvo 2007). This treatment wetland processes stormwater that drains to Outfall 007, which receives stormwater from the Preferred Alternative site (see Figure 3-1).

3.6 Socioeconomics

Socioeconomics is the multi-disciplinary evaluation of economic activity and social well-being. Past and projected population trends for the City of Dover and Kent County indicate an expected increase in the future population of the region (U.S. Census Bureau 2007). According to the Dover 2003 *Comprehensive Plan* (City of Dover Department of Planning 2003), the median household income for Kent County residents is estimated at \$40,950. Median household incomes are slightly lower for the City of Dover (\$38,669) and somewhat higher for the State of Delaware (\$47,381) as a whole. The Bureau of Labor Statistics (2005) estimates the mean annual household income for all occupations within the Dover Metropolitan Statistical Area to be \$33,820. Employment projections for the region indicate the continued growth of the service and government sectors, and a continued decline in manufacturing.

Dover AFB employs approximately 6,600 civilian and military personnel. The Base represents the third-largest industry in Delaware (City of Dover Department of Planning 2003) and has a considerable regional economic impact. The existing shoppette and gasoline service station currently employ eight part-time/full-time employees (Hayman 2007).

3.7 Infrastructure and Utilities

Electrical System

The City of Dover supplies Dover AFB with approximately 138 kilovolts of electrical power, of which, approximately 12,470 volts remains for consumption.

Natural Gas

Dover AFB receives its natural gas supply from a local utilities corporation via four pressure-regulated, metered stations. The natural gas system contains approximately 32,600 linear feet of distribution pipelines ranging from 0.75 inch to 6 inches in diameter. The natural gas system was recently upgraded and remains in good condition (Parsons Harland Bartholomew & Associates, Inc. 2001). An existing natural gas connection is located on the northwest side of Atlantic Street opposite the Preferred Alternative site (H. Michael Bohnsack Architects 2007).

Water Supply

Dover AFB obtains its potable water supply exclusively from groundwater sources. A water treatment plant, four primary production wells, numerous storage towers, and approximately 31 miles of water mains service the Base with potable water. Water consumption averages approximately 1.15 million gallons per day and existing wells produce an excess of approximately 1.9 million gallons per day. A 16-inch water main passes through the Preferred Alternative site.

Sanitary Sewer and Wastewater Systems

The sanitary sewer system at Dover AFB consists of an estimated 114,060 linear feet of collection piping. The Kent County Regional Treatment Plant provides wastewater treatment as no facilities are located on the Installation. An Industrial Wastewater Discharge Permit has been granted to Dover AFB for discharges to the Kent County Publicly Owned Treatment Works. The Kent County Regional Sewerage System currently operates at near capacity. Sanitary sewer access is available to the east and west of the Preferred Alternative site.

Heating System

The central heating plant is owned and operated by Dover AFB and consists of four boilers utilized to burn either natural gas or fuel oil; all four boilers can burn fuel oil, however, only two can burn natural gas. The overall central heating system, including its distribution system, is in poor to fair condition and some sections are in need of replacement (Parsons Harland Bartholomew & Associates, Inc. 2001).

Communications

Communications systems at Dover AFB consist of copper and fiber optic cable, voice and data networks, and radio systems. Limited fiber optic connectivity remains the primary shortfall of the communications system as a whole. An existing telephone connection is located on the northwest side of Atlantic Street opposite the Preferred Alternative site (H. Michael Bohnsack Architects 2007).

Solid Waste Management

No active landfills are on-Base, and the majority of solid wastes from Dover AFB are transported to the Central Delaware Waste Authority landfill in Sandtown, Delaware (Parsons Harland Bartholomew & Associates, Inc. 2001).

3.8 Transportation

The existing highway network surrounding Dover AFB consists of State Road (SR)-10, SR-1, SR-9, and U.S. 113. SR-10 provides direct access to Dover AFB from the west. SR-1 is a limited

access highway that runs from New Castle County north of the Installation to SR-9 along the southern border of the Base. SR-9 is a scenic route that runs in a north/south direction on the eastern side of Dover AFB. U.S. 113 converges with SR-1 and intersects the Base dividing the multi-family housing community and the golf course from the rest of the Installation.

The Dover AFB roadway system is regulated by three gates: the North Gate, the Main Gate, and a commercial gate (formerly the South Gate). The North Gate can be accessed from SR-10 and SR-1, as well as U.S. 113, while the Main Gate has two primary access points via SR-10 and SR-1. The Main Gate can also be accessed by an overpass to SR-1 from Lebanon Road, which provides the Eagle Heights multi-family housing community with direct access to the Base. On Base, Atlantic Street and 13th Street handle the majority of vehicular traffic, while minor collector roads include 8th Street, Evreux (12th Street), and 26th Street. Other features of the installation network include interconnecting bicycle/pedestrian routes for Base personnel and various parking areas.

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4 Environmental Consequences

This section provides an analysis of the environmental consequences of the Proposed Action. Table 4-1 provides a summary of the environmental consequences associated with implementing the Preferred Alternative and the No Action Alternative.

Table 4-1 Comparison of Impacts from Alternatives for the Proposed Action		
Resources / Issues (Threshold Criteria)	Preferred Alternative	No Action Alternative
Land Use (land use controls)	Positive Impact	Negative Impact
Hazardous Materials and Waste (hazardous materials on-site) (release of hazardous materials)	Negligible Impact	No Impact
Air Quality (emissions above <i>de minimis</i>)	Short-Term Negative Impact ^(a)	No Impact
Geology and Soils (soil capability loss)	Positive Impact	Negative Impact
Water Resources (exceeds stormwater capacity) (groundwater within construction limits)	Short-Term Negative Impact ^(a)	No Impact
Socioeconomics (demographic trends) (economic impact)	Negligible Impact	No Impact
Infrastructure and Utilities	Negligible Impact	No Impact
Transportation	Negligible Impact	No Impact
Environmental Justice (human health and safety risks)	No Impact	No Impact
Protection of Children (human health and safety risks)	Positive Impact	Negative Impact

Note: (a) Impacts would be minimized through the employment of best management practices (BMPs) during demolition and construction activities.

4.1 Land Use

Land use impacts would be considered significant if implementation of the Preferred Alternative or No Action Alternative lacked consistency with the future land use designations identified in the Dover AFB *General Plan*. In addition, a violation of the existing DNREC land use controls associated with Site ST04 would be considered a significant impact.

4.1.1 No Action Alternative

Under the No Action Alternative, the existing land use would not be altered and, as such, would remain in compliance with the *General Plan*. The DNREC land use controls would remain in effect, and the excavation and disposal of the contaminated soils in accordance with these controls would not occur. The selection of this alternative would not result in beneficial impacts to land use associated with the removal and proper disposal of contaminated soils.

4.1.2 Preferred Alternative

Implementation of the Preferred Alternative would be consistent with existing and future land use as identified in the *General Plan* (Figure 3-1). Due to the existing land use controls on the Preferred Alternative site, a Contaminated Media Management Plan will be submitted to the DNREC prior to commencement of excavation activities. The removal of the contaminated soils from Site ST04 would eliminate the need for the land use controls described in Section 3.1 “Land Use.” The selection of this alternative would result in beneficial impacts to land use.

4.2 Hazardous Materials and Waste

Impacts from the release of hazardous materials and waste into the environment would be considered significant if demolition and construction activities or post-construction operations resulted in contaminant levels in excess of the RBSLs for COCs in soil and groundwater for Site ST04. In addition, significant impacts would occur if health and safety measures did not address the potential for human exposure to Site ST04 COCs.

4.2.1 No Action Alternative

Under the No Action Alternative, hazardous materials and waste from ongoing operations would be maintained and disposed of in accordance with applicable regulations. Site ST04 contaminant levels would remain below the RBSLs for COCs, and there would be no potential for human exposure related to demolition and construction activities.

4.2.2 Preferred Alternative

Demolition and construction activities would necessitate the use of heavy machinery and other specialized equipment. Use and maintenance of this equipment has the potential to introduce small quantities of solvents, cleaning agents, greases, oils, hydraulic fluids and fuels (e.g., gasoline and diesel) into the environment. Paints and adhesives would also be utilized during construction

activities. However, the majority of equipment maintenance would occur off-site and within an authorized service shop.

Post-construction operations would have the potential to increase the generation of hazardous materials and waste since the new facilities would have capacity to service additional customers. Hazardous materials and waste generated from operations include used oil, tires, antifreeze, and other automobile fluids consistent with a car-care facility. These products are recyclable and would be handled, stored, and disposed of in accordance with the Dover AFB *Hazardous Waste Management Plan* and the *Installation Spill Prevention Control and Countermeasure (SPCC) Plan*. The Preferred Alternative would result in an increase in the amount of hazardous waste generated; however, with use of best management practices and recyclable products, these impacts would be minor.

Site ST04

Excavation and other earth-moving activities associated with the Preferred Alternative would result in the disturbance of contaminated soils. Historical soil analyses concluded that fuel and lead contaminants are present on-site (Table 3-1). All demolition and construction activities at this site will be coordinated with ERP personnel through the necessary chain-of-approval. A Health and Safety Plan will be prepared and require that any soil-disturbing activities be performed by 40-hour Hazardous Waste Operations and Emergency Response-trained and certified personnel. A Health and Safety Officer will monitor vapor during excavation. All soils excavated from Site ST04 will be sampled and analyzed in order to determine the appropriate method for, and location of, disposal. The Preferred Alternative would result in disturbance of contaminated soils; however, removal and proper disposal of the soils would eliminate land use controls and serve as a long-term beneficial impact.

Gasoline Storage Tanks

Dover AFB would remove the existing ASTs in accordance with Delaware's "Regulations Governing Aboveground Storage Tanks" (2005). Notification of AST removal would be provided to the DNREC no later than 10 days prior to commencement of such activities. The dismantling and disposal of the existing ASTs would occur at an off-site facility in accordance with applicable regulations and the American Petroleum Institute Recommended Practice 2015, "*Safe Entry and Cleaning of Petroleum Storage Tanks*" (2001). Following the removal of the ASTs, an assessment would determine on-site contamination levels in and around the storage tanks, extending to include areas proximate to the existing fuel station island (Seip 2007). In addition, any monitoring wells that require abandonment would be removed and disposed of in accordance with applicable federal, state, and local regulations.

