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**Environmental Assessment for the Construction and  
Operation of a New Shoppette/Gas Station,  
Class Six Store, and Name-Brand Fast Food Store at  
Joint Base Andrews  
Camp Springs, Prince George's County, Maryland**

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**February 2010**



Prepared for:

**DEPARTMENT OF THE AIR FORCE  
Joint Base Andrews-Naval Air Facility Washington  
Camp Springs, Maryland**

Prepared by:



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## **Environmental Assessment for the Construction and Operation of a New Shoppette/Gas Station, Class Six Store, and Name-Brand Fast Food Store at Joint Base Andrews, Camp Springs, Prince George's County, Maryland**

**Proposed Action:** Construction and operation of a new shoppette/gas station, Class Six store, and name-brand fast food facility. New construction would total 11,000 square feet and include 16 multi-product dispensers with 32 fuel dispenser nozzles; a canopy roofing system; and 57 parking spaces.

**Report Designation:** Environmental Assessment (EA).

**Responsible Agency:** Department of the Air Force.

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**Abstract:** AAFES proposes to construct and operate a new shoppette/gas station, Class Six store, and name-brand fast food facility for use by authorized patrons at Joint Base Andrews (formerly Andrews Air Force Base), Prince George's County, Maryland.

The Proposed Action complies with the Andrews Air Force Base General Plan and utilizes a site that has previously been developed. The existing AAFES shoppette is outdated and unable to meet customer demand. Additionally, it cannot be updated to meet current building code and energy efficiency standards. The Proposed Action is construction of new facilities that would enhance customer services on the Base and would provide AAFES and the Joint Base Andrews Morale, Welfare and Recreation program with additional revenue.

Under the No Action Alternative, AAFES would not construct the new facilities and Joint Base Andrews patrons would continue to utilize outdated facilities that have exceeded their useful life and are presently unable to meet customer demand.

This EA evaluates the Preferred Alternative and the No Action Alternative. Resources evaluated in this EA include: land use; socioeconomics and environmental justice; transportation; infrastructure and utilities; topography, geology, and soils; water resources; biological resources; cultural resources; air quality; noise; hazardous materials and waste, and safety and occupational health. No significant impacts would result from the implementation of the Proposed Action at the preferred site location or from the No Action Alternative.

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## **Executive Summary**

### **Environmental Assessment for the Construction and Operation of a Shoppette/Gas Station, Class Six Store, and Name-Brand Fast Food Store at Joint Base Andrews, Camp Springs, Prince George's County, Maryland**

#### **Introduction**

This Environmental Assessment (EA) to construct and operate a new shoppette/gas station, Class Six store and name-brand fast food facility at Joint Base Andrews, Maryland, was prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality (CEQ) regulations (40 Code of Federal Regulations (CFR) § 1500-1508), and the Air Force Environmental Impact Analysis Process (32 CFR § 989). This EA provides an analysis of the potential environmental impacts from the construction of these new Army and Air Force Exchange Service (AAFES) facilities. This EA identifies and evaluates four alternative site locations as part of the site-selection process for the Proposed Action. The No Action Alternative and the Preferred Alternative are carried forward for analysis in this EA. The EA also contains a discussion of the other alternatives that have been eliminated from further evaluation.

The existing AAFES facility (Building 1685) is approximately 2,625 square feet and was constructed in 1972. The existing shoppette gas station facility is located in a confined space adjacent to the other shopping facilities, is highly congested, and too small to adequately serve the customer base. Further, the age of the existing facility is such that building upgrades cannot be accomplished to meet current building standards.

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

The purpose of the Proposed Action is to provide consolidated, centrally located facilities on Joint Base Andrews where authorized customers can obtain multiple services at a single location. This would reduce the traffic congestion in some areas of the Base and allow customers to make a single stop for multiple services on the Base. In addition, building improvements would increase energy efficiency and reduce overall operational and maintenance costs.

The need for the Proposed Action is to better serve the military community through the improvement of shopping, food services, and automobile services.

## **Proposed Action**

AAFES proposes to construct and operate a new shoppette/gas station, Class Six store and name-brand fast food facility on Joint Base Andrews in Prince George's County, Maryland. The proposed facility would include an approximately 11,000-square-foot shoppette with gasoline sales and a retail fast food facility on an approximately 3.0-acre site. The facility would include retail gasoline sales through the installation of three 20,000-gallon double-walled tanks; 16 multi-product dispensers with 32 fuel dispenser nozzles; a canopy roofing system; and 57 parking spaces. The proposed facility would be in compliance with all applicable requirements and constructed in accordance with Leadership in Energy and Environmental Design-Silver Certifiable-New Construction standards. Construction of the Proposed Action is anticipated to begin in June 2010 and would last approximately eight months.

## **Construct the New Shoppette on the Northwest Corner of F Street and Colorado Avenue - Alternative 4**

Under this alternative, the Proposed Action would be constructed on the northwest corner of the intersection of Colorado Avenue and F Street. The proposed site is of an adequate size to allow the construction and operation of the AAFES facility providing increased service to Base personnel. Further, this site would allow ingress and egress from three roads (Perimeter Road, F Street, and Colorado Avenue), thereby minimizing traffic congestion and increasing safety within these areas. Additionally, the site would be located within 1,000 feet of the main gate, increasing visibility of the AAFES services, and would be located near other community services (car care center, shopping center, and restaurants), increasing opportunities to obtain multiple services within these areas.

## **No Action Alternative**

Under the No Action Alternative, the new AAFES facilities at Joint Base Andrews would not be constructed and the implementation of this alternative would not result in the consolidation and collocation of facilities, continuing the use of inadequate services (Building 1685). Further, Base personnel would not benefit from the expanded customer services and AAFES would not receive additional revenue from these services, which, in turn, would not contribute to the Base's Morale, Welfare, and Recreation program budget. CEQ regulations stipulate that the No Action Alternative must be analyzed to assess any environmental consequences that may occur if the Proposed Action is not implemented. Therefore, this alternative will be carried forward with Alternative 4 for analysis in the EA.



## Summary of Environmental Consequences

The potential impacts to the human and natural environment were evaluated relative to the affected environment. For each environmental resource or issue, anticipated direct and indirect effects were assessed, considering both short- and long-term project effects. The analyses for this EA indicate that the Proposed Action for construction and operation of a new AAFES facility would not result in, or contribute to, significant negative cumulative impacts to the resources in the region. A summary of potential impacts is presented in Table ES-1.

<b>Table ES-1</b> <b>Comparison of Impacts from Alternatives for the Proposed Action</b>		
<b>Resources / Issues (Threshold Criteria)</b>	<b>Preferred Alternative</b>	<b>No Action Alternative</b>
Land Use	No land use change required. The new AAFES facility is proposed to be constructed at the site of a former dormitory.	No change.
Socioeconomics, Environmental Justice, and Protection of Children	No change in population; income; housing characteristics, or environmental justice concerns at Andrews AFB. Minor short-term employment opportunities for local contractors.	No change in population; income; employment; housing characteristics, or environmental justice concerns at Andrews AFB.
Transportation	Although not significant, a likely increase in vehicular traffic to the shoppette from expanding services will occur during peak hours and lunch hours	No change.
Infrastructure and Utilities	The site is linked to the Joint Base Andrews utility grid and would likely not have a long-term effect on the usage. Increase in impervious surface area would result in an increase in stormwater, which would be controlled as identified in the Stormwater Management Plan as approved by the Maryland Department of Environment.	No change.
Topography, Geology, and Soils	Potential short-term effects to soils from construction activities; soil erosion control methods and best management practices would reduce potential for effects; additional impervious surfaces would be added.	No change.
Water Resources	No effect to groundwater or wetlands. Increased stormwater runoff would be controlled as identified in the Stormwater Management Plan as approved by Maryland Department of the Environment.	No effect on groundwater, wetlands, floodplains, or drainage on Base.
Biological Resources	Minor effects to wildlife during construction activities. Short-term and moderate short-term impact to vegetation. Trees would be cut down in order to construct. Depending on amount of canopy removed, Base Tree Management may require tree replacement. There would be no effect on threatened and endangered species.	No effects on vegetation or wildlife. Area already disturbed by demolished housing development.
Cultural Resources	No effects expected based on information contained in the Integrated Cultural Resources Management Plan (ICRMP; Andrews AFB 2003).	No changes based on the ICRMP (Andrews AFB 2003).

<b>Table ES-1</b> <b>Comparison of Impacts from Alternatives for the Proposed Action</b>		
Resources / Issues (Threshold Criteria)		
	Preferred Alternative	No Action Alternative
Air Quality	Potential short-term effects due to emissions of particulate matter and combustion engine emissions during construction activities; long-term emissions during operation of the facility due to vehicular operations and operation of gasoline dispensers.	No change on existing air quality without an upgrade/ expansion to the existing facility.
Noise	Minor increase in noise during construction activities.	No increase to noise levels on Base.
Hazardous Materials and Wastes Management	Potential short-term negative effects should an accidental release of hazardous waste (leaks and spillage of fuel or lubricants) occur during construction activities; implementation of standard operating procedures (i.e., best management practices) would reduce potential for release of hazardous materials. Potential long-term, negative effects could result from spills occurring during the handling of gasoline (delivery and sales).	No change. Would not disturb or interfere with any sites under investigation under the Environmental Restoration Plan or National Priorities List at Joint Base Andrews. Would not impact any Environmental Restoration Program (ERP) sites on Base.
Safety and Occupational Health	Implementation of the Proposed Action would slightly increase the short-term risk associated with construction contractors performing work at Joint Base Andrews because the level of such activity would increase. Contractors will be required to establish and maintain safety programs.	No change

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

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## Acronyms and Abbreviations

316 WG	316 <sup>th</sup> Wing
89 AW	89 <sup>th</sup> Airlift Wing
AAFES	Army and Air Force Exchange Service
AFB	Air Force Base
AFI	Air Force Instruction
AMCI	Air Mobility Command Instruction
AOC	Areas of Concern
AQCR	air quality control region
AW	Air Wing
Base, the	Joint Base Andrews, Prince George's County, Maryland; <i>also</i> the Installation
BASH	bird air strike hazard
BMP	best management practice
BRAC	Base Realignment and Closure
BRAC EA	<i>Final Environmental Assessment for Fiscal Year 07-11 Base Realignment and Closure (BRAC) Construction Requirements at Andrews Air Force Base, Maryland</i>
CEQ	Council on Environmental Quality
CES	Civil Engineer Squadron
CFR	Code of Federal Regulations
CH <sub>4</sub>	methane
CMSA	Consolidated Metropolitan Statistical Area
CO	carbon monoxide
CO <sub>2</sub>	carbon dioxide
CO <sub>2</sub> EQ	carbon dioxide equivalent
COMAR	Code of Maryland Regulations
DAP	Discharge Authorization Permit
dB	decibel
DNL	day-night average sound level
DoD	Department of Defense
EA	Environmental Assessment
EMS	emergency management system
EO	Executive Order

**Acronyms & Abbreviations (*continued*)**

ERP	Environmental Restoration Program
FWS	United States Fish and Wildlife Service
GWP	Global Warming Potential
HAP	hazardous air pollutant
HQ	headquarters
HVAC	heating, ventilation, and air conditioning
I	Interstate
ICRMP	Integrated Cultural Resources Management Plan
IICEP	intergovernmental coordination for environmental planning
Installation, the	Joint Base Andrews, Prince George's County, Maryland; also the Base
IPCC	Intergovernmental Panel on Climate Change
LEED	Leadership in Energy and Environmental Design
MD	Maryland
MDE	Maryland Department of the Environment
n.d.	no date
N <sub>2</sub> O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NCR	National Capital Region
NCRRAF	National Capital Region Relocation Administrative Facility
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO <sub>2</sub>	nitrogen dioxide
NO <sub>x</sub>	nitrogen oxide
NPDES	National Pollutant Discharge Elimination System
O <sub>3</sub>	ozone
Pb	lead
PM	particulate matter
PM <sub>10</sub>	particulate matter with a diameter of 10 microns or less
PM <sub>2.5</sub>	particulate matter with a diameter of 2.5 microns or less
RONA	Record of Non-Applicability
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan

**Acronyms & Abbreviations *(continued)***

SO <sub>2</sub>	sulfur dioxide
SO <sub>x</sub>	sulfur oxides
tpy	tons per year
TU	tank underground
U.S.C.	United States Code
UESC	Utility Energy Savings Contract
UFC	Unified Facilities Criteria
USAF	United States Air Force
USEPA	United States Environmental Protection Agency
UST	underground storage tank
VOC	volatile organic compound
WSSC	Washington Suburban Sanitary Commission

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# 1 Purpose and Need for Action