AAFES would install two new 20,000-gallon USTs in accordance with Delaware's "Regulations Governing Underground Storage Tanks" (DNREC 1995). The design, installation, and use of the new USTs would comply with all applicable parts of DNREC Part B, "Standards for Petroleum Underground Storage Tank Systems." The regulations promulgate design and construction (e.g., secondary containment), installation, spill and overfill protection, and operation and maintenance standards. Post-installation leak detection tests and inventory control measures will be carried out by the Dover AFB, Fuels Management Branch.

The Preferred Alternative would result in the temporary disturbance of contaminated soils and used gasoline storage tanks; however, their removal and proper disposal would provide a beneficial impact. In addition, the installation of the new USTs would serve to reduce the potential for leaks and further soil contamination over the long-term.

Asbestos and Lead-Based Paint

According to historical data, the existing shoppette and car-care center contain asbestos and lead-based paint. These facilities would be demolished as part of the Preferred Alternative. All asbestos removed during demolition activities would be managed in accordance with AFI 32-1052 *Facility Asbestos Management* (1994).

This AFI specifies procedures for removal, encapsulation, enclosure, and repair activities associated with ACM-abatement projects. These actions are designed to protect contractors and Base personnel from exposure to airborne asbestos fibers. All friable ACM would be disposed of in accordance with applicable federal, state, and local regulations pertaining to asbestos. Non-friable ACM would be recycled in accordance with the Dover AFB *Solid Waste Management Plan* (436th Airlift Wing 2006c). Any lead-based paint waste from demolition activities will be collected and disposed of in accordance with applicable federal, state, and local regulations.

The Preferred Alternative would result in the temporary disturbance of ACM and lead-based paint; however, adherence to asbestos management procedures as outlined in the AFI would minimize adverse impacts. In addition, the removal of asbestos and lead-based paint from the shoppette and car-care center would result in a long-term benefit to human health and safety.

4.3 Air Quality

Impacts to air quality would be considered significant if project emissions exceeded the NAAQS, exceeded the *de minimis* exemption levels, or exposed sensitive receptors to increased

pollutant concentrations. Potential emissions for the ozone precursor pollutants (NO_x and VOCs) were estimated for the General Conformity Rule applicability analysis.

4.3.1 No Action Alternative

Under the No Action Alternative, there would be no new construction activity and the existing infrastructure would remain intact and operational. The level of service would remain at its current capacity, and travel between the separate facilities and off-Base also would remain constant. Therefore, no changes to the current air quality would occur if this alternative was selected.

4.3.2 Preferred Alternative

Implementation of the Preferred Alternative would result in emissions during demolition, construction, and post-construction operations. Sources of temporary emissions would include vehicle operations, grading and bulldozing, asphalt paving, architectural coatings, and the excavation, backfill, and compaction of soils. Delaware Regulation No. 6 requires control of particulate emissions from construction activities. These controls would be implemented during demolition and construction activities and would include proper vehicle maintenance and the watering down of graded areas.

Post-construction operational emissions would include those generated from customer, delivery, and employee vehicles, and the VOC emissions from the fuel dispensers. It is assumed that implementation of the Preferred Alternative would not result in an increase of vehicle emissions because the collocated facilities on the Base would reduce the number of commuter trips to and from off-Base gas stations, stores, and restaurants. The corresponding reduction in auto emissions would constitute a positive air quality impact to the community.

Emissions of VOCs related to the dispensing of fuel are regulated under Delaware Air Control Regulations (Title 7 DNREC 1100 Air Quality Management Section, 1102 Permits [formerly Delaware Reg. No. 2]). The installation of new equipment would require Dover AFB to modify its existing Title V permit. In addition, Delaware has established requirements for fuel dispenser and storage tank vapor recovery systems. In accordance with Delaware's Gasoline Vapor Recovery Regulations (2002), Delaware Regulation Number 24, Section 26, "Control of Volatile Organic Compounds," Stage I vapor recovery is required for any gasoline storage tanks over 550 gallons; Stage II vapor recovery is required for gasoline dispensing facilities with a throughput exceeding 10,000 gallons. The new facilities would be constructed and operated in accordance with all applicable state regulations pertaining to the dispensing and storing of fuel.

Air emissions considered under other permitting programs are not evaluated for conformity, and total annual emissions from these sources are not considered in this analysis. For the purposes of completing this air quality analysis, the assumed timeframe for the implementation of the Preferred Alternative is one year based on five eight-hour days per week. Emission estimates also assume the use of one tracked loader, one wheeled loader, and one motor grader for grading and paving operations; and, one wheeled loader and one haul truck for debris and material hauling over the duration of the project. The analysis considers a variety of particulate emission factors associated with the Proposed Action such as wind erosion from soil piles. For surface-paving activities, VOC emissions were assumed to be 0.262 pounds per acre per day in accordance with the Sacramento Metropolitan Air Quality Management District (SMAQMD) *Air Quality Thresholds of Significance* (1994). The estimated emissions from the construction activities are listed in Table 4-2.

Table 4-2 Demolition and Construction Air Emission Estimates Associated with the Proposed Action					
Activity	Volatile Organic Compounds (VOCs)	Nitrogen Oxides (NO_x)	Sulfur Dioxide (SO₂)	Carbon Monoxide (CO)	Particulate Matter of Less Than 10 Microns (PM₁₀)
Grading Equipment	1.9	17.8	1.2	3.9	1.5
Asphalt Paving	12.3	0.0	0.0	0.0	0.0
Material Hauling	2.7	39.3	2.6	8.5	2.8
Demolition					131.3
Total Emissions (pounds per day)	16.9	57.2	3.8	12.4	135.6
Total Emissions (tons per year)	2.1	7.1	0.5	1.5	17.0

Total VOC and NO_x emissions from implementation of the Preferred Alternative would be below the Conformity Rule *de minimis* thresholds of 100 tons per year for NO_x and 50 tons per year for VOCs with respect to *moderate nonattainment* for the 8-hour ozone standard. As such, a conformity determination is not required and impacts to air quality would not be considered significant. The air conformity analysis and Record of Non-Applicability are provided in Appendix B.

4.4 Geology and Soils

Impacts to soils would be considered significant if implementation of the Preferred Alternative or No Action Alternative altered aquifer recharge zones or otherwise contaminated the

soil medium. There would be no significant impacts to unique geological features or mineral resources.

4.4.1 No Action Alternative

Under the No Action Alternative, the contaminated soils would not be excavated and, therefore, would not require disposal. The selection of this alternative would result in a negative impact due to the continued presence of contaminated soils.

4.4.2 Preferred Alternative

The Preferred Alternative site has been previously disturbed by development activities. Implementation of this alternative would result in a positive impact to the local environment as contaminated soils would be excavated and disposed of in accordance with applicable federal, state, and local regulations. To date, the amount of contaminated soils to be excavated from Site ST04 is unknown as the project remains in the design phase.

4.5 Water Resources

Impacts to water resources would be considered significant if implementation of the Preferred Alternative or No Action Alternative resulted in changes to water quality or supply or violated established laws or regulations. Groundwater resources would be impacted if contaminant levels exceeded the TMB RBSLs noted in Table 3-1. Impacts to surface waters would be considered significant if contaminated runoff and/or sediment from the project site adversely affected the St. Jones River or Little River, the 303(d)-listed water bodies described in Section 3.5. No unique hydrologic characteristics are associated with the Preferred Alternative site.

4.5.1 No Action Alternative

Under the No Action Alternative, the new AAFES facility would not be constructed. Groundwater quality or supply would not be impacted and the existing levels of fuel and lead contaminants would remain below the TMB-prescribed RBSLs. The selection of this alternative would not increase stormwater runoff or sedimentation loads to the St. Jones River.

4.5.2 Preferred Alternative

Excavation and trenching for the new USTs could breach the water table. To prevent a negative impact on the stability of the tanks from buoyant forces, an anchor system would be incorporated during tank placement. Dewatering operations would also provide a stable platform

upon which to place and anchor the tanks. Groundwater contamination associated with Site ST04 would be localized in that potential impacts would be confined to the surficial Columbia aquifer (DiSalvo 2007).

At present, the Preferred Alternative site contains approximately 85 percent impervious surface area, which drains to Outfall 007 (see Figure 3-1) and, ultimately, into the St. Jones River. The Preferred Alternative would result in an 18-percent reduction in impervious surface area, resulting in a 13-percent overall decrease in stormwater runoff. In the past, undersized culverts leading to Outfall 007 have flooded during heavy rainfall events. A reduction in impervious surface on the Preferred Alternative site would reduce flooding on the golf course and supplement the treatment wetlands by reducing runoff from the project site.

The Delaware State Code requires that all project sites greater than 5,000 square feet must prepare a Sediment and Stormwater Management Plan (SSWMP), which includes administrative and project design requirements. All stormwater management practices must be in accordance with the *Delaware Erosion and Sediment Control Handbook*. Per this guidance document, a sediment trap would be constructed and maintained during implementation of the Preferred Alternative (DiSalvo 2007). The SSWMP would also implement standard best management practices (BMPs) for erosion and sediment control (e.g., periodic water applications, silt fences, and cut and fill balancing) as necessary, including post-construction mitigation as required by the State code.

To ensure the proper implementation of erosion and sediment controls for stormwater management, a Notice of Intent would be filed with the DNREC prior to the start of demolition and construction activities (at least five days in advance of the start date). Once the Notice of Intent is submitted, general coverage under the Base's National Pollutant Discharge Elimination System Stormwater Permit would continue until the submission of a completed Notice of Termination and until it is determined that all items and conditions of the SSWMP comply with the Delaware sediment and stormwater regulations. Given the proper implementation of these mitigation measures, impacts to 303(d)-listed water bodies would be temporary and minor.

4.6 Socioeconomics

Impacts to socioeconomic resources would be considered significant if implementation of the Preferred Alternative or No Action Alternative resulted in an adverse change to the population, employment, or income potential of the Dover region, or if Dover AFB employees were displaced as a result of the action.