## 1.1 Introduction

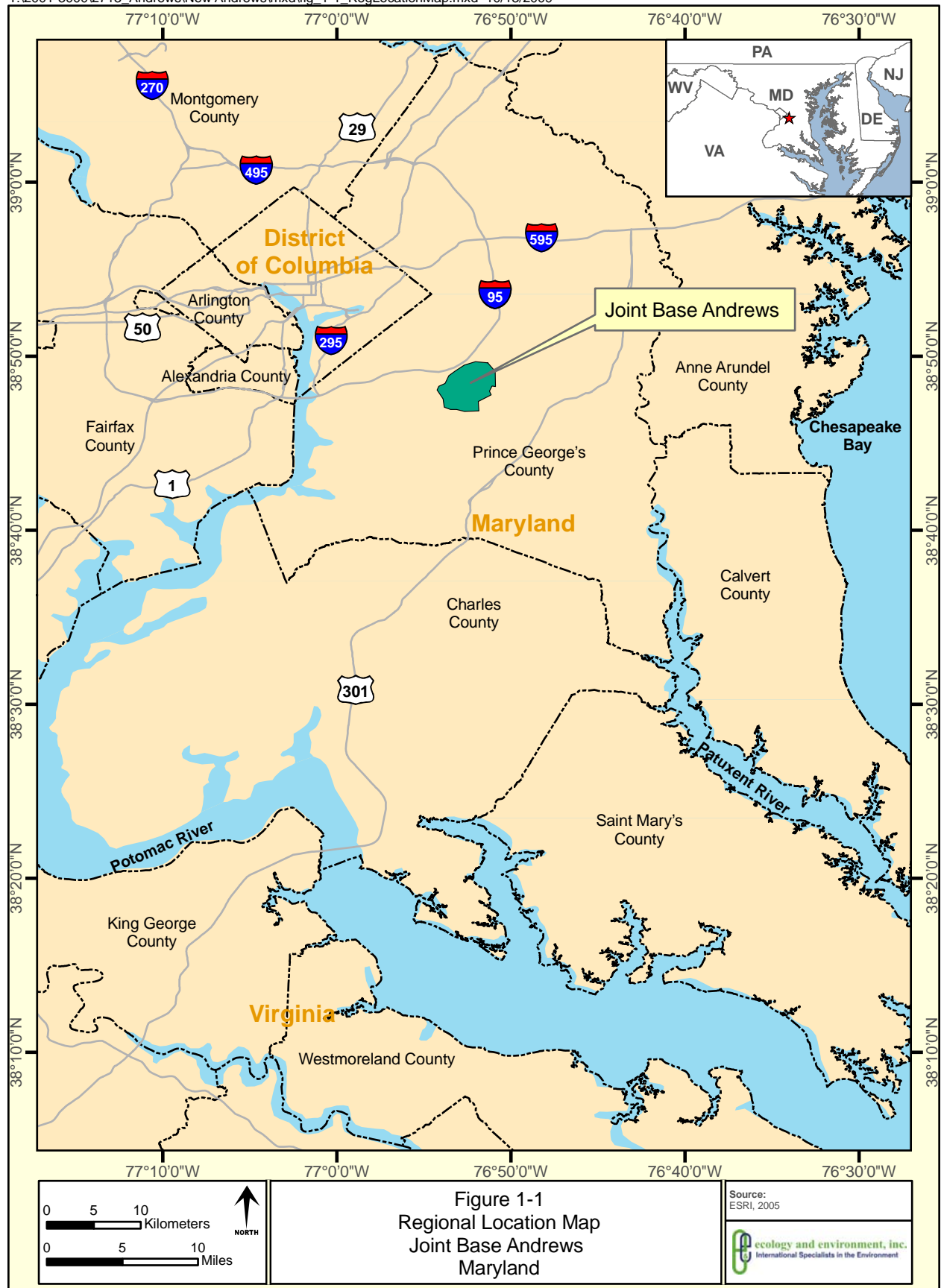
The Army and Air Force Exchange Service (AAFES) proposes to construct and operate a new shopette/gas station, Class Six store, and name-brand fast food facility on Joint Base Andrews (referred to herein as the ‘Base’ or the ‘Installation’; formerly Andrews Air Force Base [Andrews AFB]) in Prince George’s County, Maryland (see Figure 1-1). This Environmental Assessment (EA) has been prepared to address the potential impacts related to the construction and operation of the new facilities and the associated permit requirements. In addition, this report identifies mitigation measures to minimize the potential environmental consequences associated with the implementation of the Proposed Action.

This EA does not address the final disposition of the existing AAFES facility (Building 1685), including the gas station, fuel storage tanks, canopy and the fuel system; however, at this time, it is understood that the existing facility will be returned to the Base. The existing AAFES facility was a former Environmental Restoration Program (ERP) site (ST-17) due to leaking underground storage tanks (USTs). Site cleanup of ST-17 within the ERP was under a performance-based cleanup contract and site closure was issued in 2005; however, long-term monitoring continues at the site.

This EA has been prepared to analyze the potential impacts associated with the Proposed Action in accordance with the:

- National Environmental Policy Act (NEPA) of 1969, 42 United States Code (U.S.C.) 4231 *et seq.*, as amended in 1975;
- Council on Environmental Quality (CEQ), 40 Code of Federal Regulations (CFR) §§ 1500-1508; and
- U.S. Air Force Environmental Impact Analysis Process, 32 CFR § 989.

Joint Base Andrews is a 4,346-acre installation located approximately 10 miles southeast of Washington, D.C. in Prince George’s County, Maryland (see Figure 1-1). Established in 1947, the Base serves as a travel and support center for the President of the United States and other distinguished federal and foreign civilian and military dignitaries. The 316th Wing (316 WG), part of the Air Force District of Washington, is responsible for host base functions at Joint Base Andrews. More than 60 tenant units are located at Joint Base Andrews, including (among others): Air Force Reserve Command 459th Airlift Wing, Air National Guard Readiness Center, District of Columbia Air National



Guard 113<sup>th</sup> Wing, U.S. Army Priority Air Transport, the Civil Air Patrol, the Maryland State Police, and Naval Air Facility Washington.

## **1.2 Need for Action**

The existing AAFES facility (Building 1685) is approximately 2,625 square feet and was constructed in 1972. The existing shoppette/gas station facility is located in a confined space adjacent to the other shopping facilities, is highly congested, and too small to adequately serve the customer base. Further, the age of the existing facility is such that building upgrades cannot be accomplished to meet current building standards. Building and infrastructure design improvements would increase energy efficiency.

The Proposed Action would rectify these deficiencies through the construction and operation of a new, approximately 11,000-square-foot shoppette with gasoline sales and a retail fast food facility on an approximately 3.0-acre site (see Figure 1-2). Construction would consist of a reinforced concrete slab/foundation with steel or concrete framing, including complete mechanical, electrical, and life/safety systems. The proposed facility would be designed and constructed in accordance with Leadership in Energy and Environmental Design (LEED)-Silver Certifiable-New Construction standards; however, AAFES does not intend to complete the certification process for this facility (Madyun 2009). The proposed facilities would connect to existing utility services and communications systems and would provide for pavement, sidewalks, curbs, gutters, storm drainage, retention walls, and other site improvements, as necessary. These collocated facilities would include retail gasoline sales through the installation of three 20,000-gallon, double-walled tanks; 16 multi-product dispensers with 32 fuel dispenser nozzles; a canopy roofing system; and 57 parking spaces for use by authorized patrons at Joint Base Andrews. New construction would be in accordance with all applicable Department of Defense (DoD) Unified Facilities Criteria (UFC) provisions. Construction is anticipated to begin in June 2010 and would last approximately eight months.

## **1.3 Objectives for the Proposed Action**

The objective for the Proposed Action is to provide consolidated, centrally located facilities on Joint Base Andrews where authorized customers can obtain multiple services at a single location. This would reduce the traffic congestion in some areas of the Base and allow customers to make a single stop for multiple services on the Base. In addition, building improvements would increase energy efficiency and reduce overall operational and maintenance costs.



FIGURE 1-2  
PRELIMINARY SITE MAP  
JOINT BASE ANDREWS  
MARYLAND





## **1.4 Scope of EA**

This EA evaluates the potential impacts of activities involved in constructing a shoppette with a gasoline and retail fast food facility at Joint Base Andrews. Potential impacts to the human and natural environment could be short-term, long-term, or cumulative. Consistent with the local interest of this EA, Joint Base Andrews would provide appropriate review and comment periods prior to finalizing the decision on the action.

Relevant resources evaluated in this EA include: land use; socioeconomics; transportation; infrastructure and utilities; topography, geology, and soils; water resources; biological resources; cultural resources; air quality; noise; hazardous materials and waste management; and safety and occupational health. Principal potential environmental effects of the action would be those associated with construction activities – specifically, stormwater runoff.

## **1.5 Decision to be Made**

The Chairman of the Environmental Safety and Occupational Health Committee at Joint Base Andrews is responsible for deciding which alternative to adopt. The decision would be to implement either the Proposed Action at the preferred site location or the No Action Alternative. If the No Action Alternative is selected, the AAFES facility would not be constructed. The decision will be based on the findings contained in this EA.

## **1.6 Applicable Regulatory Requirements and Required Coordination**

Table 1-1 lists the environmental permits, regulatory compliance requirements, and regulatory agency consultation requirements for each alternative evaluated in the EA. For each requirement, the table provides the regulatory citations, administering agency, and a brief description. The table also indicates which sections of the EA contain technical information relevant to each of the requirements. Appendix A includes a copy of the interagency and intergovernmental coordination for environmental planning (IICEP) letter distribution list. Contractors and/or subcontractors must also comply with all requirements outlined in the 2008 *Andrews AFB Environmental Protection Standards for Contracts* (Andrews AFB 2008a).

Table 1-1 Environmental Permitting, Regulatory Compliance, and Coordination Requirements						
Statute	Requirement	Agency	Description	Applicability		Section
				Alt. 4	No-Action	
Clean Air Act (42 U.S.C. 7401 <i>et seq.</i> )	Air Conformity Determination (40 CFR 93) Air Quality Permit to Construct (COMAR 26.11.02)	Maryland Department of the Environment (MDE)	Federal agencies must demonstrate that actions in nonattainment areas conform to the applicable State Implementation Plan. Approval under an Air Quality Permit to Construct is required prior to construction and/or installation or modification of the regulated emission source. This permit applies to all facilities that dispense gasoline into the fuel tanks of motor vehicles and that have storage tanks larger than 2,000 gallons.	X		4.9
Clean Water Act (33 U.S.C. 1251 <i>et seq.</i> )	National Pollutant Discharge Elimination System (NPDES) General Construction Permit (40 CFR 122 <i>et seq.</i> ; COMAR 26.08.01 <i>et seq.</i> )	MDE (Delegated from the U.S. Environmental Protection Agency)	Approval under a General NPDES Permit for Construction Activity is required for stormwater discharges from new construction activities disturbing 1 acre or more. (NPDES Number MDR10, State Discharge Permit Number 09GP)	X		4.6
Article - Environment Title 4, Subtitle 4, Annotated Code of Maryland	Underground Storage Tank (UST) Regulations (COMAR 26.10) (COMAR 26.1003.09.09 UST)	MDE	Maryland law requires that owners, operators, or the person in charge of USTs that store regulated substances must notify (register) the State of the existence of the UST. UST systems must comply with design requirements. All UST systems are permitted to operate if all the statute conditions are met.	X		4.9 and 4.11
National Historic Preservation Act (16 U.S.C. 470 <i>et seq.</i> )	Section 106 Consultation (36 CFR 800)	Maryland Historic Trust (State Historic Preservation Officer [SHPO] for Maryland)	Actions sponsored, funded, or permitted by federal agencies must be reviewed by the SHPO for possible impacts to historic or archaeological resources eligible or potentially eligible for listing on the National Register of Historic Places.	X		4.8

Table 1-1 Environmental Permitting, Regulatory Compliance, and Coordination Requirements						
Statute	Requirement	Agency	Description	Applicability		Section
				Alt. 4	No-Action	
Endangered Species Act (16 U.S.C. 688 et seq.)	Section 7 Consultation (50 CFR 17)	U.S. Fish and Wildlife Service (FWS)	Actions sponsored, funded, or permitted by federal agencies must be reviewed by the FWS for possible impacts to threatened or endangered species.	X		4.7
Article - Environment Title 4, Subtitle 1, Annotated Code of Maryland	Soil Erosion and Sediment Control Plan Approval (COMAR 26.17.01)	MDE	Required for actions that disturb greater than 5,000 square feet of land.	X		4.5 and 4.6
Article - Environment Title 4, Subtitle 2, Annotated Code of Maryland	Stormwater Management Plan Approval (COMAR 26.17.02)	MDE	Required for actions that disturb greater than 5,000 square feet of land.	X		4.6
Washington Suburban Sanitary Commission (WSSC) Discharge Authorization Permit (DAP) 00001	Wastewater discharge requirements and limitations.	WSSC	The DAP outlines specific wastewater discharge requirements and limitations from industrial facilities; addresses discharges of fuels, oils, greases, and hazardous materials from a facility of this type. The DAP is based on WSSC Plumbing and Gas Code; The DAP may have to be amended so the facility can discharge to WSSC system.	X		4.6
WSSC Plumbing and Gas Code	Wastewater discharge requirements and limitations.	WSSC	Addresses requirements for discharges from food service operations (food, oils, and greases) and car washes.	X		4.6
Andrews Air Force Base Environmental Management System (EMS)	Contractor environmental regulations and requirements.	AAFB - CO 316 Civil Engineering Squadron/ (CEV)	Contractors shall comply with all regulations and requirements identified in the EMS.	X		
Note: The contractor and/or subcontractors involved in planning and executing projects shall apply the general requirements identified in the 2008 <i>Andrews AFB Environmental Protection Standards for Contracts</i> to their specific projects and ensure compliance as applicable. Key: CFR = Code of Federal Regulations. COMAR = Code of Maryland Regulations. U.S.C. = United States Code.						

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## 2 Description of Alternatives Including the Proposed Action

### 2.1 Introduction

This section describes the alternatives that AAFES and Joint Base Andrews have considered to accomplish the Proposed Action. Alternative 4 (Preferred Alternative) and the No Action Alternative, are discussed here; there is also a discussion of the alternatives that have been eliminated from further evaluation because they were not considered to be reasonable. Reasonable alternatives were identified as those alternatives meeting the underlying purpose and need for the action. The No Action Alternative is carried forward for analysis in accordance with NEPA and 32 CFR § 989.8.

### 2.2 Evaluation of Reasonable Alternatives

The selection criteria considered during the development of the siting alternatives described in this section were based on the purpose and need as described in Section 1.2 of this EA and include:

- **Consistent with 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. The site must be located in a highly visible and accessible area of Joint Base Andrews.
- **Adequate Space and Infrastructure to Accommodate New Facilities.** The site must provide adequate space (approximately 3.0 acres of land) to accommodate the Proposed Action. In addition, the site location must provide safe and efficient connectivity to existing infrastructure (i.e., utilities and transportation).
- **Compliant with the Andrews AFB General Plan.** Construction of the new AAFES facility must not conflict with the Base's long-range development plans. New development must be consistent with land use, giving adequate consideration to the existing functional relationships that support the mission.
- **Provide for Safe and Efficient Traffic Flow.** The site must allow for safe vehicular access and provide minimal impacts on existing traffic flow at Joint Base Andrews.
- **Aesthetics.** The 89<sup>th</sup> Airlift Wing (89 AW) – an Air Mobility Command unit and also a partner unit on Joint Base Andrews – is responsible for worldwide, special air mission airlift, logistics, and communications support for the President, Vice President, and other U.S. senior leaders. Additionally, ambassadors and dignitaries from other countries visit the Base. Therefore, the site must be easily accessible, but not negatively affect the aesthetics of the Base.

Using these factors, the following alternatives were identified as reasonable for evaluation in this EA (see Figure 2-1):

- Alternative 1 – Upgrade the existing AAFES facility at Building 1685.
- Alternative 2 – Construct the new shoppette west of the existing AAFES car care facility on the southeast corner of the intersection of F Street and Alabama Avenue.
- Alternative 3 – Construct the new AAFES facility near the shopping center near the intersection of Westover Drive and Arnold Avenue.
- Alternative 4 – Construct the new shoppette on the northwest corner of F Street and Colorado Avenue.
- No Action Alternative.

## **2.3 Description of Alternatives**

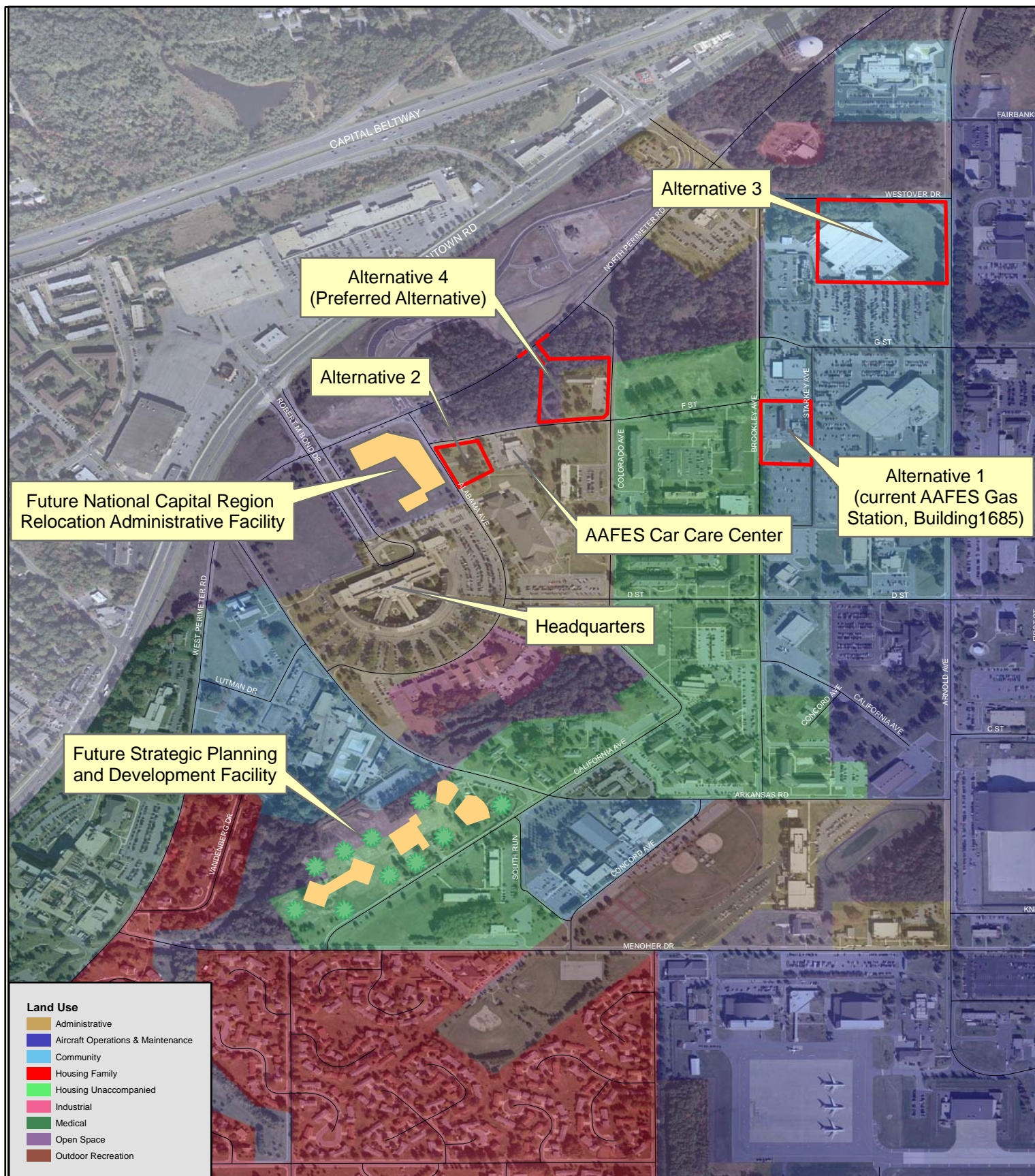
### **2.3.1 Alternative 4: Construct the New Shoppette on the Northwest Corner of F Street and Colorado Avenue**

Under Alternative 4, the AAFES facility would be constructed on the northwest corner of the Colorado Avenue and F Street intersection. This alternative would satisfy all the criteria identified in Section 2.2.

The proposed site is of an adequate size to allow the construction and operation of an approximately 11,000-square-foot shoppette and fueling island with 16 multi-product dispensers with 32 fuel dispenser nozzles; and 57 parking spaces, providing increased service to Base personnel. The new facility would be in compliance with all applicable requirements and energy efficiencies of new construction.

The site would allow ingress and egress from three roads (Perimeter Road, F Street, and Colorado Avenue), thereby minimizing traffic congestion and increasing safety within these areas. Additionally, the site would be located within 1,000 feet of the main gate, increasing visibility of the AAFES services, and would be located near other community services (car care center, shopping center, and restaurants), thereby increasing opportunities to obtain multiple services within these areas.





### **2.3.2 No Action Alternative**

Although the No Action Alternative would not fulfill the purpose and need for the Proposed Action, it is carried forward as a baseline for comparison of the environmental effects of the Proposed Action. The No Action Alternative is defined as not constructing the new AAFES facilities at Joint Base Andrews. Implementation of this alternative would not result in the consolidation and collocation of facilities, continuing the use of inadequate services (Building 1685). Further, Base personnel would not benefit from the expanded customer services and AAFES would not receive additional revenue from these services, which, in turn, would not contribute to the Base's Morale, Welfare, and Recreation program budget.

## **2.4 Alternatives Considered but Eliminated from Detailed Study**

Alternatives considered but eliminated from detailed study because they did not meet the purpose and need are discussed below.

### **2.4.1 Alternative 1: Upgrade the Existing AAFES Facility at Building 1685**

Under Alternative 1, the proposed AAFES facility would be sited at the current AAFES facility, Building 1685 (see Figure 2-1). The existing facility, including the gas station, fuel storage tanks, and the fuel system, would need to be demolished or abandoned in accordance with federal and state regulations prior to construction of the new facility. The existing land use for the site is designated as "Community" in the Andrews AFB General Plan (United States Air Force [USAF] 1996).

When evaluating Alternative 1 against the purpose and need, this alternative fails to comply with the site-selection criteria. Specifically, the Alternative 1 site is approximately 2 acres in size and would not provide adequate space for the proposed facility; therefore, this alternative was eliminated from further consideration in this EA.

### **2.4.2 Alternative 2: Construct the New AAFES Facility West of the Existing AAFES Car Care Center on the Southeast Corner of the Intersection of F Street and Alabama Avenue**

Under Alternative 2, the proposed AAFES facility would be sited at the southeast corner of the intersection of Alabama Avenue and F Street, west of the existing AAFES car care facility (see Figure 2-1). The Alternative 2 site is vacant and situated on property designated as "Administrative" in the Andrews AFB General Plan (USAF 1996). This site would offer the central location desired by



AAFES and Base personnel, access to infrastructure required by the project, and would be consistent with the Andrews AFB General Plan. However, this property would be visible from Joint Base Andrews headquarters (HQ) and is therefore an aesthetically undesirable location. This alternative was eliminated from further consideration in this EA.

#### **2.4.3 Alternative 3: Construct the New AAFES Facility near the Shopping Center near the Intersection of Westover Drive and Arnold Avenue**

Under Alternative 3, the proposed AAFES facility would be sited at the shopping center near the intersection of Westover Drive and Arnold Avenue (see Figure 2-1). The existing land use for the site is designated “Community” in the Andrews AFB General Plan (USAF 1996). This alternative generally meets all the site-selection criteria; however, this alternative would increase traffic congestion in an already congested area. Additionally, there would be a duplication of retail services, since retail services are already available in the shopping center area. As a result, this alternative was eliminated from further consideration in this EA.

### **2.5 Description of Past and Reasonably Foreseeable Future Actions Relevant to Cumulative Impacts**

This EA identifies actions that have been conducted in the past, are ongoing or in the planning stages, and future actions that are related to the Proposed Action. Actions are included in this cumulative analysis to the extent that details regarding such actions exist and the actions have the potential to interact with the Proposed Action. Two such actions are the proposed construction of the National Capital Region Relocation Administrative Facility (NCRRF) at the intersection of West Perimeter Road and Arkansas Avenue (USAF 2007a), and the proposed construction of the Strategic Planning and Development Facility (formerly known as the National Capital Region Readiness Complex) sited on Menoher Drive and California Road (Andrews AFB 2005).

### **2.6 Comparison of Environmental Consequences**

Table 2-1 summarizes the potential impacts of implementing the Proposed Action and the No Action Alternative. The potential impacts to relevant resources are summarized from the information and analyses presented in Sections 3 and 4. Potential short-term and long-term impacts were considered during the comparison of alternatives.

**Table 2-1**  
**Comparison of Alternatives**

Resource/Issue	Alternative 4 (Preferred Alternative)	No Action
Land Use	No land use change required. The new AAFES facility is proposed to be constructed at the site of a former dormitory.	No change.
Socioeconomics, Environmental Justice, and Protection of Children	No change in population; income; housing characteristics, or environmental justice concerns at Andrews AFB. Minor short-term employment opportunities for local contractors.	No change in population; income; employment; housing characteristics, or environmental justice concerns at Andrews AFB.
Transportation	Although not significant, a likely increase in vehicular traffic to the shoppette from expanding services will occur during peak hours and lunch hours	No change.
Infrastructure and Utilities	The site is linked to the Joint Base Andrews utility grid and would likely not have a long-term effect on the usage. Increase in impervious surface area would result in an increase in stormwater, which would be controlled as identified in the Stormwater Management Plan as approved by the Maryland Department of Environment.	No change.
Topography, Geology, and Soils	Potential short-term effects to soils from construction activities; soil erosion control methods and best management practices would reduce potential for effects; additional impervious surfaces would be added.	No change.
Water Resources	No effect to groundwater or wetlands. Increased stormwater runoff would be controlled as identified in the Stormwater Management Plan as approved by Maryland Department of the Environment.	No effect on groundwater, wetlands, floodplains, or drainage on Base.
Biological Resources	Minor effects to wildlife during construction activities. Short-term and moderate short-term impact to vegetation. Trees would be cut down in order to construct. Depending on amount of canopy removed, Base Tree Management may require tree replacement. There would be no effect on threatened and endangered species.	No effects on vegetation or wildlife. Area already disturbed by demolished housing development.
Cultural Resources	No effects expected based on information contained in the Integrated Cultural Resources Management Plan (ICRMP; Andrews AFB 2003).	No changes based on the ICRMP (Andrews AFB 2003).
Air Quality	Potential short-term effects due to emissions of particulate matter and combustion engine emissions during construction activities; long-term emissions during operation of the facility due to vehicular operations and operation of gasoline dispensers.	No change on existing air quality without an upgrade/ expansion to the existing facility.
Noise	Minor increase in noise during construction activities.	No increase to noise levels on Base.

<p><b>Table 2-1</b> <b>Comparison of Alternatives</b></p>		
<b>Resource/Issue</b>	<b>Alternative 4 (Preferred Alternative)</b>	<b>No Action</b>
Hazardous Materials and Wastes Management	Potential short-term negative effects should an accidental release of hazardous waste (leaks and spillage of fuel or lubricants) occur during construction activities; implementation of standard operating procedures (i.e., best management practices) would reduce potential for release of hazardous materials. Potential long-term, negative effects could result from spills occurring during the handling of gasoline (delivery and sales).	No change. Would not disturb or interfere with any sites under investigation under the Environmental Restoration Plan or National Priorities List at Joint Base Andrews. Would not impact any Environmental Restoration Program (ERP) sites on Base.
Safety and Occupational Health	Implementation of the Proposed Action would slightly increase the short-term risk associated with construction contractors performing work at Joint Base Andrews because the level of such activity would increase. Contractors will be required to establish and maintain safety programs.	No change
<p>Key: AAFES = Army and Air Force Exchange Service. AFB = Air Force Base.</p>		

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## 3 Affected Environment

This section describes the existing physical, natural, and human environments that may be impacted by the implementation of the Proposed Action and the No Action Alternative.

### 3.1 Land Use

Joint Base Andrews encompasses 4,346 acres (excluding remote sites) in Prince George's County, Maryland, and is adjacent to the community of Camp Springs. Joint Base Andrews provides worldwide airlift and logistical support for the President of the United States, the Vice President, cabinet members, and other high-ranking United States and foreign officials. Land uses at the Base have been designated into twelve categories: existing structures, wetlands, surface water bodies, the golf course, and facilities for administrative, community, dorm, flightline, industrial, medical, military family housing, and recreational use (see Figure 2-1).