4.6.1 No Action Alternative

Under the No Action Alternative, there would be no change to existing local and regional population densities. Employment rates and income levels would remain the same; however, this alternative precludes the collocation of the Class Six store with the other facilities and the expansion of customer services offered by AAFES. As a result, the selection of this alternative would not offer the potential for increasing future employment through an expansion of AAFES services.

4.6.2 Preferred Alternative

Implementation of the Preferred Alternative would not significantly impact local and regional population densities. Demolition and construction contractors would be sought from local businesses providing a minor socioeconomic benefit. During demolition and construction activities, existing shopette employees would be relocated on-Base to minimize impacts to employment and associated incomes. Although the Preferred Alternative would have a minimal impact on the local and regional economy, improved convenience and upgraded facilities would provide a social benefit to authorized personnel living and/or working at Dover AFB.

4.7 Infrastructure and Utilities

Impacts to infrastructure and utilities would be considered significant if existing connections were not in place to service the new facilities, or if the use of the new facilities exceeded the operational capacity of the system components described in Section 3.7.

4.7.1 No Action Alternative

Under the No Action Alternative, the existing utility infrastructure would remain in-service and would not be demolished. As such, the Base utility network would not benefit from the installation of new infrastructure. The selection of this alternative would not result in improved energy efficiency or reduce the potential for gasoline storage tank leaks.

4.7.2 Preferred Alternative

The Preferred Alternative has been located to minimize the impact on existing infrastructure and utilities. The utilization of existing utility connections would require minor infrastructure extensions (H. Michael Bohnsack Architects 2007), but would not result in significant impacts. The Preferred Alternative would provide a beneficial impact in terms of infrastructure upgrades that improve energy efficiency.

There would be no adverse impacts to the water supply and/or distribution system at Dover AFB associated with the Preferred Alternative. The capacity of the system is adequate to support demolition and construction activities, as well as post-construction operations. The Preferred Alternative would create a negligible increase in electrical, natural gas, sanitary sewer, and heating demand associated with demolition and construction activities and post-construction operations. Car wash discharges to the sanitary sewer system would not exceed 25,000 gallons per day and, as such, would not require a discharge permit from the Kent County Department of Public Works (Newton 2007). The Preferred Alternative would provide a minor beneficial impact to the Installation electrical and communications system as the new facilities would contain more advanced equipment. In accordance with the Dover AFB *Solid Waste Management Plan*, contractors would transport demolition and construction debris to an off-site permitted landfill facility. Adverse impacts would be minimized by requiring contractors to recycle debris to the maximum extent possible.

4.8 Transportation

Transportation impacts would be considered significant if traffic counts, roadway design and geometry, or signalization changed the capacity and efficiency of the roadway access and transportation system at Dover AFB. The existing highway network surrounding the Base has proven adequate to handle the influx of private, industrial, and commercial vehicles (Parsons Harland Bartholomew & Associates, Inc. 2001).

4.8.1 No Action Alternative

Under the No Action Alternative, demolition and construction activities would not occur. Tuskegee Avenue would not be abandoned and baseline traffic conditions would not be altered. The Dover AFB transportation network would continue to handle and distribute vehicular movements at the current level of service.

4.8.2 Preferred Alternative

Implementation of the Preferred Alternative would result in the abandonment of Tuskegee Avenue for parking and/or building placement. Parking for the chapel (Building 419) and bowling alley (Building 420) would be displaced by construction of the new facilities, but would not require replacement (H. Michael Bohnsack Architects 2007). Overall, the Dover AFB transportation network would continue to handle and distribute vehicular movements with minimal congestion or delays (Lombard 2007); however, there would be a temporary, negligible increase in traffic associated with

demolition and construction activities. No long-term adverse impacts to the Base transportation network would result from implementation of the Preferred Alternative.

4.9 Environmental Justice

According to EO 12898 *Federal Actions to Address Environmental Justice in Minority and Low Income Populations*, agencies must ensure that federal actions do not disproportionately impose adverse effects on minority or low-income areas. Implementation of the No Action Alternative or the Preferred Alternative would not disproportionately affect minority or low-income communities, nor cause the displacement of any residents, eliminate jobs, or affect wages.

4.10 Protection of Children from Environmental, Safety and Health Risks

EO 13045 *Protection of Children from Environmental Health Risks and Safety Risks*, April 1997, directs federal agencies to “identify and assess environmental health risks and safety risks that may disproportionately affect children.” Implementation of the Preferred Alternative would not result in a disproportionate risk to children from environmental health risks or safety risks; rather, local environmental conditions would improve as a result of soil remediation activities. Conversely, the selection of the No Action Alternative would require continued adherence to land use controls that protect sensitive populations from exposure to contaminants present in soil and groundwater.

4.11 Cumulative Impacts

In accordance with the Dover AFB draft *Environmental Assessment of Installation Development* (2007), no cumulative impacts would result from demolition, construction, and infrastructure projects planned and programmed over the next 5 years. Due to the temporary nature and limited scope of the Proposed Action, and the mitigation measures described above, cumulative impacts would not result from implementation of the Preferred Alternative. As noted in Table 4.1, the Preferred Alternative would result in a net positive impact on the environment and reduce future potential risks to human health and safety.

4.12 Irreversible and Irretrievable Commitment of Resources

Irreversible short-term negative impacts from the implementation of the Preferred Alternative would result from demolition and construction activities. These impacts would include periodic high

noise levels and fugitive dust emissions, temporary increases in water and electricity consumption, and a slight increase in solid waste generation. The site of the Preferred Alternative is already developed; therefore, there would be no anticipated irreversible long-term adverse environmental impacts.

5 Distribution of the Draft Environmental Assessment

The NEPA and CEQ regulations require that the environmental effects from the Proposed Action and alternatives be considered in the decision-making process. Preparation of this EA must precede final decisions regarding the action, and the document must be available to inform decision-makers and the public of potential environmental consequences/impacts. Based on the Installation's Category II designation, regulatory agency consultation is not required for this EA.

A Notice of Availability for public review was provided in the *Delaware State News* (Appendix I). Per CEQ regulations (§1503.1), this process helps decision makers and the public to understand and have input on the environmental impacts of federal actions. This EA was distributed to the Dover Public Library (302-736-7030; 45 S. State Street, Dover, DE 19901) for comment during the public review period. No comments were received from members of the public during the comment period of 17 October 2007 through 16 November 2007.

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Appendix A

Contractor Requirements

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Contractor Requirements

The following are necessary contract requirements that would be associated with the Proposed Action:

- Compliance with all applicable permit and management plan requirements listed in Table 1.
- Compliance with applicable Occupational Safety and Health Administration regulations concerning occupational hazards and specifying appropriate protective measures for all employees.
- Compliance with the Department of Defense fire protection design standards for new facilities (UFC 3-600-01).
- Compliance with applicable U.S. Environmental Protection Agency regulations for the procurement of recycled content products, including documentation of contract/call/delivery order completion indicating the amount of products provided with recycled content.
- Submission of a Sediment and Stormwater Management Plan and approval by the State prior to commencement of demolition and construction activities.
- Submission of a Contaminated Media Management Plan and approval by the State prior to excavation and disposal of the contaminated soils.
- Submission of information and documentation necessary to obtain hazardous materials usage authorization.
- At a minimum, the recycling of items from facility demolition and construction would include: all scrap metal including but not limited to steel, aluminum, copper, brass, and lead; wood; polyvinyl chloride piping/plastics; and, concrete and asphalt.

The following actions would be implemented:

- Protection of stormwater drains during demolition and construction activities, and the clearance of all debris after project completion.
- Installation of silt fencing along the edge of the project site prior to any grading operations and until the disturbance area has been stabilized.
- Installation of hay bales or gravel check dams to divert flow and dissipate energy in areas subject to stormwater surge.
- Protection of trees and shrubs outside the development envelope. If unavoidable, pruning would be in accordance with the standards established by the American Society for Testing and Materials.
- Utilization of native trees and shrubs not particularly attractive to wildlife. Contractor would be responsible for landscaping one year after completion of the project.
- Watering of exposed soils twice daily to minimize dust emissions.
- Covering of demolition debris or construction materials that may be a source of airborne dust emissions.

- Reduction in demolition and construction vehicle speeds, and the covering of demolition debris, construction materials, and truck beds to minimize airborne dust emissions.
- Turning off automobile and construction vehicle engines when not in use.

The following actions are prohibited:

- The dumping of spoil material into any stream corridor, wetland, surface water body, or at any unspecified location.
- The indiscriminate, arbitrary, or capricious operation of equipment in any stream corridor, wetland, or surface water body.
- The pumping of silt-laden water from trenches or other excavations into any surface water body, or at any unspecified location.
- The disposal of trees, brush, and other debris in any stream corridor, wetland, surface water body, or at any unspecified location.
- The permanent or unspecified alteration of the flow line of a stream.
- The open burning of demolition and construction debris.
- The use of chemicals to control dust emissions.

Table 1 Environmental, Safety and Health Compliance Requirements		
Source	Responsible Entity	Requirement
Dover AFB General Plan	Dover AFB 436 th Airlift Wing	Consistency
Dover AFB Stormwater Pollution Prevention Plan	Dover AFB 436 th Airlift Wing	Consistency
Dover AFB Architectural Compatibility Plan	Dover AFB 436 th Airlift Wing	Consistency
Dover AFB Hazardous Waste Management Plan	Dover AFB 436 th Airlift Wing	Consistency
Dover AFB Installation Spill Prevention Control and Countermeasure (SPCC) Plan	Dover AFB 436 th Airlift Wing	Consistency
Dover AFB Natural Resources Plan	Dover AFB 436 th Airlift Wing	Consistency
Dover AFB Solid Waste Management Plan	Dover AFB 436 th Airlift Wing	Consistency
Dover AFB Asbestos Operating and Management Plan	Dover AFB 436 th Airlift Wing	Consistency
Occupational Safety and Health Administration (OSHA) Regulations	Contractor and Operations Personnel	Consistency
Fire Protection (UFC 3-600-01)	Dover AFB 436 th Airlift Wing	Consistency
Affirmative Procurement	Dover AFB 436 th Airlift Wing	Documentation
Construction General Permit	AAFES	Submittal of a Sediment and Stormwater Management Plan ^(a)
Delaware AST Regulations	Dover AFB 436 th Airlift Wing	AST Activity Notification ^(b)
Delaware UST Regulations	AAFES	UST System Certification ^(c)

Table 1 Environmental, Safety and Health Compliance Requirements		
Source	Responsible Entity	Requirement
Gasoline Vapor Recovery Regulations	AAFES	Stage I and II Recovery ^(d)
Land Use Controls	Dover AFB 436 th Airlift Wing	Approved Contaminated Media Management Plan
Title V Compliance	Dover AFB 436 th Airlift Wing	Minor Permit Modification ^(e)
General Conformity	AAFES	Air Conformity Analysis and RONA ^(f)

Notes:

- (a) See Appendix G of this Environmental Assessment (EA).
(b) See Appendix C of this EA.
(c) See Appendix E of this EA.
(d) See Appendix D of this EA.
(e) See Appendix F of this EA.
(f) See Appendix B of this EA.

Key:

- AAFES = Army and Air Force Exchange Service.
AFB = Air Force Base.
AST = aboveground storage tank.
AT/FP = anti-terrorism/force protection.
RONA = Record of Non-Applicability.
UFC = Unified Facilities Criteria
UST = underground storage tank.

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Appendix B

Air Conformity Analysis and Record of Non-Applicability (RONA)

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GENERAL CONFORMITY - RECORD OF NON-APPLICABILITY (RONA)

for

Proposed Construction of a Shoppette, Class Six Store, and Car-Care Facilities at Dover Air Force Base, Kent County, Delaware

General Conformity under the Clean Air Act, Section 176 has been evaluated for this project according to the requirements of 40 Code of Federal Regulations (CFR) 51, Subpart B. The requirements of this rule are not applicable to this project/action because total direct and indirect emission from this project have been and are below the conformity threshold value established at 40 CFR 51.853(b)(1) of 50 tons per year for volatile organic compounds (VOCs) and 100 tons per year for nitrogen oxides (NO_x) for a moderate ozone non-attainment area.

SIGNED:

26 DECEMBER 2007
Date

Vic Sowers
VIC SOWERS, Colonel, USAF

Commander
436th Mission Support Group

**Dover AFB
Construction of a Gas Station/Shopette**

New Construction (square feet)	12,530
New Paved Area (sq ft)	204,500.0
Demolition, existing building (square feet)	6,580
Demolition, existing pavement (square feet)	85,582
Demolition, airfield pavement (square feet)	190,000
Total Building (sq ft)	12,530
Total paved areas (sq ft)	204,500
Total demolition area (sq ft)	282,162
Total Construction Impact Area (sq ft)	282,162.0

Construction Site Air Emissions

Combustive Emissions of VOCs (ROG), NOx, SO2, CO and PM10 Due to Construction

Input:

Total Building Area: 12,530 ft²
 Total Paved Area: 204,500 ft²
 Total Disturbed Area: 6.5 acres
 Construction Duration: 1.0 years
 Annual Construction Activity: 250 days/yr
 Total Demolition: 282,162 ft²

Results:[Average per Year Over the Construction Period]

	ROG	NOx	SO2	CO	PM10
Emissions, lbs/day	16.9	57.2	3.8	12.4	135.6
Emissions, tons for project	2.1	7.1	0.5	1.5	17.0
TOTAL EMISSIONS tons/yr	2.1	7.1	0.5	1.5	17.0

Calculation of Unmitigated Emissions

Summary of Input Parameters

	ROG	NOx	SO2	CO	PM10
Total new acres disturbed:	6.5	6.5	6.5	6.5	6.5
Total new acres paved:	4.7	4.7	4.7	4.7	4.7
Total new building space, ft ² :	12530.0	12530.0	12530.0	12530.0	12530.0
Total years:	1.0	1.0	1.0	1.0	1.0
Area graded, acres:	6.5	6.5	6.5	6.5	6.5
Area paved, acres:	4.7	4.7	4.7	4.7	4.7

Annual Emissions by Source

	ROG	NOx	SO2	CO	PM10
Grading Equipment	1.9	17.8	1.2	3.9	1.5
Asphalt Paving	12.3	0.0	0.0	0.0	0.0
Stationary Equipment	0.0	0.0	0.0	0.0	0.0
Mobile Equipment	0.0	0.0	0.0	0.0	0.0
Material Hauling	2.7	39.3	2.6	8.5	2.8
Architectural Coatings (Non-Res)	0.0	0.0	0.0	0.0	0.0
Demolition					131.3
Fugitive Dust emissions					
Total Emissions (lbs/day):	16.9	57.2	3.8	12.4	135.6
Emissions, tons/yr	2.1	7.1	0.5	1.5	17.0

Emission Factors

Source: Sacramento Metropolitan Air Quality Management District, 1994, Air Quality Thresholds of Significance.

Source	SMAQMD Emission Factor				
	ROG	NOx	SO2 *	CO *	PM10
Grading Equipment	2.91E-01 lbs/acre/day	2.75E+00 lbs/acre/day	0.18 lbs/acre/day	0.60 lbs/acre/day	2.32E-01 lbs/acre/day
Asphalt Paving	2.62E+00 lbs/acre/day	NA	NA	NA	NA
Stationary Equipment	1.68E-04 lbs/day/ft ²	1.37E-04 lbs/day/ft ²	9.11E-06 lbs/day/ft ²	2.97E-05 lbs/day/ft ²	8.00E-06 lbs/day/ft ²
Mobile Equipment	2.56E-04 lbs/day/ft ²	2.59E-03 lbs/day/ft ²	1.20E-04 lbs/day/ft ²	0.0026 lbs/day/ft ²	1.86E-04 lbs/day/ft ²
Material Hauling	4.20E-01 lbs/acre/day	6.07E+00 lbs/acre/day	0.40 lbs/acre/day	1.31 lbs/acre/day	4.30E-01 lbs/acre/day
Architectural Coatings (Non-Res)	8.15E-02 lbs/day/ft	NA	NA	NA	NA

* Factors for grading equipment and stationary equipment are calculated from AP-42 for diesel engines using ratios with the NOx factors.

Factors for mobile equipment are calculated from ratios with Mobile5a 2001 NOx emission factors for heavy duty trucks for each site.

Grading Equipment assumes the use of one Tracked loader, one Wheeled loader, and one Motor grader for each 10 acres of disturbed area, used 8 hours per day

Stationary Equipment assumes the use of one piece of stationary equipment per 10,000 sq ft of building constructed, used 8 hours per day

Mobile Equipment assumes the use of one 175 hp forklift and one Miscellaneous piece of equipment for each 10,000 sq ft of building constructed, used 8 hours per day

Material Hauling Equipment assumes the use of one Loader and one Haul Truck for each 10 acres of disturbed area, used 8 hours per day.

Construction Emission Factor

Calculation of PM₁₀ Emissions Due to Site Preparation (Uncontrolled).

Revised 16 June 1997.

User Input Parameters / Assumptions

Acres graded per year:	6.5	acres/yr
Grading days/yr:	21	days/yr (From "grading")
Exposed days/yr:	90	days/yr graded area is exposed
Grading Hours/day:	8	hr/day
Soil piles area fraction:	0.10	(Fraction of site area covered by soil piles)
Soil percent silt, s:	15	%
Soil percent moisture, M:	2	%
Annual rainfall days, H:	36	days/yr that rainfall exceeds 0.01 inch (L.A., Cal)
Wind speed > 12 mph %, I:	12	%
Fraction of TSP, J:	0.5	(SCAQMD recommendation)
Mean vehicle speed, S:	5	mi/hr (On-site)
Dozer path width:	5	ft
Qty construction vehicles:	1	vehicles
On-site VMT/vehicle/day:	5	mi/veh/day (Excluding bulldozer VMT during grading)

Emissions Due to Soil Disturbance Activities

Operation Parameters (Calculated from User Inputs)

Grading duration per acre	25.9	hr/acre
Bulldozer mileage per acre	1.7	VMT/acre (Miles traveled by bulldozer during grading)
Construction VMT per day	4	VMT/day
Construction VMT per acre	12.6	VMT/acre (Travel on unpaved surfaces within site)

Equations Used (Corrected for PM₁₀)

Operation	Empirical Equation	Units	AP-42 Section (4th Edition)
Bulldozing	$0.75(s^{1.5})/(M^{1.4})$	lbs/hr	8.24, Overburden
Grading	$(0.60)(0.051)S^{2.0}$	lbs/VMT	8.24, Overburden
Vehicle Traffic	$(3.72/(M^{4.3}))^{*6}$	lbs/VMT	8.24, Overburden

Source: Compilation of Air Pollutant Emission Factors, Vol. I, U.S. Environmental Protection Agency AP-4 Section 8.24, Western Surface Coal Mining (4th Edition), 1995.

Calculation of PM₁₀ Emission Factors for Each Operation

Operation	Emission Factor (mass/ unit)	Operation Parameter	Emission Factor (lbs/ acre)
Bulldozing	16.51 lbs/hr	25.9 hr/acre	427.6 lbs/acre
Grading	0.77 lbs/VMT	1.7 VMT/acre	1.3 lbs/acre
Vehicle Traffic	0.11 lbs/VMT	12.6 VMT/acre	1.4 lbs/acre

Emissions Due to Wind Erosion of Soil Piles and Exposed Graded Surface

Source: Southern California Air Quality Management District, CEQA Air Quality Handbook, April 1993.

Soil Piles EF = $1.7(s/1.5)[(365 - H)/235](I/15)(J) = (s)(365 - H)(I)(J)/(3110.2941)$, p. A9-99.

Soil Piles EF = 9.5 lbs/day/acres covered by soil piles

Consider soil piles area fraction so that EF applies to graded area

Soil piles area fraction: 0.10 (Fraction of site area covered by soil piles)
 Soil Piles EF = 0.95 lbs/day/acres graded

Graded Surface EF = 26.4 lbs/day/acre (recommended in CEQA Manual, p. A9-93).