Overall, the visual character of the Base is industrial and urban in nature, with large expanses of paved or developed land as indicated in Table 3-1. Further, the Base is divided into western and eastern sections, separated by the airfield that runs north-south. The western section of the Base contains the majority of the land area, including a large outdoor recreation/golf course facility, all community facilities, and Malcolm Grow Medical Center. Land uses in the eastern section include various airfield operations support facilities and administrative/industrial facilities.

<b>Table 3-1 Joint Base Andrews Land Type Comparison</b>		
<b>Land Type</b>	<b>Acres</b>	<b>Percentage (%)</b>
Improved Grounds	2,260	52
Semi-Improved Grounds	1,500	35
Undeveloped	586	13
Total	4,346	100
Key: Improved Grounds = Administrative and athletic areas, all covered areas (under building and pavements), family housing areas, golf course fairways and greens, and the two runways. Semi-Improved Grounds = Open spaces in the runway area and clear zone. Undeveloped = Undeveloped forestland.		

In accordance with Air Force Instruction (AFI) 32-7062 “Air Force Comprehensive Planning,” the Andrews AFB General Plan (USAF 1996) was developed in 1996 and outlines existing and anticipated future land use on the Base. According to the most recent Plan update in 2003, little undeveloped land suitable for future development remains (USAF 2003). Most capital improvement projects proposed in the Andrews AFB General Plan Update involve renovations, demolitions, and construction of modest-sized buildings and other structures in the developed areas west and east of the airfield.

## **3.2 Socioeconomics, Environmental Justice and Protection of Children**

### **3.2.1 Population and Demographics**

The study area populations presented in Table 3-2 include 1990, 2000, and 2008 census data. Race and ethnicity statistics are included to characterize the demographic composition of the community surrounding Joint Base Andrews. According to the 2008 census estimates, the total population of Prince George’s County was 820,852 persons. Between 1990 and 2000, the population of the county increased by 9.9%. Between 2000 and 2008, the population of the county increased by an estimated 2.41%. By 2025, the county is projected to grow by an additional 18% to approximately 945,600 (Maryland Department of Planning, Planning Data Services n.d.). The demographic composition of the regional population changed between 1990 and 2000; the percent of Caucasian population decreased, while the percentage of minority populations maintained or increased, as in the case of Blacks/African-Americans. From 2000 to 2008, both minority and Caucasian populations increased slightly with the exception of the ‘Other’ (alone and two or more) population group. These percentages can also be compared to the larger Washington-Baltimore Consolidated Metropolitan Statistical Area (CMSA), of which Prince George’s County is a component. Approximately 7,000 military personnel and their dependents reside at Joint Base Andrews (89 AW 1998).

**Table 3-2**  
**Local Population and Demographic Statistics, 1990, 2000, and 2008**

Socioeconomic Parameter	Prince George's County, MD						Washington-Baltimore CMSA					
	1990		2000		2008		1990 <sup>(a)</sup>		2000		2008	
Population												
Total Population	729,268	-	801,515	-	820,852	-	NA	-	7,608,070	-	8,295,397	-
% Change from previous year	-	-	9.90%	-	2.41%	-	-	-	-	-	9.03%	-
Race <sup>(b)</sup>												
White	314,559	43%	216,774	27%	230,701	28%	NA	-	4,791,400	63%	4,958,337	60%
Black/African American alone	369,622	51%	501,431	63%	538,142	66%	NA	-	1,980,986	26%	2,635,626	32%
American Indian/Alaska Native alone	2,808	<1%	2,643	<1%	3,662	<1%	NA	-	23,529	<1%	31,184	<1%
Asian alone	27,437	4%	30,390	4%	32,668	4%	NA	-	393,957	5%	497,723	6%
Native Hawaiian/Pacific Islander alone	485	<1%	380	<1%	975	<1%	NA	-	3,900	<1%	6,620	<1%
Other (alone and two or more)	14,357	2%	49,897	6%	14,704	2%	NA	-	414,298	5%	165,907	2%
Ethnicity												
Hispanic	28,927	4%	56,813	7%	105,325	13%	NA	-	483,549	6%	995,448	12%
Non-Hispanic	700,341	96%	744,702	93%	715,527	87%	NA	-	7,124,521	94%	7,299,949	88%
Source: Maryland State Data Center n.d.(a) and n.d.(b).												
Notes:												
(a) The Washington-Baltimore CMSA was not a geographic area for which the U.S. Census Bureau gathered data in 1990.												
(b) Race categories were changed between the 1990 and 2000 censuses, but these represent the best comparison.												
Key:												
CMSA = Consolidated Metropolitan Statistical Area.												
MD = Maryland.												

### 3.2.2 Economy and Income

Joint Base Andrews is a major employer in Prince George's County, accounting for a total workforce of approximately 17,000 persons, including 13,500 appropriated fund military personnel, 2,200 appropriated fund civilian personnel, and 1,300 non-appropriated fund contract civilians and employees of on-Base private businesses. Combined military and civilian salaries at the Base exceed \$400 million annually. Table 3-3 presents the annual historical unemployment rates for 2007 and 2008 for the geographic areas surrounding Joint Base Andrews. It should be noted that the unemployment rate for each geographic area increased from 2007 to 2008 and is lower in comparison to the U.S. unemployment rates for the same period.

<b>Table 3-3</b>		
<b>Unemployment Rates, 2007 and 2008</b>		
<b>Geographic Area</b>	<b>2007</b>	<b>2008</b>
Prince George's County, Maryland	3.7	4.5
Washington-Arlington-Alexandria Metropolitan Statistical Area	3.5	4.3
Baltimore-Towson, Maryland Metropolitan Statistical Area	3.7	4.6
United States	4.6	5.8
Source: Bureau of Labor Statistics n.d.(a), n.d.(b), and n.d.(c).		

### 3.2.3 Environmental Justice

Executive Order (EO) 12898 "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" mandates that federal agencies identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of their programs on minority and low-income populations. A disproportionate environmental impact occurs when the risk or rate for a minority population or low-income population from exposure to an environmental hazard exceeds the risk or rate of the general population and, where available, to another appropriate comparison group (DoD 1995; United States Environmental Protection Agency [USEPA] 1998).

EO 13045 "Protection of Children from Environmental Health Risks and Safety Risks" mandates that federal agencies identify and assess environmental health and safety risks that may disproportionately affect children as a result of the implementation of federal policies, programs, activities, and standards (62 *Federal Register* 19883-19888).

In order to comply with EOs 12989 and 13045, ethnicity, poverty status, and age of the populations in the census tracts bordering Joint Base Andrews were examined and compared to regional, state, and national data (see Table 3-4). The potential effects of the Proposed Action on



minority and low-income populations and children have been evaluated in accordance with the requirements of the EOs and are detailed in Section 4.

<b>Table 3-4 Environmental Justice Data</b>			
<b>Location</b>	<b>Percent Minority <sup>(a)</sup></b>	<b>Percent Below Poverty Level <sup>(b)</sup></b>	<b>Percent Aged 17 Years or Younger</b>
<b>United States</b>	<b>22.4</b>	<b>12.4</b>	<b>25.7</b>
<b>Maryland</b>	<b>34.0</b>	<b>8.5</b>	<b>25.6</b>
<b>Prince George's County</b>	<b>70.4</b>	<b>7.7</b>	<b>26.8</b>
Tract 8011.04 (Joint Base Andrews)	32.0	2.4	35.0
Tract 8007.01	81.0	3.6	27.0
Tract 8007.02	57.0	3.7	26.0
Tract 8012.03	77.0	3.1	27.0
Tract 8012.04	78.0	1.8	26.0
Tract 8012.05	64.0	6.3	25.0
Tract 8019.06	70.0	6.6	29.0
Tract 8022.01	70.0	5.7	25.0
Source: U.S. Department of Commerce, Census Bureau n.d.			
Notes:			
(a) To calculate the Total Percent Minority, the numbers for only individuals in the "one race" category were included. The "one race" individuals represented 95-99% of the population and allows for an accurate portrayal of the entire population.			
(b) The most recent data for % below poverty level available was used in the table. The national, state, county, and the census tract data are year 1999 information.			

As demonstrated in Table 3-4, the percentage of minorities residing in three of the seven census tracts surrounding Joint Base Andrews is higher than the county level. It is important to note that the minority percentage in Prince George's County is higher than the state of Maryland. The Prince George's County figure of 7.7% for those living below the poverty level is higher than the seven census tracts surrounding Joint Base Andrews. Further, Table 3-4 demonstrates that three of the seven census tracts analyzed surrounding Joint Base Andrews have a higher percentage of children aged 17 or younger than Prince George's County.

### **3.2.4 Community Services and Facilities**

The Proposed Action would occur entirely on Joint Base Andrews and would not require significant use of the local community's infrastructure. Potential noise impacts from the Proposed Action on the surrounding community are discussed in Section 4.10. There would be no changes to the provision of existing community services, including police and fire protection, and medical services.

### **3.3 Transportation**

Joint Base Andrews is located 5 miles southeast of Washington, D.C. (see Figure 1-1). The primary roadway serving the Base and the surrounding communities is Interstate 95/495 (I-95/495), known as the “Capital Beltway,” which runs along the west side of the Base and provides direct access to Allentown Road (Maryland [MD] 337), Suitland Parkway, and Marlboro Pike. Other routes, including MD 4, Pennsylvania Avenue, and MD 5, distribute traffic from I-95/495 onto other local roadways.

Access to Joint Base Andrews is controlled at six gates: the Main, Pearl Harbor, Virginia, North, Maryland, and West Gates. Primary access is provided through the Main Gate. This gate is open 24 hours and is available for use by government employees, residents, and visitors. The Pearl Harbor Gate provides access for construction vehicles and contractors. The Virginia and North Gates provide access for government employees and Base residents during restricted hours. The Maryland Gate is restricted for use to visiting dignitaries or other distinguished visitors. The West Gate is not currently open to traffic, but may be used as a pedestrian gate in the future. The roadway system at Joint Base Andrews forms a loose grid pattern, with Perimeter Road (divided into north, south, east and west) encircling Joint Base Andrews. North Perimeter Road and South Perimeter Road are two-lane, paved roads that cross the northern and southern portions of the airfield, respectively, allowing vehicles to cross from the western to the eastern parts of the Base.

### **3.4 Infrastructure and Utilities**

#### **3.4.1 Wastewater Collection and Disposal**

Wastewater collected by Joint Base Andrews’s sanitary sewer system is treated at wastewater treatment facilities owned and operated by the Washington Suburban Sanitary Commission (WSSC). Two on-Base collection systems convey wastewater by both gravity sewer and force mains. Many of the lift stations have been upgraded in recent years, and the system was privatized in February 2006, which has led to improvements in the system’s overall physical condition and efficiency.

A sanitary sewer system on the west side of the Base discharges to the West Branch wastewater treatment plant. The West Branch wastewater treatment plant has a capacity of 30 million gallons per day. The main trunk lines on the west side follow West Perimeter Road, Menoher Drive, San Antonio Boulevard, and Colorado Avenue. A 21-inch sewer trunk line exits on the west side under Branch Avenue, approximately 1,500 feet south of Georgia Avenue.

### **3.4.2 Potable Water Supply**

The potable water at Joint Base Andrews is supplied by WSSC. Water from the Potomac River supplies two storage reservoirs that have a combined capacity of 43 billion gallons. Joint Base Andrews' potable water is treated by the Potomac River Water Filtration Plant. The Potomac River Water Filtration Plant has a capacity of 285 million gallons per day (USAF 2003). Joint Base Andrews receives its water supply through three connections of 8-, 12-, and 14-inches. The required storage capacity at Joint Base Andrews is 825,000 gallons of potable water, given the average daily demand of 1.65 million gallons per day.

### **3.4.3 Solid Waste Management**

The Civil Engineering Operations Flight manages the program for collecting, handling, and disposing of solid waste generated on the Base. The Resources, Recovery, and Recycling Program office and the Maintenance and Engineering office are responsible for the collection, segregation, accumulation, and disposition of domestic waste recyclables from numerous industrial and domestic collection sites. Solid waste generated on the Base that cannot be recycled is collected and disposed of by a contractor at a licensed landfill in Prince George's County. In addition, construction debris is disposed of at an offsite landfill by the contractor responsible for any renovation or demolition activities.

### **3.4.4 Stormwater**

Joint Base Andrews maintains a Stormwater Pollution Prevention Plan that provides drainage descriptions and best management practices (BMPs) for stormwater pollution prevention consistent with the National Pollutant Discharge Elimination System (NPDES) requirements found in 40 CFR 126.26. Joint Base Andrews' stormwater drainage system consists of catch basins, culverts, underground storm sewer pipes, and ditches that discharge rain water into Piscataway Creek and tributaries to Tinkers Creek, Henson Creek, Cabin Branch, and Charles Branch. Ultimately, these creeks flow into either the Potomac or the Patuxent Rivers. The majority of stormwater leaving the Base drains into the Piscataway Creek watershed and eventually into the Potomac River (Andrews AFB 2008b).

### **3.4.5 Natural Gas**

The Washington Gas Light Company supplies natural gas to Joint Base Andrews through seven connection points and is responsible for the installation and maintenance of the natural gas distribution system at the Base. According to the Andrews AFB General Plan, the natural gas

distribution system is rated as adequate and is 10 miles in length, approximately 26 years old, and the pipe material consists of polyethylene (USAF 1996). However, in conjunction with two heat plants being shut down in 2005 numerous boilers and heaters were fitted with new natural gas piping during their installation.

#### **3.4.6 Electricity**

The Potomac Electric Power Company provides electrical power to Joint Base Andrews through two electrical feeders that tie directly into the main substation on the Base. From this substation, which is owned and operated by the USAF, a total of 20 primary feeder circuits distribute electricity to the rest of the Base. The distribution system is a combination of both overhead and underground power lines. Most of the primary feeder circuits and feeder lines on the west side of the Base are old and many transformers are pole-mounted instead of pad-mounted; therefore, the electrical distribution system is rated “degraded.”