Calculation of Annual PM10 Emissions

Source	Emission Factor	Graded Acres/yr	Exposed days/yr	Emissions lbs/yr	Emissions tons/yr
Bulldozing	427.6 lbs/acre	6.48	NA	2,770	1
Grading	1.3 lbs/acre	6.48	NA	8	0
Vehicle Traffic	1.4 lbs/acre	6.48	NA	9	0
Erosion of Soil Piles	1.0 lbs/acre/day	6.48	90	554	0
Erosion of Graded Surface	26.4 lbs/acre/day	6.48	90	15,391	8
TOTAL				18,732	9

Construction (Grading) Emissions

Estimate of time required to grade a specified area.

Updated 17 June 1997.

Input Parameters

Construction area 6.5 acres/yr
Qty Equipment: 1

Assumptions.

Terrain is mostly flat.

Terrain is populated with medium brush; trees are negligible.

An average of 6" soil is removed during stripping.

An average of 6" soil is excavated from one half of the site and backfilled to the other half of the site; no soil is hauled off-site or borrowed.

200 hp bulldozers are used for site clearing.

300 hp bulldozers are used for stripping, excavation, and backfill.

Vibratory drum rollers are used for compacting.

Stripping, Excavation, Backfill and Compaction require
an average of two passes each.

Excavation and Backfill are assumed to involve only half of the site.

Calculation of days required for one piece of equipment to grade the specified area.

Source: Means, R.S., 1992, Means Heavy Construction Cost Data, 6th Edition.

Means Line No.	Operation	Description	Output	Units	Acre/(equip)(day)	(Equip)(day)/acre	Acres/yr	(Equip)(days)/yr
021 108 0550	Site Clearing	Dozer & rake, medium brush	0.6	acre/day	0.6	1.67	6.48	10.80
021 144 0300	Stripping	Topsoil & stockpiling, adverse soil	1,650	cu. yd/day	2.05	0.49	6.48	3.17
022 242 5220	Excavation	Bulk, open site, common earth, 150' haul	800	cu. yd/day	0.99	1.01	3.24	3.27
022 208 5220	Backfill	Structural, common earth, 150' haul	1,950	cu. yd/day	2.42	0.41	3.24	1.34
022 226 5020	Compaction	Vibrating roller, 6 " lifts, 3 passes	1,950	cu. yd/day	2.42	0.41	6.48	2.68
TOTAL								21.25

Calculation of days required for the indicated pieces of equipment to grade the designated acreage

(Equip)(day)/yr: 21.25

Qty Equipment: 1

Grading days/yr: 21.25

Round to 21 grading days/yr

ANNUAL DEMOLITION PARTICULATE EMISSIONS		
Space To be demolished ¹	(SQ FT)	282,162
Emission from Structure removal ²	(LBS)	143.9
Emissions from Debris removal ³	(LBS)	2652.3
Emissions from Vehicle Activity ⁴	(LBS)	30036.1
Total PM ₁₀ emissions	LBS/YR	32832.4
Total PM ₁₀ emissions	TPY	16.42

Notes:

- (1) All airfield and paved surface demolition is conservatively considered by
- (2) PM emission from structure takedown based on sq ft *EF.
- (3) PM emission from debris removal based on sq ft *EF
- (4) PM emission from on-site vehicle activity based on sq ft *EF

Source: U.S. Environmental Protection Agency, September 1992, Fugitive Dust Background Document and Technical Information Document for Best Available Control Measures, EPA-450/2-92-004 (all EFs in EPA document converted to English units).

Appendix C
Aboveground Storage Tank
Activity Notification

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Aboveground Storage Tank Activity Notification

Delaware Department of Natural Resources
and Environmental Control

Mail original completed form to:

If you have questions call: (302) 395-2500
or fax: (302) 395-2555

PLEASE PRINT OR TYPE

DNREC/AST
391 Lukens Drive
New Castle, DE 19720

Provide all requested information. Activity Notification Form must be received, by the Tank Management Branch, at least ten (10) days prior to commencement of the activity.

Owner information:

Tank Owner: (BUSINESS or LAST Name, FIRST Name)			Owner Contact person:	
Owner Mailing Address:			Contact Phone:	Contact Fax:
			Contact e-mail address:	
City:	State:	Zip:	Country:	Contact person signature: Date:

Facility Information:

AST Facility ID#:

Facility Name:			Facility Contact Person:	
Mailing Address:			Phone:	Fax:
City:	ST: DE	Zip Code:	e-mail:	
Has this facility ever been involved with any of the following DNREC interests for a site investigation? <input type="checkbox"/> SIRB <input type="checkbox"/> Haz Waste <input type="checkbox"/> UST				
If so, are there monitoring wells on site? YES NO (Circle One)			Does an on-site well supply drinking water for your facility? Y/N	

Tank Information: (one tank per form only)

Tank ID:	Capacity: (Gallons)	Current Product Stored:	*All previous products stored:	Date of installation: (MM/DD/YY)
Orientation: Circle one Horizontal / Vertical	Diameter: (feet)	Length/Height: (feet)		Approx. length of underground piping: (ft.)
Indicate base tank is constructed on: <input type="checkbox"/> Concrete <input type="checkbox"/> Soil <input type="checkbox"/> Sand <input type="checkbox"/> Other (describe)				

* All previous products stored for the history of the tank regardless of tank ownership

Tank Activity: (Check one and complete requested information)

1. Permanent closure in place:	Date tank to be permanently closed:
2. Tank relocated to new location:	Date to be moved:
	New Location: (address or distance in feet)
3. Tank removal:	Date to be removed:
4. Change in product stored:	Date of change:
	New product stored:
5. Tank temporarily out of service - Date:	6. Tank placed back in service - Date:
7. Internal or External Inspection	Date of inspection:
8. Retrofit/Upgrade:	Date and description of Retrofit/Upgrade:

Attach site map with location of the tank, buildings, drinking water wells, and any monitoring wells for tank activities 1, 2, 3, & 4.

Appendix D

**Applications for Stage I and Stage II
Vapor Recovery Systems**

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GASOLINE DISPENSING FACILITY
PERMIT APPLICATION INSTRUCTIONS FOR
CONSTRUCTION & OPERATION OF STAGE I (ONE) VAPOR RECOVERY SYSTEMS

General Information:

This application must be completed accurately and in its entirety. Provide all Facility, Owner, and Contractor information requested. If you have already installed Stage I controls and are currently permitted, please indicate such under current status. Receipt of a completed construction permit application shall serve as 60 days notice for the Department's review and approval process. (In the event of an incomplete, or otherwise inaccurate application, the 60-day review process will begin when the Department has *all* the required information.) However, construction must *not* begin before the permit is issued.

Construction Permit Application:

This section is to be completed, submitted to the Department and a construction permit issued **PRIOR** to starting construction. The tank owner must sign the completed application.

For each gasoline tank on site, be sure to indicate the following: (*numbers correspond to required information on permit application*)

1. The tank ID# as it appears on the UST registration certificate or AST registration form.
2. List grade of gasoline (2a) and tank capacity in gallons (2b)
3. Is the fill tube positioned no more than 6" from the tank bottom? Enter YES or NO
4. Describe the type of overfill protection used for the tank system, i.e., float vent valve, fill line restrictor, high level alarm or other approved device.
5. If there is more than one tank at the site, indicate whether or not the vent lines are manifolded together.
6. On a separate sheet, list tanks and ID #s that are manifolded and diagram the vent and vapor configuration.
7. Indicate whether the vapor and fill connections are standard or swivel type.
8. Indicate whether there is a remote fill and/or remote vapor connection. NOTE: Float vent valves can not be used with remote fill and/or vapor configurations.
9. Complete the equipment table.

Sign and date the application and return the form along with the construction permit fee of \$120 made payable to the *State of Delaware* to: DNREC-AWM-TMB, 391 Lukens Drive, New Castle, DE 19720

In addition, Vapor Recovery Regulations require the advertisement of virgin sites in local newspapers. There will be an additional \$225 fee assessed to recover DNREC's cost of the required advertising.

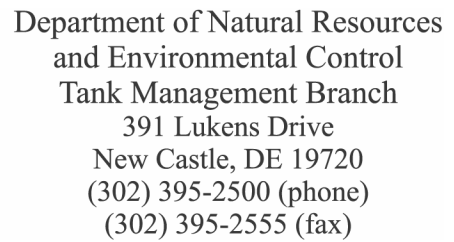
Upon approval by the Department, you will receive a Construction Permit and a copy of your application at which time installation of the Stage I Vapor Recovery system may begin. *Save this copy of your permit application.* You will need to resubmit it as the operating permit application.

Operating Permit Application:

Complete this section and mail to the TMB *after* construction is finished but **PRIOR** to beginning operations. The construction permit serves as a temporary operating permit for up to sixty (60) days after completion of testing to allow time for the operating permit to be processed and issued. You will be billed for the annual \$75 operating permit fee during our annual tank registration fee billing cycle. Upon approval by the Department an Operating Permit will be issued. This permit will be automatically renewed upon payment of the annual \$75 fee.

Permit Amendments:

When any changes are planned to the system that will change the equipment listed in the current application and operating permit, a new construction permit application must be completed and an amended permit received **BEFORE** the new equipment can be installed. Submission of the Vapor Recovery Notification form will help make this determination. An amended operating permit application must also be submitted after installation of the new equipment is completed. Note: any installation of equipment not specified in the current permit constitutes a permit violation and could be subject to enforcement action by the Department.



A permit is required to construct and operate a Stage I Vapor Recovery System if you dispense or have dispensed more than 10,000 gallons (total of all grades) of gasoline in any one month after November 15, 1990. This application must be completed, returned to the Department and will serve as 60 days notice for the Department's review and approval process. **You must include a construction permit fee of \$120.00 per facility with this application made payable to the State of Delaware.**

[illegible]

Estimate dates of installation: Start: _____ Completion: _____

Are tank vent and vapor lines manifolded? (5) ☐ Yes ☐ No

List I.D. #s of tanks that are manifolded (6) and diagram the piping configuration on separate sheet: _____

Vapor and fill connection type (circle one) (7) Standard Swivel

Is there a remote fill and/or remote vapor connection? (8) ☐ Yes ☐ No

Equipment Information: (9)

Component	Manufacturer	Model
Fill Tube		
Fill Adaptor		
Vapor Adaptor		
Vapor Cap		
Fill Cap		
Spill Container		
Extractor		
Float Vent Valve		
Pressure/Vacuum Valve		

I, (Print Name) _____ have reviewed the above application and confirm my application for a Stage I Vapor Recovery Permit with my signature below.