#### **3.4.7 Heating and Cooling**

Joint Base Andrews has 5,800 tons of air conditioning capacity, 107 boilers, 62 furnaces, 200 infrared heaters, and 193 water heaters or converters that provide temperature control and hot water to 400 facilities (Andrews AFB 2008b). A separate chilled water plant serves Building 1535, Wing/Air Force District of Washington HQ. The two central heat plants were shut down in 2005 and replaced with 190 units in 168 facilities (Andrews AFB 2008b). The Base’s heating, ventilation, and air conditioning (HVAC) infrastructure was rated “degraded” during a September 2007 assessment. The base-wide HVAC system continues to improve as a result of decentralization of the two central heat plants and installation of newer equipment under the Utility Energy Savings Contract (UESC), along with a Recurring Work Program and system replacement by shop personnel. Planned improvements include replacing or repairing aging systems under the UESC by shop personnel.

### **3.5 Topography, Geology, and Soils**

#### **3.5.1 Topography**

Joint Base Andrews is located near the western margin of the Coastal Plain physiographic province. This province is characterized by gently rolling hills and valleys. Elevations at the Base range from approximately 220 feet above mean sea level in the southeast corner of the Base to approximately 280 feet above mean sea level in the northern section. Areas of moderately sloping topography are limited to stream banks.

### **3.5.2 Geology**

The Coastal Plain province is underlain by a wedge of unconsolidated sediments, including gravel, sand, silt, and clay. The thickness of these sedimentary layers is approximately 1,300 feet in the vicinity of Joint Base Andrews. The sediments dip eastward at a low angle, generally less than one degree, and thicken seaward. Surface materials are comprised mainly of sand and gravel with minor amounts of silt and clay.

### **3.5.3 Soils**

The Soil Conservation Service (SCS; now referred to as the Natural Resources Conservation Service) completed a detailed soil survey of Andrews AFB in 1974 (SCS 1974). Approximately 85% of Andrews AFB (now Joint Base Andrews), including the preferred site, has been disturbed by cut and fill or other construction activities since 1942. Soils on most of the airfield and Base lands to the north and south of the airfield are mapped as Udorthents, defined as soils that have been altered by cutting, filling, or urban development. Other dominant soil associations on the Base are Sassafrass-Croom and the Beltsville-Leonardtown-Cillum.

## **3.6 Water Resources**

### **3.6.1 Groundwater**

Shallow groundwater occurs beneath Joint Base Andrews within the Brandywine Formation and the underlying Calvert Formation. These formations range in thickness from 65 to 150 feet. Groundwater is generally encountered at the Base from approximately 4 to 9 feet below ground surface. The upland deposits, underlain by the Calvert Formation, consist of stratified sand, silt, clay, and gravel. Precipitation is the main source of groundwater recharge to the upland deposits (USAF 2001). In general, the direction of groundwater flow at the Base is toward the south to Piscataway Creek (National Atmospheric and Oceanographic Administration 2004).

Deep aquifers beneath Joint Base Andrews occur in the Aquia, Magothy, Patapsco, and Patuxent Formations. Each of these aquifers has the potential to yield large quantities of water. The Aquia formation, located at a depth of 150 feet, is a primary source of groundwater for Prince George's, Anne Arundel, Charles, and St. Mary's Counties, and is primarily recharged by infiltration in an area northwest of Joint Base Andrews. The estimated depths to the aquifers range from 150 to 900 feet (USAF 2001).

### **3.6.2 Surface Water and Drainage**

Joint Base Andrews is located on a drainage divide that separates the watersheds of the Potomac River to the west from the Patuxent River to the east. In general, the majority of the Base drains to the south and west and is within the Potomac River watershed, while the northeast section of the Base is within the Patuxent River watershed. Specifically, Joint Base Andrews is divided into eight major watersheds.

The preferred site is located within Watershed 3, which drains approximately 798 acres and is the second largest drainage area on the Base. Approximately 300 acres of this watershed originate off Base. Nearly half of this watershed is located in residential areas. Storm sewer systems collect and convey runoff from approximately 80% of the drainage area. Runoff from this watershed drains west to Meetinghouse Branch, a tributary of Tinkers Creek that eventually discharges to the Middle Potomac River. These water bodies are located greater than 5,000 feet southwest of the preferred site.

Surface water features on Joint Base Andrews include nine small ponds and Base Lake, which covers approximately 14 acres in the southern section of the Base. No natural surface waters are within or immediately adjacent to the preferred site.

### **3.6.3 Wetlands**

Two wetland surveys have been previously conducted at the Andrews AFB Main Base. A 2004 survey (Andrews AFB 2004a) identified 87.2 acres of jurisdictional wetlands, of which approximately 36 acres are palustrine forested wetlands and 31 acres are palustrine emergent wetlands. The remaining 20.2 acres are palustrine open water habitats. There are no jurisdictional wetlands mapped on or in the vicinity of the preferred site.

### **3.6.4 Floodplains**

A floodplain analysis was completed for Andrews AFB in July 2005 to identify and demarcate the 100-year floodplain. There are no floodplains on the preferred site.

## **3.7 Biological Resources**

### **3.7.1 Vegetation**

Joint Base Andrews is located in the Oak-Pine Forest Region, Atlantic Slope Section (Braun 1950). As indicated previously, nearly 80% of the Base is developed or intensely managed (improved or semi-improved). Improved areas include lawns, gardens, golf course fairways, ponds, bare ground, and recreational fields, while semi-improved areas include runway borders, the infield, and approach

clear zones where vegetation is permanently maintained in an herbaceous condition. Unimproved areas at the Base primarily comprise late successional ecological communities, including mixed hardwood forests, mixed hardwood/pine forests, oak forests, oak/hickory forests, oak/pine forests, pine forests, and red maple swamp. These communities cover approximately 600 acres and are concentrated in the southern section of the Base and around the base perimeter. Some scattered areas on the Base also contain early successional herbaceous communities dominated by nonindigenous, invasive plants, such as Japanese honeysuckle (*Lonicera japonica*), English ivy (*Hedera helix*), wintercreeper (*Euonymus fortunei*), privet (*Ligustrum* spp.), periwinkle (*Vinca minor*), wineberry (*Rubus phoenicolasius*), tree-of-heaven (*Ailanthus altissima*), oriental bittersweet (*Celastrus orbiculatus*), autumn olive (*Elaeagnus umbellata*), Russian olive (*Elaeagnus angustifolia*), beggarticks (*Bidens polylepis*), tall fescue (*Festuca elatior*), purple loosestrife (*Lythrum salicaria*), Korean lespedeza (*Lespedeza cuneata*), common reed (*Phragmites australis*), and multiflora rose (*Rosa multiflora*).

### **Joint Base Andrews Forest Management**

A large portion of Prince George's County has been deforested for urban and suburban development. As a result, Joint Base Andrews has an Arbor Plan (Andrews AFB 2004b) that integrates forest management activities with the management of all natural resources and with the military mission requirements. The primary purpose of the Arbor Plan is to require forest management on Joint Base Andrews through the implementation of guidelines and specific recommendations for maintaining the forested areas in a healthy and productive condition. The Arbor Plan addresses urban forestry, planting plans, management of flight operations, tree preservation compliance, forest protection, protective land use, forest habitat enhancement, and tree management and maintenance.

The Arbor Plan states that Andrews AFB (now Joint Base Andrews) will continue to comply with state and county regulations, as applicable, concerning conservation and preservation of trees as outlined in the Maryland Forest Conservation Act of 1991 and the Prince George's County Woodland Conservation and Tree Preservation Ordinance, respectively. All military construction projects will be reviewed to determine the need and status of tree replacement. All aspects of the requirements will be evaluated for completion and success, including planting success, species composition, and monitoring schedules.

### 3.7.2 Wildlife

Wildlife diversity at Joint Base Andrews is limited due to the relatively minimal coverage and fragmented nature of natural habitats occurring at the Installation. The proposed project site is a developed, landscaped area. Wildlife diversity at this site is limited, but the forested area may contain native species such as small birds and mammals, including crows, blackbirds, squirrels, rabbits, and mice. Small mammals include the eastern cottontail rabbit (*Sylvilagus floridanus*), skunk (*Mephitis mephitis*), and various rodent species. Further, Joint Base Andrews is located within the Atlantic Migratory Flyway, serving as a stop-over zone for thousands of migrating birds. Facilities located on Joint Base Andrews must be constructed and operated in accordance with the bird aircraft strike hazard (BASH) plan (Andrews AFB 2006).

### 3.7.3 Threatened and Endangered Species

Federal and state threatened and endangered species inventories were conducted at Andrews AFB in 1993, 1996/1997, and 2004/2005 (Davis 1994; Parsons Engineering Science, Inc. 1998; and Ecology and Environment, Inc. 2005, respectively). Table 3-5 lists the threatened and endangered species that have been identified as occurring at Joint Base Andrews, as well as the species protection status and habitat requirements.

<b>Table 3-5</b> <b>Federal Threatened and Endangered Species and State-Listed Threatened and Endangered and Rare Species at or in the Vicinity of Joint Base Andrews</b>				
Species	Scientific Name	Federal Status	State Status	Habitat
Sandplain gerardia	<i>Agalinis acuta</i>	E	E	South of the airfield near the 13 <sup>th</sup> tee of The Course at Joint Base Andrews
Ten-lobed agalinis	<i>Agalinis obtusifolia</i>	NS	E	South of the airfield and east of the old landfill site
Curtis' three-awn	<i>Aristida curtissii</i>	NS	R	Southeastern portion of airfield near the fire training facility
Spiral pondweed	<i>Potamogeton spirillus</i>	NS	R	East shore of the west pond southeast of Base Lake
Tall nut-rush	<i>Scleria triglomerata</i>	NS	R	Southern perimeter fence of the Base below the south clear zone of the east runway
Carolina foxtail	<i>Alopecurus carolinianus</i>	NS	R	Southern end of the wetland located southeast of the intersection of North Perimeter Road and Patrick Avenue
Swollen bladderwort	<i>Utricularia gibba</i>	NS	WL	Western branch of the Bell Chance Pond
Sources: Davis 1994; Parsons Engineering Science, Inc. 1998; Ecology and Environment, Inc. 2005. Key to Status Codes: E – Endangered NS – No Status R – Rare WL – Watch list Species				



The only federally listed threatened or endangered species potentially occurring within or in proximity to Joint Base Andrews is the sandplain gerardia (*Agalinis acuta*). The ten-lobed agalinis (*Agalinis obtusifolia*) is state-listed as endangered. There are also five plants considered rare by the state of Maryland, including Carolina foxtail (*Alopecurus carolinianus*), Curtis' three-awn (*Aristida curtissii*), spiral pondweed (*Potamogeton spirillus*), swollen bladderwort (*Utricularia gibba*), and tall nut-rush (*Scleria triglomerata*). None of these species have been documented in or near the preferred site. The closest documented location of a rare species, swollen bladderwort, is approximately 5,000 feet northeast of the preferred site in the western branch of Belle Chance Pond.

### **3.8 Cultural Resources**

Section 110(a)(2) of the National Historic Preservation Act (NHPA; 16 U.S.C. 470, as amended) requires federal agencies to inventory, protect, and maintain historic properties under their jurisdiction. Under Section 110 of the NHPA, federal agencies are obligated to take into account the effect of their undertakings on cultural resources and to provide the Advisory Council on Historic Preservation an opportunity to comment on these undertakings. An Integrated Cultural Resources Management Plan (ICRMP) (Andrews AFB 2003) was developed for the Base, which provides guidance for the management of cultural resources as an integral part of the Base Comprehensive Plan, as required by AFI 32-7065 "Cultural Resources Management" for the five-year period beginning in fiscal year 2002. According to the ICRMP, seven cultural resource surveys and investigations have been conducted at Joint Base Andrews. As a result of these surveys and investigations, it was determined that there is one archaeological site and three buildings on Joint Base Andrews that are potentially eligible for listing on the National Register of Historic Places. These potentially historic buildings are located approximately 3,500 feet northeast of the preferred project site.

### **3.9 Air Quality**

#### **Clean Air Act (42 U.S.C. 7401 et seq.)**

The Clean Air Act of 1970, 42 U.S.C. 7401 et seq., amended in 1977 and 1990, is the primary federal statute governing air pollution. The Clean Air Act designates six pollutants as criteria pollutants for which National Ambient Air Quality Standards (NAAQS) have been promulgated to protect public health and welfare. The six criteria pollutants are particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>), carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), nitrogen dioxide (NO<sub>2</sub>), lead (Pb), and ozone (O<sub>3</sub>).

Under the Clean Air Act, state and local air quality control agencies may establish ambient air quality standards and regulations of their own, provided that these are at least as stringent as the federal requirements. The NAAQS and Code of Maryland Regulations for all the criteria pollutants are summarized in Table 3-6.