Signature of Tank System Owner/Operator _____ Date: _____



OPERATING PERMIT APPLICATION

DO NOT SIGN UNTIL CONSTRUCTION IS COMPLETED.

Complete this section **AFTER** the installation and post-construction testing. The Construction Permit serves as a temporary Operating Permit for up to sixty (60) days after completion of the testing. During the 60 days, the Operating Permit must be applied for and received. The complete Operating Permit application includes the signed application, post-construction tests, soils analysis, and soils disposition as specified in the construction permit.

I, (Print Name) _____ certify under penalty of law that the installed Stage I Vapor Recovery System conforms to all the conditions listed in the construction permit.

Signature of Owner/Operator _____ Date: _____

For Official Use Only

Date Received: _____ Ck. Amt. _____ Ck. # _____ Bank # _____

Construction Permit Number: _____ Date Issued: _____

Date Operating Permit Application Received: _____

Operating Permit Number: _____ Date Issued: _____

GASOLINE DISPENSING FACILITY
PERMIT APPLICATION INSTRUCTIONS FOR
CONSTRUCTION & OPERATION OF STAGE II (TWO) VAPOR RECOVERY SYSTEMS

General Information

All applicants must complete this section accurately and in its entirety. If you have already installed Stage II controls and are currently permitted by the Department of Natural Resources and Environmental Control please indicate such under current status. The completed application shall serve as 60 days notice for the Department's review and approval process. However, commencement of construction must not begin before the permit is issued.

Construction Permit Application

This section is to be completed and a construction permit received **PRIOR** to starting construction. You must complete all applicable parts of the Equipment Information Table. Be sure to provide makes, model numbers for each component and the appropriate California Air Resources Board (CARB) Executive Orders for the Stage II system. If there is more than one tank at the site, be sure to include whether or not the vent lines are manifolded together.

Sign and date the application and return the form along with the Stage II construction permit fee of \$120 made payable to *State of Delaware* to:

DNREC-AWM-TMB
391 Lukens Drive
New Castle, DE 19720

In addition, Vapor Recovery Regulations require the advertisement of virgin sites in local newspapers. There will be an additional \$225 fee assessed to recover DNREC's cost of the required advertising.

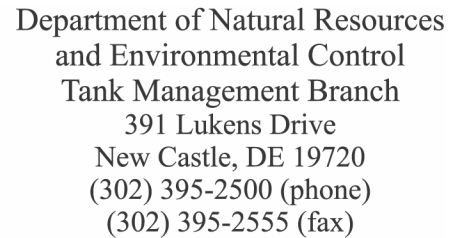
Upon approval by the Department, you will receive a Construction Permit and a copy of your application at which time installation of the Stage II Vapor Recovery System may begin. *Save this application copy.* Upon completion of construction, you must resubmit the application and include the information required for an operating permit.

Operating Permit Application

Complete this section after construction is finished but **PRIOR** to beginning operations. The construction permit serves as a temporary operating permit for up to sixty (60) days after completion of testing to allow time for the operating permit to be processed and issued. Sign and return the application form, along with the test results specified in the text of the construction permit to the above address. Upon approval by the Department an Operating Permit will be issued. You will be billed the annual \$75 operating permit fee during our annual tank registration fee billing cycle. This permit will be automatically renewed upon payment of the annual \$75 fee.

Permit Amendments

When any changes to the system are planned, and either new equipment is to be installed under the existing CARB Executive Order, or the changes require a different CARB Executive Order than that listed in the current application and permit, a new construction permit application must be completed and an amended permit received before the new equipment can be installed. Submission of the Vapor Recovery Notification Form will help make this determination. An amended operating permit application must also be submitted after installation of the new equipment is completed. Note: any installation of equipment not specified in the current permit constitutes a permit violation and could be subject to enforcement action by the Department.



A permit is required to construct and operate a Stage II Vapor Recovery System if you dispense or have dispensed more than 10,000 gallons (total of all grades) of gasoline in any one month after November 15, 1990. This application must be completed, returned to the Department and will serve as 60 days notice for the Department's review and approval process. This application will be returned to the applicant with your approved construction permit. Following construction, the operating permit section must be completed and this same form submitted again to complete the application process. **You must include a construction permit fee of \$120.00 per facility with this application made payable to the *State of Delaware*.**

Estimated Start Date: _____ Estimated Completion Date: _____

Type of Stage II System: ☐ Vapor Balance ☐ Vacuum Assist ☐ Other (Explain)

Please list all the appropriate CARB Executive Orders with applicable attachments wherein approval is given for the proposed equipment.

CARB Executive Order #s: _____ (Maximum of three)
Exhibit #: _____ (Balance only)

Are the VENT lines manifolded? ☐Yes ☐No

If yes, diagram the piping configuration below:

(Continued on back)

Component	Manufacturer	Model
Nozzle		
Overhead Hose Retractor (if any)		
Dispenser		
Coaxial Hose Assembly		
Coaxial Hose Assembly with liquid removal system		
Coaxial Hose Fitting		
Coaxial Hose Breakaway Fitting		
Nozzle Swivel		
Vapor Pump		
Vapor Shear Valve		
Pressure/Vacuum Valve		

I, (Print Name) _____ have reviewed the above application and confirm my application for a Stage II Vapor Recovery Permit with my signature below.

Complete this section **AFTER** the installation and post-construction testing. The Construction Permit serves as a temporary Operating Permit for up to sixty (60) days after completion of the testing. During the 60 days, the Operating Permit must be applied for and received. The complete Operating Permit application includes the signed application, post-construction tests, soils analysis, and soils disposition as specified in the construction permit.

Signature of Owner/Operator _____ Date: _____

Operating Permit Number: _____ Date Issued: _____

Appendix F
Title V Minor Permit
Modification Form

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Regulation No. 30 Title V State Operating Permit Program Air Quality Management Section	AQM-1001FF Page 1					
MINOR PERMIT MODIFICATION and GROUP PROCESSING OF MINOR PERMIT MODIFICATION APPLICATION	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; padding: 2px;">For Department Use Only</td> </tr> <tr> <td style="padding: 2px;">DATE RECEIVED:</td> </tr> <tr> <td style="padding: 2px;">DATE REVIEWED:</td> </tr> <tr> <td style="padding: 2px;">REVIEWED BY:</td> </tr> <tr> <td style="padding: 2px;">PERMIT NUMBER:</td> </tr> </table>	For Department Use Only	DATE RECEIVED:	DATE REVIEWED:	REVIEWED BY:	PERMIT NUMBER:
For Department Use Only						
DATE RECEIVED:						
DATE REVIEWED:						
REVIEWED BY:						
PERMIT NUMBER:						

This form is to be used when applying for Minor Permit Modifications and Group Processing of Minor Permit Modifications pursuant to Regulation No. 30 Section 7(e)(1) and 7(e)(2) dated 12/11/00.

PART A: FACILITY INFORMATION		
1. Facility Name:		
2. Facility Street Address:		
3. City:	4. State:	5. Zip Code:
6. Permit No.: <u>AQM- / </u>	7. Facility ID No.: (9 digits)	8. Date Permit Issued: / /
9. Responsible Official Name:	Telephone Number: () - ext.	Title:
10. Technical Contact Name:	Telephone Number: () - ext.	Title:
Fax Number: () -	E-Mail Address:	
11. Date Form Completed: / /		
12. Has any of the information contained in Items 1 through 9 changed from that in the effective Regulation No. 30 Operating Permit? <input type="checkbox"/> YES <input type="checkbox"/> NO If YES, submit a request for an Administrative Permit Amendment per the requirements of Regulation No. 30 Section 7(c).		
PART B: MINOR PERMIT MODIFICATION CRITERIA		
Will this modification (check all that apply): <input type="checkbox"/> Violate any applicable requirement that your facility is or will be subject to (applicable requirements include federal and state requirements); <input type="checkbox"/> Involve significant changes to existing monitoring, reporting, or record keeping requirements in the effective Regulation No. 30 Operating Permit; <input type="checkbox"/> Require or change a case-by-case determination of an emission limitation or other standard, or a source specific determination for temporary sources of ambient impacts, or a visibility or increment analysis; <input type="checkbox"/> Seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject; <input type="checkbox"/> Seek to establish or change compliance schedule dates; or <input type="checkbox"/> Meet the definition of a modification under Title I of the Clean Air Act. Title I states: The term "modification" means any physical change in, or change in the method of operation of, a stationary source which increases the amount of any air pollutant emitted by such source or which results in the emission of any air pollutant not previously emitted.		
If any of the above boxes are checked this modification does not meet the requirements of a Minor Permit Modification. This modification must be processed using the Significant Modification Procedures of Regulation No. 30 Section 7(e)(3).		
<i>Reference Regulation No. 30 Section 7(e)(1) dated 12/11/00</i>		

Regulation No. 30
Title V State Operating Permit Program
Air Quality Management Section
MINOR PERMIT MODIFICATION and
GROUP PROCESSING OF MINOR PERMIT MODIFICATION
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PART C: GROUP PROCESSING OF MINOR PERMIT MODIFICATION CRITERIA

Are you requesting that this change be processed using the Group Processing of Minor Permit Modification Procedure outline in Regulation No. 30 Section 7(e)(2)? ☐ YES ☐ NO

If YES, provide the information requested below. If NO, proceed to Part D: Description of Change to Be Made.