<b>Table 3-6 Air Quality Standards</b>			
<b>Pollutant</b>	<b>National Ambient Air Quality Standards</b>		<b>Code of Maryland Regulations</b>
	<b>Level</b>	<b>Averaging Time</b>	<b>Level</b>
Carbon Monoxide (CO)	9 ppm (10 mg/m <sup>3</sup> )	8-hour <sup>(a)</sup>	9 ppm (10 mg/m <sup>3</sup> )
	35 ppm (40 mg/m <sup>3</sup> )	1-hour <sup>(a)</sup>	35 ppm (40 mg/m <sup>3</sup> )
Lead (Pb)	1.5 µg/m <sup>3</sup>	Quarterly Average	1.5 µg/m <sup>3</sup>
Nitrogen Dioxide (NO <sub>2</sub> )	0.05 ppm (100 µg/m <sup>3</sup> )	Annual (Arithmetic Mean)	0.05 ppm (100 µg/m <sup>3</sup> )
Particulate Matter less than 10 microns in diameter (PM <sub>10</sub> )		Annual <sup>(c)</sup> (Arithmetic Mean)	50 µg/m <sup>3</sup>
	150 µg/m <sup>3</sup>	24-hour <sup>(b)</sup>	150 µg/m <sup>3</sup>
Particulate Matter less than 2.5 microns in diameter (PM <sub>2.5</sub> )	15.0 µg/m <sup>3</sup>	Annual <sup>(c)</sup> (Arithmetic Mean)	15.0 µg/m <sup>3</sup>
	35 µg/m <sup>3</sup>	24-hour <sup>(d)</sup>	65 µg/m <sup>3</sup>
Ozone (O <sub>3</sub> )	0.075 ppm (2008 std)	8-hour <sup>(e)</sup>	0.08 ppm
Sulfur Dioxide (SO <sub>2</sub> )	0.03 ppm	Annual (Arithmetic Mean)	0.03 ppm
	0.14 ppm	24-hour <sup>(a)</sup>	0.14 ppm
	0.5 ppm (1,300 µg/m <sup>3</sup> )	3-hour <sup>(1)(a)</sup>	0.5 ppm (1,300 µg/m <sup>3</sup> )
Notes: (a) Not to be exceeded more than once per year (b) Not to be exceeded more than once per year on average over three years (c) To attain this standard, the three-year average of the weighted annual mean PM <sub>2.5</sub> concentrations from single or multiple community-oriented monitors must not exceed 15.0 µg/m <sup>3</sup> (d) To attain this standard, the three-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed 35 µg/m <sup>3</sup> (effective December 17, 2006) (e) To attain this standard, the three-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.075 ppm (effective May 27, 2008). Key: µg/m <sup>3</sup> = micrograms per cubic meter. mg = milligrams. ppm = parts per million.			

Federal law requires states or local air quality control agencies to have a State Implementation Plan (SIP) that prescribes measures to eliminate or reduce the severity and number of violations of NAAQS and to achieve expeditious attainment of these standards. The SIP is the primary means for the implementation, maintenance, and enforcement of the measures needed to attain and maintain the NAAQS in each state. Areas that do not meet NAAQS are designated as “nonattainment” for those criteria pollutants. Nonattainment status is further defined by the extent the standard is exceeded as in moderate/severe nonattainment.

### **General Conformity**

The General Conformity Rule has been promulgated by the USEPA to ensure that the actions of federal departments or agencies conform to the applicable SIP. The General Conformity 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 applicability of the General Conformity Rule requirements if the action’s total net emissions are below the *de minimis* levels specified in the rule and are not regionally significant (i.e., the emissions represent 10% or less of nonattainment or maintenance area’s total emission inventory of that pollutant) or are otherwise exempt per 40 CFR 93.153. 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. However, there are special considerations regarding mobile-source emissions. If the action or a portion of the action is subject to the transportation conformity rule, that portion of the action is not subject to the General Conformity Rule.

### **Stationary Source Operating Permits**

The Air and Radiation Management Administration regulates air management permits for stationary air pollution sources in the State of Maryland (Code of Maryland Regulations [COMAR]

26.11). Air quality permits must be obtained for new or modified sources. Title V of the Clean Air Act Amendments of 1990 requires states to issue federal operating permits for major stationary sources. A major stationary source in a nonattainment or maintenance area is a facility that emits more than 25 tons per year (tpy) of volatile organic compounds (VOCs) or nitrogen oxides (NO<sub>x</sub>), 100 tpy of any other nonattainment criteria air pollutant, 10 tpy of a single hazardous air pollutant, or 25 tpy of any combination of hazardous air pollutants. The purpose of the permitting rule is to establish regulatory control over large, industrial activities and to monitor their impact upon air quality.

### **Joint Base Andrews Air Quality**

Federal regulations in 40 CFR 81 (Designation of Areas for Air Quality Planning Purposes) delineate certain air quality control regions (AQCRs), originally designated based on population and topographic criteria closely approximating each air basin. The potential influence of emissions on regional air quality would typically be confined to the air basin in which the emissions occur. Joint Base Andrews is located in Prince George's County within the Washington Metropolitan Area AQCR. Prince George's County is currently in attainment for NO<sub>x</sub>, SO<sub>2</sub>, PM<sub>2.5</sub> (daily only), PM<sub>10</sub>, and Pb. Portions of the Washington Metropolitan Area AQCR, including Prince George's County, are designated as nonattainment areas for 8-hour O<sub>3</sub> and for annual PM<sub>2.5</sub>. They are also maintenance areas for CO. The USEPA has revised the tables in sub-paragraphs(b)(1) and (b)(2) of 40 CFR 51.853 and 40 CFR 93.153 by adding the *de minimis* levels for PM<sub>2.5</sub> and its precursors as 100 tpy.

### **Current Emissions**

Air emissions from stationary sources at Joint Base Andrews include those from boilers/heaters, gasoline storage and dispensing operations, paint spray booths, emergency generators, abrasive blasting, and off aircraft jet engine testing. Table 3-7 provides a summary of a mobile emissions inventory prepared in 2004, revised in 2005, using 2002 data, and stationary emissions inventories conducted in 2006, 2007, and 2008 (USAF 2005b, 2007b, 2008 and 2009, respectively).

### **Regional Air Emissions**

The NEPA process must also consider impacts from mobile sources and indirect emissions related to the project, such as commuting and vehicle travel around the project area. Table 3-8 lists county-wide emissions for Prince George's County as compiled by the USEPA in its National Emissions Inventory, last updated in 2002 (USEPA 2002). The 2002 National Emissions Inventory contains estimates of annual emissions for stationary and mobile sources of air pollutants in each county.

<b>Table 3-7</b> <b>Baseline Emissions at Joint Base Andrews</b> <b>(formerly Andrews Air Force Base)</b>						
Joint Base Andrews, Maryland		Annual Emissions (tpy)				
		CO	VOC	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>
2006	Stationary Sources <sup>(a)</sup>	6.2	3.4	12.1	2.4	0.6
	Mobile Sources <sup>(b)</sup>	2,128	527	650	41	107
2007	Stationary Sources <sup>(a)</sup>	6.2	3.1	12.6	2.3	0.6
	Mobile Sources <sup>(b)</sup>	2,128	527	650	41	107
2008	Stationary Sources <sup>(a)</sup>	5.54	3.02	9.05	1.51	0.56
	Mobile Sources <sup>(b)</sup>	2,128	527	650	41	107
Sources: (a) Emissions Certification Report, USAF 2007b, 2008, 2009, Table 1-2. (b) USAF 2005b, Table S-1, (Data collected 2002). Key: CO = carbon monoxide. NO <sub>x</sub> = nitrogen oxides. PM <sub>10</sub> = particulate matter with a diameter of less than 10 microns. SO <sub>x</sub> = sulfur oxides. tpy = tons per year. VOC = volatile organic compound.						

<b>Table 3-8</b> <b>Air Emissions Inventory Prince George's County, Maryland</b> <b>Calendar Year 2002</b>					
Prince George's County, Maryland	Pollutants (tpy)				
	CO	VOC	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>2.5</sub>
Stationary Sources	16,606	13,490	17,497	55,146	6,827
Mobile Sources	200,338	13,902	21,527	943	622
Source: USEPA 2002. Key: CO = carbon monoxide. NO <sub>x</sub> = nitrogen oxides. PM <sub>10</sub> = particulate matter with a diameter of less than 10 microns. SO <sub>x</sub> = sulfur oxides. tpy = tons per year. VOC = volatile organic compound.					

## Operating Permits

Joint Base Andrews is divided into several organizational elements for purposes of air quality permitting. The Title V Operating Permit issued by the Maryland Department of the Environment (MDE) for Air Force operations included various emission source types including boilers, abrasive blasting booth, paint booths, gasoline/E-85 tanks, and generators. Because actual facility-wide (NO<sub>2</sub>) emissions were significantly below the threshold for Title V applicability due to the shutdown of two steam plants, Andrews AFB applied for and received a State Permit to Operate in February 2006 (revised permit in April 2006), thereby designating Andrews AFB (now Joint Base Andrews) as a non-Title V synthetic minor source.

## **3.10 Noise**

The primary source of noise at Joint Base Andrews is associated with aircraft operations and maintenance. The noise environment around an air station typically is described using a measure of the cumulative noise exposure (i.e., day-night average sound level [DNL]) that results from aircraft operations. DNL takes into consideration the time of day that aircraft events occur. Noise that occurs between 10:00 p.m. and 7:00 a.m. includes a 10-decibel (dB) penalty to account for the difference in human noise perception during the nighttime hours. Within the 65-dB DNL noise contour, noise levels are similar to an urban environment. Noise levels in the 75-dB DNL noise contour would be similar to the downtown area of a major city.

Noise zones associated with Joint Base Andrews are generally asymmetrical, reflecting higher noise levels east of the runways because of the greater number of closed pattern flight operations conducted over the more rural landscape east of the base (89 AW 1998). Most of the central part of the Base, including the airfield, flight lines, Base Lake Recreation Area, the eastern extension of the golf course, and some of the administrative areas in the eastern part of the Base, are located within the 80+dB DNL or the 75 to 80-dB DNL noise zones. The remainder of the eastern part of the Base and areas close to the western flight line are within the 65 to 75-dB DNL noise zone.

## **3.11 Hazardous Materials and Waste Management**

Joint Base Andrews is a large quantity generator of hazardous waste permitted under the Resource Conservation and Recovery Act. The 316<sup>th</sup> Wing Civil Engineering Squadron Assessment Management Flight is responsible for compliance with the Base's Toxic Substances Control Act permit. Primary types of hazardous wastes generated at Joint Base Andrews include batteries, used fuel and oil, solvents, fluorescent bulbs, contaminated rags and fuel filters, and solvent-contaminated solids. The majority of hazardous waste is generated from aircraft operations.

Historic fuel supply activities, landfills, and other support and training operations impacted portions of the ground and surface waters at Joint Base Andrews with metals, VOCs, semi-volatile organic compounds, polyaromatic hydrocarbons, polychlorinated biphenyls, and pesticides. Andrews AFB was formally added to the National Priorities List in June 1999.

The ERP, formerly known as the Installation Restoration Program, was established by the DoD to protect human health and the environment by addressing sites where past activities led to releases of hazardous substances to the environment. These sites are addressed based on the Comprehensive Environmental Response, Compensation, and Liability Act, as well as the National

Oil and Hazardous Substances Contingency Plan. Joint Base Andrews is responsible for 33 ERP sites on the Base and on remote sites located in Brandywine and Davidsonville, Maryland.

The current AAFES facility was a former ERP site (ST-17) due to leaking USTs (which were removed in 1993). ST-17 cleanup within the ERP was under a performance-based cleanup contract and a site closure was issued in 2005; however, long-term monitoring continues at the site.

The car care center (Tank Underground [TU]-24, formerly Area of Concern [AOC]-24) is located on F Street near the Main Gate of Andrews AFB and is less than 225 feet from the preferred site. From approximately 1953, the car care center was a gas station with three service bays and two fuel islands (which were removed in 1980). The car care center is currently an AAFES automobile maintenance and repair shop. TU-24 has been remediated and is currently in long-term monitoring.

### **3.12 Safety and Occupational Health**

Construction site safety and prevention of mishaps are ongoing activities at Joint Base Andrews. Standard terms and conditions of construction services contracts must include safety at the forefront. Areas of concern include compliance with safety regulations; minimum personal protection equipment standards to include footwear, hardhats, and eye protection; heavy equipment operations; and limited access to the area. Construction and activities are conducted in accordance with Air Force Office of Safety and Health requirements specified in Air Force Policy Directive 91-3 (USAF 1993). The design of the proposed facility will be in accordance with COMAR 26.10 and other applicable local, state, and federal regulations, therefore reducing the likelihood of a potential release.

The UFC 4-010-01 specifies DoD Anti-terrorism Standards which requires DoD to adopt and adhere to common criteria and minimum construction standards to mitigate antiterrorism vulnerabilities and terrorist threats. These requirements are incorporated in the Andrews AFB General Plan and apply to new construction projects.

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## **4 Environmental Consequences**

This section presents the potential environmental consequences of implementing Alternative 4 (Preferred Alternative) or the No Action Alternative. The potential impacts to the human and natural environment were evaluated relative to the existing environment described in Section 3. For each environmental resource, anticipated direct and indirect effects were assessed, considering both short- and long-term project effects.

### **4.1 Land Use**

#### **4.1.1 Alternative 4 (Preferred Alternative)**

The Preferred Alternative site is currently designated as “Administrative” (see Figure 2-1) in the Andrews AFB General Plan (USAF 1996). Implementation of Alternative 4 would be consistent with the Andrews AFB General Plan and general land uses and patterns at Joint Base Andrews. As a result, Alternative 4 would not have a significant impact on existing land use at Joint Base Andrews.

#### **4.1.2 No Action Alternative**

Under the No Action Alternative, the existing land use would not be altered and, as such, would be consistent with the Andrews AFB General Plan. As a result, no land use impacts would be associated with this alternative.

### **4.2 Socioeconomics, Environmental Justice, and Protection of Children**

#### **4.2.1 Alternative 4 (Preferred Alternative)**

The socioeconomic impacts of implementing the Proposed Action at the preferred site location would be limited to the effects on the local economy, employment, and personal income. Given that this action would occur entirely within the boundaries of Joint Base Andrews, it is anticipated that there would be no impacts to population, housing, or taxes and revenue. Construction contractors would be sought from local businesses providing a temporary, minor, socioeconomic benefit. Improved convenience and upgraded facilities would provide a social benefit to authorized personnel living and/or working at Joint Base Andrews.

As discussed in Section 3, four census tracts surrounding Joint Base Andrews are considered sensitive populations as defined by EO 12989 and based on their percentage of either minority

population, population living below the poverty level, or population aged 17 or younger (see Table 3-4). When the percent of the population that is either minority or low-income within an affected area exceeds 50% or is “meaningfully greater” than the minority or low-income population percentage of the community of comparison, that population is considered to receive a disproportionately high and adverse effect. Based on the analysis of environmental impacts as documented in this EA, implementation of the preferred site location would not result in disproportionate, adverse, environmental impacts to any resource area. Thus, Alternative 4 would cause no disproportionately high or adverse health or environmental effects on minority or low-income populations pursuant to EO 12898, nor would implementation of this alternative pose disproportionate environmental health or safety risks to children pursuant to EO 13045.