Provide a list of the other pending applications awaiting Group Processing:

Provide the total emissions increase for this modification combined with the pending modifications awaiting Group Processing (in tons per year for each pollutant):

Provide the following emissions thresholds (in tons per year for each pollutant):

Ten percent (10%) of the emissions allowable under the permit for the emissions unit to be modified:

Twenty percent (20%) of the applicable definition of major source:

Is the total emissions increase for this modification combined with the pending modifications awaiting Group Processing less than five tons per year, ten percent (10%) of the emissions allowable under the permit for the emissions unit to be modified, or twenty percent (20%) of the applicable definition of major source, whichever is least? ☐ YES ☐ NO

If YES, this modification meets the requirements of Group Processing of Minor Permit Modifications. If NO, this modification must be processed individually.

Reference Regulation No. 30 Section 7(e)(2) dated 12/11/00

PART D: DESCRIPTION OF CHANGE TO BE MADE

Provide a description of the change to be made, the emissions resulting from the change, and any new applicable requirements that will apply if the change occurs below: *Reference Regulation No. 30 Section 7(e)(1)(ii)(A) dated 12/11/00*

Attach the appropriate forms from the AQM-1001 series relating to the equipment or process to be modified.

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PART E: SUGGESTED DRAFT PERMIT

Attach your suggested Draft Permit or suggested language for the modification.

Reference Regulation No. 30 Section 7(e)(1)(ii)(B) dated 12/11/00

PART F: AFFECTED STATES NOTIFICATION FOR MINOR PERMIT MODIFICATION

Complete the following paragraph if you are requesting one Minor Permit Modification. This information will be used to notify EPA and affected states of the Minor Permit Modification. *Reference Regulation No. 30 Section 7(e)(1)(ii)(D) dated 12/11/00*

The following details the **<Insert Company's name>** current permit language and proposed permit modifications.

<Insert Company Name> has requested a Minor Permit Modification of **Permit: <insert permit number>** to **<explain reason for permit modifications>**. Since there are no additional applicable requirements and **<insert what the minor permit modification is for: for example, the process, the equipment, etc.>** does not constitute significant changes to existing monitoring, reporting, or record keeping requirements contained in the previously issued Title V Operating Permit (**Permit: <Insert Permit Number>**), the **<insert what the minor permit modification is for: for example, the process, the equipment, etc.>** is classified as a minor permit modification and is processed as such.

PART G: AFFECTED STATES NOTIFICATION FOR GROUP PROCESSING OF MINOR PERMIT MODIFICATIONS

Complete the following paragraph if you are requesting Group Processing of Minor Permit Modifications. This information will be used to notify EPA and affected states of the Minor Permit Modifications. *Reference Regulation No. 30 Section 7(e)(2)(ii)(F) dated 12/11/00*

The following details the **<Insert Company's name>** current permit language and proposed permit modifications.

<Insert Company Name> has requested **<insert number>** Minor Permit Modification**<s>** to **Permit: <insert permit number>** to **<explain reason for permit modifications>**. Since there are no additional applicable requirements and **<insert what the minor permit modifications are for: for example, the process, the equipment, etc.>** do not constitute significant changes to existing monitoring, reporting, or record keeping requirements contained in the previously issued Title V Operating Permit (**Permit: <Insert Permit Number>**), the **<insert what the minor permit modifications are for: for example, the process, the equipment, etc.>** are classified as a minor permit modifications. These modifications meet the requirements of Regulation No. 30 Section 7(e)(2) as they are collectively below the least of the following: ten (10) percent of the emissions allowable under the permit for the emissions units to be changed, twenty (20) percent of the applicable definition of major source, or five (5) tons per year.

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PART F: RESPONSIBLE OFFICIAL CERTIFICATION

I, the undersigned, hereby certify under penalty of law that I am a Responsible Official and that I have personally examined and am familiar with the information submitted in this document and all of its attachments as to truth, accuracy, and completeness of information. I certify that the proposed modification meets the criteria for use of the minor permit modification or group processing of minor permit modification procedure and request that the appropriate procedure be used for processing this application. I certify based on information and belief formed after reasonable inquiry, the statements and information in this document are true, accurate, and complete. By signing this form, I certify that I have not changed, altered, or deleted any portions of this form.

Responsible Official Name, Title:

Responsible Official Signature: _____ Date: / /

Reference Regulation No. 30 Section 7(e)(1)(ii)(C) and Section 7(e)(2)(ii)(C) dated 12/11/00

Appendix G

**Notice of Intent (NOI) for
Stormwater Discharges Associated
with Construction Activity under a
NPDES General Permit**

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Appendix H

Site Photographs

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Site Photographs
Dover Air Force Base, Kent County, Delaware



1) Preferred Alternative Site: Existing Shoppette (Building 517).



2) Preferred Alternative Site: Existing Shoppette (Building 517).

Site Photographs
Dover Air Force Base, Kent County, Delaware



3) Preferred Alternative Site: Existing Shoppette (Building 517).



4) Existing aboveground storage tanks to be dismantled and disposed of under the Preferred Alternative.

Site Photographs
Dover Air Force Base, Kent County, Delaware



5) Airfield pavement to be demolished and recycled under the Preferred Alternative.



6) Alternative Site: Existing Class Six Store (Building 211).

Site Photographs
Dover Air Force Base, Kent County, Delaware



7) Alternative Site: Parking lot adjacent to the existing shoppette.

Appendix I

Newspaper Affidavit

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Independent Newspapers, Inc.

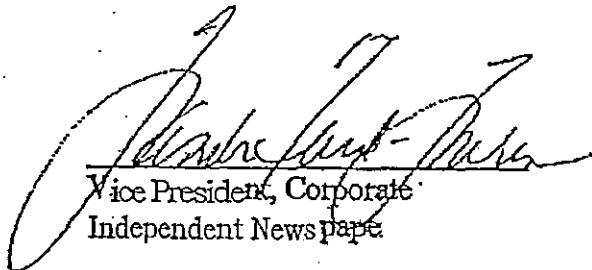
P.O. Box 7001 • Dover, Delaware • 19903 • 1-800-282-8586

State of Delaware:

:ss.

Counties of Kent:

Before me, a Notary Public, for the County and State aforesaid, Wanda Ford-Waring, known to me to be such, who being sworn according to law deposes and says that she is an officer of Independent Newspaper Inc, the Publisher of the The Delaware State News, a daily newspaper published at Dover, County of Kent, and State of Delaware, and that the notice, a copy of which is hereto attached, as published in the The Delaware State News in its issue of October 17, 2007


Vice President, Corporate
Independent Newspaper

Sworn to and subscribed before me this

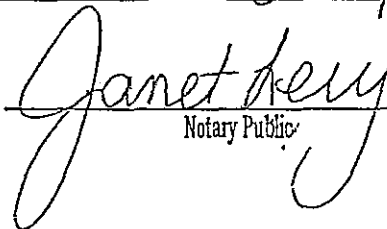
17th

Day of

October

A.D.

2007


Notary Public

NOTICE OF AVAILABILITY

DRAFT ENVIRONMENTAL ASSESSMENT AND DRAFT FINDING OF NO SIGNIFICANT IMPACT FOR THE PROPOSED CONSTRUCTION OF A SHOPPETTE, CLASS SIX STORE, AND CAR-CARE FACILITIES AT DOVER AIR FORCE BASE, DOVER, DELAWARE

The United States Air Force proposes to construct a shoppette, Class Six store, and car-care facilities for use by authorized patrons at Dover Air Force Base (Dover AFB). This action is being completed to better serve the needs of the military community on Dover AFB through the improvement of shopping and automobile use, repair, and maintenance facilities.

An Environmental Assessment (EA) has been prepared to determine the environmental impacts of the proposed action. This analysis is pursuant to the National Environmental Policy Act (NEPA) of 1969; the Council on Environmental Quality (CEQ) regulations implementing the Act (Title 40 Code of Federal Regulation [CFR] Parts 1500-1508); and, the Department of the Air Force Environmental Impact Analysis Process, Air Force Instruction (AFI) 32-7061.

The document is available for public review at the Dover Public Library, 45 South State Street, Dover, Delaware 19901. Please provide written comments to this Draft EA to Mr. Steven Seip, 436 CES/CEV, 600 Chevron Avenue, Dover Air Force Base, Delaware 19902-5600 or via e-mail at: Steven.Seip@dover.af.mil. The public comment period will end on November 16, 2007, the date in which all comments must be received.

PRIVACY ADVISORY

Your comments on this Draft EA are requested. Any submitted letters or other written comments may be published in the Final EA. As required by law, comments will be addressed in the Final EA and made available to the public. Any personal information provided will be used only to identify your desire to make a statement during the public comment portion of any public meetings or hearings, or to fulfill requests for copies of the Final EA or associated documentation. Private addresses will be compiled to develop a mailing list for those requesting copies of the Final EA; however, only the names of the individuals making comments will be disclosed. Personal home addresses and phone numbers will not be published in the Final EA.

Appendix J

Finding of No Significant Impact (FONSI)

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Finding of No Significant Impact

Environmental Assessment for the Construction of a Shoppette, Class Six Store, and Car-Care Facilities at Dover Air Force Base, Kent County, Delaware

Background

The Army and Air Force Exchange Service (AAFES) proposes to construct a multi-purpose shoppette, a Class Six store, a car-care center with two service bays, and an automatic, single-bay car wash at Dover Air Force Base (Dover AFB) in Kent County, Delaware. The purpose of the action is to better serve the needs of the military community through the improvement of shopping and automobile use, repair, and maintenance facilities. The need for the action is to provide consolidated, centrally located facilities on Dover AFB where authorized customers can obtain multiple services at a single location.

Pursuant to the National Environmental Policy Act (NEPA) of 1969 (Public Law 91-190, 42 United States Code §4321 et. seq.); the Council on Environmental Quality (CEQ) regulations implementing NEPA (40 Code of Federal Regulations [CFR] §§1500-1508); and the Department of the Air Force *Environmental Impact Analysis Process* (Air Force Instruction 32-7061), the United States Air Force prepared an Environmental Assessment (EA) analyzing the potential impacts of the Proposed Action.

Proposed Action

The Proposed Action is to construct a new 8,150-square-foot shoppette and Class Six store, and a car-care center with two service bays of approximately 2,650 square feet. The scope of the project also includes fuel islands for gasoline service and an automated, single-bay car wash of approximately 950 square feet. In total, the Proposed Action involves approximately 11,750 square feet of new construction.