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

Under the No Action Alternative, existing local and regional population densities would not change. Employment rates and income levels would remain the same; however, this alternative precludes the collocation of the AAFES 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.

### **4.3 Transportation**

#### **4.3.1 Alternative 4 (Preferred Alternative)**

Construction of the Proposed Action at the Preferred Alternative site would result in a temporary increase in traffic volume in the project area due to the presence of construction equipment, construction workforce vehicles, and vehicles delivering construction materials (approximately 10 to 15 trips dependent upon the phase of construction activity).

To minimize these impacts, the contractor would implement the following measures:

- Provide adequate off-street parking for all construction workers to avoid increased congestion near roadsides; and
- Encourage construction workers to carpool to the site.

Recently, Joint Base Andrews prepared the *Final Environmental Assessment for Fiscal Year 07-11 Base Realignment and Closure (BRAC) Construction Requirements at Andrews Air Force Base, Maryland* (referred to herein as the BRAC EA), which analyzes the environmental impacts of the implementation of the 2005 BRAC recommendations at Joint Base Andrews, including the increase in personnel. A recommendation from the BRAC EA is to prepare a comprehensive

transportation management study at Joint Base Andrews to evaluate the existing transportation infrastructure and the needs for improvement. This study is called the *Andrews Air Force Base, Maryland Transportation Management Plan (September 2009)*.

Operation of the Proposed Action at the Preferred Alternative site would not result in an increase in personnel at Joint Base Andrews or add trips to the Installation roadway network. However, implementation of the Proposed Action would result in minor traffic impacts. Specifically, the project would be expected to result in a slight shift of traffic patterns, resulting in an increase of traffic volume within this specific area through the upgrade in services (increase in the number of dispensers from 30 to 32) and concessions. Traffic volume increases would be expected during AM and PM peak hours and typical lunch hours (between 1100 and 1300 hours).

Impacts to the Installation roadway system would be minimized through the design of the current facility (see Figure 1-2), which incorporates three ingress and egress locations on Colorado Avenue, F Street, and North Perimeter Road, thereby distributing the vehicle trips over the existing roadway system. Further, with the addition of new personnel to the Base as identified in the BRAC EA, the shift in traffic patterns resulting from the Proposed Action would likely have negligible overall impact on Base traffic.

Therefore, the proposed construction and operation of this facility would have minor impacts on traffic at Joint Base Andrews.

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

Under the No Action Alternative, there would be no changes to vehicular transportation on Base or in the surrounding area. As a result, no impacts to transportation would be associated with this alternative. However, as a result of the 2005 BRAC recommendations, up to 3,100 personnel would be added to Joint Base Andrews, resulting in associated increases in on-Installation traffic (USAF, 2007a).

### **4.4 Infrastructure and Utilities**

#### **4.4.1 Alternative 4 (Preferred Alternative)**

The Preferred Alternative has been located to minimize the impact on existing infrastructure and utilities. The utilization of existing utility connections would likely require minor infrastructure extensions, but would not result in significant impacts. Any increase in demand for utilities and infrastructure for the proposed facility would be minor and would, therefore, not significantly impact the provision of these services. Additionally, it is anticipated that implementation of the Proposed

Action at the preferred alternative site location would result in beneficial impacts in terms of infrastructure upgrades that would improve overall energy efficiency at Joint Base Andrews.

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

Under the No Action Alternative, there would be no impacts to infrastructure. There would be no facility upgrades and the Base would not benefit from the expected increase in energy efficiency of a new building.

### **4.5 Topography, Geology, and Soils**

#### **4.5.1 Alternative 4 (Preferred Alternative)**

Implementation of Alternative 4 at the preferred site location would result in minor, temporary impacts to soils and no impacts on the topography and geology of the area. As indicated previously, the site is located within a previously developed area that currently provides connections to the majority of the infrastructure necessary, including sources of electricity, natural gas, potable water systems, and wastewater systems. BMPs would be implemented to control erosion and sedimentation, including silt fences and the stabilization of construction entrances at various entry/exit locations. Areas disturbed during project construction would be hydroseeded to reestablish ground cover and minimize soil erosion. In addition, BMPs would be implemented to ensure the proper level of control of vehicles and materials and the minimum disruption of topography. An Erosion Control Plan will be prepared for the project in accordance with “Maryland Sediment Control Guidelines for State and Federal Projects” (MDE 1990). No long-term impacts to topography, geology, or soils would be expected following the construction of the proposed facility.

#### **4.5.2 No Action Alternative**

Under the No Action Alternative, there would be no construction activities and, therefore, no impacts on topography, geology, or soils.

### **4.6 Water Resources**

#### **4.6.1 Alternative 4 (Preferred Alternative)**

##### **Groundwater**

Implementation of the Proposed Action at the preferred site location would have only minor, short-term impacts on water resources at Joint Base Andrews. BMPs would be implemented during

construction activities to avoid impacts to groundwater. Any spills of fuels or other chemicals would be cleaned up in accordance with all appropriate regulations.

### **Surface Water and Drainage**

Construction of the proposed AAFES facility would not directly affect surface waters at Joint Base Andrews. No natural surface waters are in the vicinity of the proposed project area. Alternative 4 includes the construction of approximately 2 acres of impervious area (i.e., buildings and parking lots). As discussed in Section 4.5, during construction activities, all necessary controls would be implemented to prevent sedimentation runoff to stormwater, as referenced in the “Maryland Sediment Control Guidelines for State and Federal Projects” (MDE 1990) or most recent revision, and the “Maryland Standards and Specifications for Soil Erosion and Sediment Control” (MDE 1994) or most recent edition.

Since construction activities would require the disturbance of more than 5,000 square feet (more than 100 cubic feet) of soil, a sedimentation and erosion control plan must be prepared through coordination with the Commanding Officer and 316 CES/CEAN to the MDE for approval. Further, prior to construction AAFES must prepare and submit a Notice of Intent to the MDE to comply with NPDES General Permit for Stormwater Associated with Construction Activities (NPDES Number MDR10, State Discharge Permit Number 09GP, July 13, 2009). In compliance with the Maryland NPDES General Construction Permit, a post-construction stormwater management plan must be prepared to ensure the adequate collection and treatment of stormwater from the developed area. Therefore, there would be no significant impacts to surface water resources with implementation of Alternative 4.

### **Wastewater**

Since the proposed AAFES facility includes a shoppette with a retail fast food section that would generate food, oils, and greases during food service operations: the facility must comply with the WSSC regulations concerning operational practices with regards to food, oils and grease. The Base has an industrial discharge permit and the AAFES shoppette will comply with those requirements.

### **Wetlands**

The proposed AAFES facility would not be constructed within or near any jurisdictional wetlands; therefore, there would be no impacts to jurisdictional wetlands.

### **4.6.2 No Action Alternative**

Under the No Action Alternative, there would be no changes to surface water, groundwater, or drainage (including the amount of impervious area or stormwater management) at Joint Base Andrews. In addition, no wetlands would be affected. As a result, no water resources impacts would be associated with implementation of this alternative.

## **4.7 Biological Resources**

### **4.7.1 Alternative 4 (Preferred Alternative)**

#### **Vegetation**

Implementation of Alternative 4 would have no long-term effects on Base vegetation. The proposed project site is the former location of a dormitory and is located within a developed portion of Joint Base Andrews. As a previously developed area, the majority of the vegetation on the proposed site is limited primarily to maintained grassy areas with ornamental trees and shrubs that are intermixed with developed areas.

Approximately 1 acre of mixed hardwood forest would be removed as part of the proposed project. To minimize impacts to this wooded area, AAFES will consult with Joint Base Andrews prior to construction activities to ensure compliance with the tree preservation regulations implemented in the Andrews AFB Arbor Plan. As such, AAFES would be required to either replant trees at a 1:1 ratio or 60% canopy, as determined by the Joint Base Andrews natural resource specialists. Further, the selection of the plant species must be in accordance with the Andrews AFB Arbor Plan and the BASH Plan, which requires that all landscaping vegetation is selected using native species that do not attract birds and other wildlife. Additionally, Joint Base Andrews has established the following tree removal/preservation guidance. Trees removed must be replaced according to the following:

- For removal of canopy areas of less than 1 acre, trees shall be replanted for each tree removed according to a 1 to 1 ratio;
- For the removal of canopy areas greater than 1 acre, trees shall be replanted to replace a minimum of 60% of the canopy cover removed; and
- All replacement trees must be native species (list of native trees and other plant species can be obtained from Prince George's County, Maryland Department of Natural Resources and/or the Chesapeake Bay Trust), 2- to 5-inch caliper, replaced prior to removal (where applicable), and arranged in stands similar to those removed.

All maintained grassy areas disturbed during construction and located outside the building footprints will be seeded immediately following construction with approved seed mixtures to facilitate revegetation. Based on the Presidential Memorandum of April 26, 1994, titled “Environmentally and Economically Beneficial Practice on Federal Landscaped Grounds,” landscaping will incorporate the use of regionally native plants to protect local natural heritage, provide wildlife habitat, and reduce fertilizer, pesticide, and irrigation costs.

### **Wildlife**

The majority of the proposed project area is currently disturbed by previous development and provides minimal wildlife habitat. Wildlife within the medium-density forested areas surrounding the site would experience some disturbance as a result of the temporary increase in noise and human activity during construction. Mobile animals (e.g., migratory birds and squirrels) might relocate to nearby areas with similar habitat, while construction activities could cause limited mortality for slow or sedentary animals (e.g., amphibians, lizards, and small mammals). Any impacts on wildlife as a result of the Proposed Action would not be significant. Following construction, wildlife would be expected to resume their normal habitats.

### **Threatened and Endangered Species**

The proposed project area is not inhabited by any known or documented threatened or endangered species; therefore, implementation of the Preferred Alternative would have no effect on threatened and endangered species or critical habitats.

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

There would be no impacts to biological resources at Joint Base Andrews under the No Action Alternative, including threatened and endangered species. The No Action Alternative would not result in losses of vegetative cover or wildlife species. In addition, there would be no temporary displacement of wildlife from the construction area and adjacent areas.

## **4.8 Cultural Resources**

### **4.8.1 Alternative 4 (Preferred Alternative)**

Implementation of the Preferred Alternative would not impact any archaeological or historical resources. Further, since the proposed site has been previously disturbed, there is little to no possibility that, during ground-disturbing activities, a currently buried and unknown archaeological resource (historic and/or prehistoric) may be uncovered. In accordance with the Programmatic Agreement with Andrews AFB, the Advisory Council on Historic Preservation, and the Maryland

Historical Trust, should any archaeological resources be encountered during the proposed construction activities, the Joint Base Andrews cultural resources manager and the Maryland Historical Trust would be notified to ensure compliance with 36 CFR, Part 800.11. Suspension of construction work would be required until a qualified archaeologist could determine the significance of the encountered resource(s).

#### **4.8.2 No Action Alternative**

The No Action Alternative would result in no changes to historic or cultural resources, known and unknown, at Joint Base Andrews.

### **4.9 Air Quality**

#### **4.9.1 Alternative 4 (Preferred Alternative)**

The Clean Air Act of 1970, 42 U.S.C. 7401 *et seq.*, amended in 1977 and 1990, is the primary federal statute governing air pollution. The Clean Air Act designates six pollutants as criteria pollutants, for which NAAQS have been promulgated to protect public health and welfare.

The six criteria pollutants are particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>), CO, SO<sub>2</sub>, NO<sub>2</sub>, Pb, and O<sub>3</sub>. VOCs are not considered criteria pollutants, but emissions of VOCs are linked to O<sub>3</sub> concentrations. In addition, federal law requires state or local air quality control agencies to establish a SIP that prescribes measures to achieve or maintain attainment of these standards. Areas that do not meet NAAQS are designated as “nonattainment” for that criteria pollutant. MDE manages air quality for the state of Maryland.

#### **Construction**

Construction of the proposed facility at the preferred site would result in minor, short-term (note that construction is assumed to last eight months), localized, adverse impacts on air quality. These impacts would result from the generation of fugitive dust (i.e., equipment traveling over exposed surfaces) and equipment emissions, which would be expected during the construction of the proposed facility. Generation of fugitive dust would be minimized through the use of appropriate dust control measures (i.e., wetting the surfaces and through the revegetation of disturbed areas as soon as possible).

AAFES must submit an application for an Air Quality Permit to Construct to the MDE for approval prior to construction. An Air Quality Permit to Construct is required when building a motor vehicle refueling facility with the installation of storage tanks larger than 2,000 gallons.



An increase in tailpipe emissions associated with the use of heavy equipment during construction activities would occur. These short-term impacts would be primarily in the form of increased exhaust pollutants that can be minimized through good vehicle maintenance. No permanent emissions would be expected from the construction of the new Joint Base Andrews facility. The total construction emissions associated with the Proposed Action are estimated in Table 4-1. Additional data and specific calculations are provided in Appendix B.

<b>Table 4-1</b>					
<b>Total Air Emission Estimates Associated with the Proposed Action</b>					
<b>Emission Source</b>	<b>Emissions (total tons during construction activity <sup>(a)</sup>)</b>				
	<b>Volatile Organic Compounds (VOCs)</b>	<b>Nitrogen Oxides (NO<sub>x</sub>)</b>	<b>Particulate Matter (PM<sub>10</sub>)</b>	<b>Carbon Monoxide (CO)</b>	<b>Carbon Dioxide Equivalent <sup>b</sup> (CO<sub>2EQ</sub>)</b>
Tailpipe Emissions	0.51	3.38	0.05	0.96	
Fugitive Emissions			0.17		
Particulate from Construction			3.41		
Asphalt Paving	0.02				
Architectural Coatings	1.78				
<b>TOTAL</b>	<b>2.31</b>	<b>3.38</b>	<b>3.63</b>	<b>0.96</b>	<b>89.43</b>
<b>TOTAL GREENHOUSE EMISSIONS</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>89.43</b>
Note: (a) The construction activity is estimated to last approximately eight months.					