New construction would consist of a reinforced concrete slab/foundation with steel or concrete framing, including complete mechanical, electrical, and life/safety systems. The proposed facilities would tie into existing utility services and communications systems and would provide for pavement, walks, curbs, gutters, storm drainage, retention walls, and site improvements, as necessary. These collocated facilities would include retail gasoline sales through the installation of two 20,000-gallon underground storage tanks (one for high octane and diesel and one for low octane); 10 multi-product dispensers (MPDs); a canopy roofing system; and, 52 parking spaces for use by authorized patrons at Dover AFB. New construction would be in accordance with all applicable Department of Defense Unified Facilities Criteria provisions. The Proposed Action also includes the demolition and disposal of existing facilities and infrastructure.

Prior to the initiation of demolition and construction activities, plans and documents will be prepared by the contractor to provide environmental, safety and health controls. These plans and documents will be submitted to the contracting officer at Dover AFB for review and approval.

Alternatives Eliminated from Further Analysis

In accordance with 32 CFR Part 989.8(c), the development of selection criteria is an effective mechanism for the identification, comparison, and evaluation of reasonable alternatives. Two

alternative sites for the Proposed Action—the site of the existing Class Six store (Building 211) and the parking lot adjacent to the existing shoppette (Building 517)—were evaluated based on the site-selection criteria and the purpose and need for the action. These alternative site locations were eliminated from further analysis due to reduced accessibility and physical space limitations.

Alternatives Carried Forward for Further Analysis

Preferred Alternative

The Proposed Action evaluated in the EA is to construct the new facilities on the site of the existing shoppette and gasoline service station (Building 517), and the abandoned airfield pavement to the south and southwest of Tuskegee Avenue. This triangular tract of land consists of approximately 4.1 acres and is bounded by Atlantic Street to the north, Evreux (12th Street) to the east, and by a chapel (Building 419) and bowling alley (Building 420) to the west and southwest. This site is zoned community (commercial) and its current utilization is consistent with this designation. The Preferred Alternative site consists of pavement and maintained lawn, and no other natural vegetation is established.

The Preferred Alternative also includes the demolition and disposal of the existing shoppette, fuel distribution system, pavement, and utilities infrastructure. This consists of the dismantling and disposal of three 10,000-gallon aboveground storage tanks and four MPDs, and the demolition and recycling of the existing pavement to include 190,000 square feet (18-inch width) of a former airfield landing strip.

No Action Alternative

Under the No Action Alternative, the new shoppette, Class Six store, and car-care facilities would not be constructed. Authorized personnel at Dover AFB would continue to utilize the existing shoppette and Class Six store, both of which are more than 50 years old. The existing MPDs would continue to operate in excess of the AAFES standard of 25,000 gallons per month. Base personnel would not benefit from the expanded customer services and AAFES would not receive additional revenue from these services. AAFES services would not be consolidated, increasing travel on the Base and to external destinations. The contaminated soils would remain *in-situ* and existing land use controls would continue to be enforced to protect sensitive populations from exposure to fuel and lead contaminants. The amount of impervious surface would not change and, consequently, runoff rates would not be reduced.

Environmental Impacts

Land Use

Implementation of the Preferred Alternative would be consistent with existing and future land use as identified in the Dover AFB *General Plan*. Due to the existing land use controls on the Preferred Alternative site, a Contaminated Media Management Plan will be submitted to the Delaware Department of Natural Resources and Environmental Control prior to commencement of excavation activities. The removal of the contaminated soils at this site would eliminate the need for land use controls and result in a beneficial impact.

Hazardous Materials and Waste

Demolition and construction activities would necessitate the use of heavy machinery and other specialized equipment. Use and maintenance of this equipment has the potential to introduce small quantities of solvents, cleaning agents, greases, oils, hydraulic fluids and fuels (e.g., gasoline

and diesel) into the environment. Paints and adhesives would also be utilized during construction activities; however, the majority of equipment maintenance would occur off-site and within an authorized service shop.

Post-construction operations would have the potential to increase the generation of hazardous materials and waste since the new facilities would have capacity to service additional customers. Hazardous materials and waste generated from operations include used oil, tires, antifreeze, and other automobile fluids consistent with a car-care facility. The Preferred Alternative would result in an increase in the amount of hazardous waste generated; however, with use of best management practices and recyclable products, these impacts would be minor.

The Preferred Alternative would result in the temporary disturbance of contaminated soils and used gasoline storage tanks; however, their removal and proper disposal would provide a beneficial impact. In addition, the installation of the new underground storage tanks would serve to reduce the potential for leaks and further soil contamination over the long-term.

The Preferred Alternative would result in the temporary disturbance of asbestos-containing material and lead-based paint; however, adherence to asbestos management procedures would minimize adverse impacts. In addition, the removal of asbestos and lead-based paint from the shopette and car-care center would result in a long-term benefit to human health and safety.

Air Quality

Total volatile organic compounds (VOCs) and nitrogen oxides (NO_x) emissions from implementation of the Preferred Alternative would be below the Conformity Rule *de minimis* thresholds of 100 tons per year for NO_x and 50 tons per year for VOCs with respect to *moderate nonattainment* for the 8-hour ozone standard. As such, a conformity determination is not required and impacts to air quality would not be considered significant.

Geology and Soils

The Preferred Alternative site has been previously disturbed by development activities. Implementation of this alternative would result in a positive impact to the local environment as contaminated soils would be excavated and disposed of in accordance with applicable federal, state, and local regulations.

Water Resources

Excavation and trenching for the new underground storage tanks could breach the water table. To prevent a negative impact on the stability of the tanks from buoyant forces, an anchor system would be incorporated during tank placement. Dewatering operations would also provide a stable platform upon which to place and anchor the tanks. Groundwater contamination associated with the Preferred Alternative would be localized in that potential impacts would be confined to the surficial Columbia aquifer, which is prohibited for use as a drinking water source.

The Delaware State Code requires that all project sites greater than 5,000 square feet must prepare a Sediment and Stormwater Management Plan, which includes administrative and project design requirements. All stormwater management practices must be in accordance with the *Delaware Erosion and Sediment Control Handbook*. Per this guidance document, a sediment trap would be constructed and maintained during implementation of the Preferred Alternative. The Sediment and Stormwater Management Plan would also implement standard best management practices for erosion and sediment control (e.g., periodic water applications, silt fences, and cut and fill balancing) as necessary, including post-construction mitigation as required by the State code.

The Preferred Alternative would result in an 18-percent reduction in impervious surface area, resulting in a 13-percent overall decrease in stormwater runoff. A reduction in impervious surface on the Preferred Alternative site would decrease runoff from the project site and help to control flooding on the golf course.

Socioeconomics

Implementation of the Preferred Alternative would not significantly impact local and regional population densities. Demolition and construction contractors would be sought from local businesses providing a minor socioeconomic benefit. Existing shoppette employees would be relocated on-Base during demolition and construction activities to minimize potential negative impacts to employment and associated incomes. Although the Preferred Alternative would have a minimal impact on the local and regional economy, improved convenience and upgraded facilities would provide a social benefit to authorized personnel living and/or working at Dover AFB.

Infrastructure and Utilities

The Preferred Alternative has been located to minimize the impact on existing infrastructure and utilities. The utilization of existing utility connections would require minor infrastructure extensions, but would not result in significant impacts. The Preferred Alternative would provide a beneficial impact in terms of infrastructure upgrades that improve energy efficiency.

There would be no adverse impacts to the water supply and/or distribution system at Dover AFB associated with the Preferred Alternative. The capacity of the system is adequate to support demolition and construction activities, as well as post-construction operations. The Preferred Alternative would create a negligible increase in electrical, natural gas, sanitary sewer, and heating demand associated with demolition and construction activities and post-construction operations. The Preferred Alternative would provide a minor beneficial impact to the Installation electrical and communications system as the new facilities would contain more advanced equipment.

Transportation

Implementation of the Preferred Alternative would result in the abandonment of Tuskegee Avenue for parking and/or building placement. Parking for the chapel (Building 419) and bowling alley (Building 420) would be displaced by construction of the new facilities, but would not require replacement. Overall, the Dover AFB transportation network would continue to handle and distribute vehicular movements with minimal congestion or delays; however, there would be a temporary, negligible increase in traffic associated with demolition and construction activities. No long-term adverse impacts to the Base transportation network would result from implementation of the Preferred Alternative.

Environmental Justice

Implementation of the Preferred Alternative would not disproportionately affect minority or low-income communities, nor cause the displacement of any residents, eliminate jobs, or affect wages.

Protection of Children from Environmental Safety and Health Risks

Implementation of the Preferred Alternative would not result in a disproportionate risk to children from environmental health risks or safety risks; rather, local environmental conditions would improve as a result of soil remediation activities.

Cumulative Impacts

In accordance with the Dover AFB draft *Environmental Assessment of Installation Development* (2007), no cumulative impacts would result from demolition, construction, and infrastructure projects planned and programmed over the next five years. Due to the temporary nature and limited scope of the Proposed Action, cumulative impacts would not result from implementation of the Preferred Alternative.

Irreversible and Irretrievable Commitment of Resources

Irreversible short-term negative impacts from the implementation of the Preferred Alternative would result from demolition and construction activities. These impacts would include periodic high noise levels and fugitive dust emissions, temporary increases in water and electricity consumption, and a slight increase in solid waste generation. The site of the Preferred Alternative is already developed; therefore, there would be no anticipated irreversible long-term adverse environmental impacts.

Finding of No Significant Impact

Based upon my review of the facts and analyses contained in the attached EA, I conclude that the Proposed Action will not have a significant environmental impact, either directly or cumulatively in conjunction with other projects at Dover AFB. Accordingly, the requirements of NEPA, CEQ regulations, and the Air Force *Environmental Impact Analysis Process* are fulfilled and the preparation of an Environmental Impact Statement is not required.

26 DECEMBER 2007
Date

Vic Sowers
VIC SOWERS, Colonel, USAF

Commander
436th Mission Support Group