## Operation

Operational air impacts are anticipated from the gas-dispensing operations and storage of gasoline in the underground tanks at Joint Base Andrews. Since the tanks are underground, no breathing and standing storage losses are assumed because of the insulating nature of the earth, limiting the diurnal temperature change (USEPA AP 42, Chapter 7, Liquid Storage Tanks). Table 4-2 provides the VOC and hazardous air pollutant (HAP) emissions from gas-dispensing operations and working losses due to storage for the proposed facility. Additional data and specific calculations are provided in Appendix B.

Table 4-2 Air Emissions from Gas-Dispensing Operations				
Location	Fuel Type	Annual Throughput (gallons)	Emissions (tons per year)	
			VOCs <sup>(a)</sup>	HAPs <sup>(b)</sup>
Dispensing (c)	Gasoline	7,776,000	4.28	1.44
Working Loss	Gasoline	7,776,000	3.89	
Total Emissions			8.17	1.44
Note: (a) Emission factor from USEPA, Compilation of Air Pollutant Emission Factors (AP-42), Volume I, Table 5.2-7 Evaporative Emissions from Vehicle Refueling Operations, June 2008. (b) Emission Factors for HAPs from USEPA AP-42 Fifth Edition, Volume I, Chapter 7: Organic Liquid Storage Tanks, January 2007. (c) Sixteen dispensers at 40,500 gallons throughput per month per dispenser. Key: HAPs = hazardous air pollutants. VOCs = volatile organic compounds.				

## Conformity Analysis

40 CFR 93 § 153 defines *de minimis* levels as the minimum threshold for which a conformity determination must be performed for criteria pollutants in various areas. Joint Base Andrews is located in Prince George's County within the Washington Metropolitan Area AQCR. Prince George's County is currently in attainment for NO<sub>x</sub>, SO<sub>2</sub>, PM<sub>10</sub>, daily PM<sub>2.5</sub> and Pb. Portions of the Washington Metropolitan Area AQCR, including Prince George's County, are designated as nonattainment areas for particulate matter (PM<sub>2.5</sub>) (annual standard) and moderate nonattainment areas for 8-hour ozone (O<sub>3</sub>). They are also maintenance areas for CO within the Washington Metropolitan Area AQCR (EPA 2009).

The emissions from construction activities would be temporary and the air quality would be expected to return to current levels following construction. Since Prince George's County is in nonattainment for 8-hour O<sub>3</sub>, and annual PM<sub>2.5</sub> the potential to emit for these pollutants was compared to *de minimis* levels to make a conformity determination. There are no *de minimis* levels for O<sub>3</sub>; therefore, these levels were compared to VOCs and NO<sub>x</sub>, which are precursors for O<sub>3</sub>. The *de minimis* level for VOCs for a moderate nonattainment area inside an Ozone (O<sub>3</sub>) Transport Area is 50 tpy and for NO<sub>x</sub> is 100 tpy. The total estimated VOC emissions from both construction and operations is 10.48 tpy, of which 2.31 tons would be from temporary construction activities and total NO<sub>x</sub> emissions are 3.38 tons. The PM<sub>10</sub> emissions from construction would be 3.63 tons and the *de minimis* level for direct PM<sub>2.5</sub> is 100 tpy. The emissions of PM<sub>10</sub> from construction can be used

instead of PM<sub>2.5</sub> since the PM<sub>10</sub> emissions are a conservative estimate. Since total emissions are below the *de minimis* level for NO<sub>x</sub>, VOCs and PM<sub>2.5</sub>, a conformity analysis is not necessary.

### Greenhouse Emissions

Greenhouse emissions are emissions contributed to the atmosphere from the introduction of CO<sub>2</sub>, methane (CH<sub>4</sub>), and NO<sub>x</sub>. Carbon dioxide (CO<sub>2</sub>) enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and also as a result of other chemical reactions (e.g., manufacture of cement). CH<sub>4</sub> is emitted during the production and transport of coal, natural gas, and oil. Nitrous oxide (N<sub>2</sub>O) is emitted during agricultural and industrial activities, as well as during combustion of fossil fuels and solid waste (USEPA 2008).

To assist with the determination of greenhouse gases emitted during a particular project, the Intergovernmental Panel on Climate Change (IPCC) has developed Global Warming Potentials (GWPs) which analyze the abilities of different greenhouse gases to trap heat in the atmosphere. GWPs are based on the heat-absorbing ability of each gas relative to that of CO<sub>2</sub>, as well as the decay rate of each gas (the amount removed from the atmosphere over a given number of years) relative to that of CO<sub>2</sub>. The GWPs provide a factor for converting emissions of various gases into a common measure denominated in carbon or carbon dioxide equivalent (CO<sub>2</sub>EQ). The GWP factors are specified in Table 4-3. Greenhouse gas emissions anticipated from this project would be 89.43 tons, which is achieved by multiplying total CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O by their corresponding GWP factors as provided in Table 4-3.

Table 4-3 Global Warming Potentials	
Gas	2001 IPCC GWP Factors
Carbon Dioxide (CO <sub>2</sub> )	1
Methane (CH <sub>4</sub> )	21
Nitrous Oxide (N <sub>2</sub> O)	310
Source: The generally accepted authority on Global Warming Potential (GWPs) is the Intergovernmental Panel on Climate Change (IPCC). In 2001, the IPCC updated its estimates of GWPs for key greenhouse gases and this table is reflective of that update (Climate Trust 2007).	

### Conclusion

The conformity requirements were evaluated for the pollutants that are in nonattainment. Since the potential to emit for PM<sub>2.5</sub>, VOCs and NO<sub>x</sub> are less than the *de minimis* levels; there are no requirements to do a conformity analysis. The emissions from the preferred action would not be regionally significant. A Record of Non-Applicability (RONA) for the Proposed Action at Joint Base Andrews is provided in Appendix B.

### **4.9.2 No Action Alternative**

Implementation of the No Action Alternative would require no new construction or land-disturbance activities on the Base; therefore, no air impacts associated with construction activities would occur.

## **4.10 Noise**

### **4.10.1 Alternative 4 (Preferred Alternative)**

Implementation of Alternative 4 would not permanently alter the noise environment in and around Joint Base Andrews. Alternative 4 would result in temporary and brief periods of noise due to the operation of vehicles and equipment involved in site clearing and grading, facility construction, and facility completion. These activities would take place only during the daytime and would be within background noise levels resulting from operation of military aircraft and urban traffic. Upon completion of the project, the noise exposure would return to existing levels, which are dominated by aircraft overflights. Therefore, no long-term or major impacts to the noise environment would occur from implementing Alternative 4.

### **4.10.2 No Action Alternative**

The No Action Alternative would not cause any changes to the noise environment on the Base or in surrounding communities.

## **4.11 Hazardous Materials and Waste Management**

### **4.11.1 Alternative 4 (Preferred Alternative)**

Implementation of Alternative 4 would require minimal use of hazardous materials for construction activities associated with the proposed AAFES facility. Hazardous materials would be used and wastes generated as part of the maintenance and fueling of equipment during construction activities. However, construction contractors would be required to comply with the Spill Prevention, Control, and Countermeasures Plan in effect at Joint Base Andrews to ensure regulatory compliance. The construction contractors must also adhere to the 2008 *Andrews AFB Environmental Protection Standards for Contracts* for monitoring environmental conditions at a site on Base if contaminants are detected during construction activities. The existing procedures outlined by the Air Force Office of Safety and Health would be followed for handling and storage of hazardous materials. Furthermore, contractors would be required by contract to remove any hazardous waste generated by fueling and maintenance activities, and to dispose of such waste at licensed facilities. The contractors would be

required to dispose of any construction waste at approved landfills not located on Andrews AFB. No construction activities or disturbances of soil would take place on ERP sites. Therefore, there would be no significant impacts to hazardous materials and waste management by implementation of Alternative 4.

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

Under the No Action Alternative, no change to hazardous materials and wastes management would occur at Joint Base Andrews.

### **4.12 Safety and Occupational Health**

#### **4.12.1 Alternative 4 (Preferred Alternative)**

Implementation of the Proposed Action would slightly increase the short-term risk associated with construction contractors performing work at Joint Base Andrews because the level of such activity would increase. Contractors would be required to establish and maintain safety programs. Activities involved in the construction of the proposed facility would not be unique nor would they pose an unacceptable or unnecessary safety risk to Base personnel. Therefore, the proposed construction and operation of this facility would result in short-term minor impacts on safety at Joint Base Andrews. However, should a release occur, the cleanup would be conducted in accordance with the Spill Prevention, Control, and Countermeasures Plan in effect at Joint Base Andrews, and other MDE reporting requirements.

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

Under the No Action Alternative, the Proposed Action would not be constructed and, therefore, there would be no changes to safety on Base or in the surrounding area. As a result, there would be no impacts to short-term or long-term safety associated with this alternative.

### **4.13 Cumulative Impacts**

The CEQ regulations for implementing NEPA define cumulative impacts as “the impact on the environment which results from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions regardless of what other agency (federal or non-federal) or person undertakes such other actions” (40 CFR 1508.7).

The geographic area considered for cumulative impacts would be limited to the proposed project site at Joint Base Andrews. The proposed AAFES facility is expected to be constructed over

an approximate eight-month period beginning in June 2010. During this same eight-month period, Joint Base Andrews plans to construct the NCRRF located at the southwest corner of Perimeter Road and Alabama Avenue and the Strategic Planning and Development Facility located on the west side of California Avenue between the intersections of Arkansas Road and Menoher Drive as illustrated in Figure 2-1. Both facilities would be in proximity to the site for the new AAFES facility. Depending on the timeframe for construction of the proposed NCRRF and the Strategic Planning and Development Facility, there is the potential for cumulative air quality impacts from construction activities.

Additionally, Joint Base Andrews is planning a new administration building and associated parking facility approximately one block west of the Preferred Alternative location of the Proposed Action (Figure 2-1). The new Administration Complex (402,262 square feet) and associated parking facility (699,000 square feet) are required to accommodate approximately 2,370 administration personnel at Joint Base Andrews. Approximately 1,973 personnel will be relocated from the offices currently being leased by the National Capital Region “NCR” Administration throughout the Washington D.C. area, and approximately 396 personnel will be relocated from the existing administration building (Building 1535) which will be demolished as part of this construction project. The relocation of the NCR alone would bring an estimated 1,973 new personnel to the immediate vicinity of the preferred alternative (Andrews AFB 2007).

No other potential cumulative impacts have been identified.

## **4.14 Unavoidable Adverse Impacts**

Unavoidable, short-term, adverse impacts associated with implementation of the Proposed Action would include: temporary disturbance to soils from erosion and sedimentation, a temporary increase in fugitive dust and air emissions during construction and training, and intermittent noise. However, these effects are considered minor and would be confined to the immediate area. Use of environmental controls and obtaining required permits and approvals would minimize these potential impacts. Unavoidable, long-term, adverse impacts would occur to the parcel of land where the proposed facility would be constructed. Construction would result in the long-term conversion of approximately 1 acre of forested land on Joint Base Andrews.

## **4.15 Relationship between Short-Term Uses and Enhancement of Long-Term Productivity**

The relationship between short-term uses and enhancement of long-term productivity from implementation of the Proposed Action is evaluated from the standpoint of short-term effects and long-term effects. Short-term effects would be those associated with the construction operations, stormwater runoff, and the removal of vegetation. The Proposed Action represents an enhancement of long-term productivity.

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

This EA identifies any irreversible and irretrievable commitments of resources that would be involved in the Proposed Action, if implemented. An irreversible effect results from the use or destruction of resources (e.g., energy) that cannot be replaced within a reasonable time. An irretrievable effect results from loss of resources (e.g., endangered species) that cannot be restored as a result of the Proposed Action.

The short-term irreversible commitments of resources that would occur would include planning and engineering costs, building materials and supplies and their cost, use of energy resources during construction, labor, generation of fugitive dust emissions, and creation of temporary construction noise. Irretrievable commitments of resources are those resources that would be lost for the life of the system. These resources are limited to the 1 acre of forested area to be cleared at the proposed site.

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## 5 List of Organizations and Individuals Contacted, Reviewers, and Preparers

### 5.1 Individuals Contacted and Reviewers

The following individuals at Joint Base Andrews were consulted or reviewed this document:

- Anne Kaval Hodges, NEPA/EIAP Project Manager, 316 CES/CEAO
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- Larry Rose, Project Manager, AAFES HQ, Dallas, Texas
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The contractor responsible for preparing this EA is:

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<b>Name</b>	<b>Role</b>	<b>Years Experience</b>	<b>Responsibilities</b>
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Ryan Long	NEPA Specialist	4	<ul style="list-style-type: none"><li>▪ Affected Environment</li><li>▪ Environmental Consequences</li></ul>
Gene Stillman	Contract Manager/ NEPA Specialist	17	<ul style="list-style-type: none"><li>▪ Quality Assurance Review</li><li>▪ Project Coordination</li></ul>
William Huber	Planner	6	<ul style="list-style-type: none"><li>▪ Affected Environment</li><li>▪ Environmental Consequences</li></ul>
Annie Menon	Air Quality Specialist	4	<ul style="list-style-type: none"><li>▪ Air Conformity Analysis</li></ul>
Gina Edwards	Technical Editor	26	<ul style="list-style-type: none"><li>▪ Document Editing and Control</li></ul>

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# **Appendix A**

## **Correspondence and Consultation**

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**DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS 316TH WING (AFDW)  
ANDREWS AIR FORCE BASE, MARYLAND 20762**

12 Nov 09

MEMORANDUM FOR SEE DISTRIBUTION

FROM: 316 CES/CEAO  
3466 North Carolina Avenue  
Andrews AFB MD 20762-4803

SUBJECT: Draft Environmental Assessment for Construction and Operation of a New Army and Air Force Exchange Service Shoppette/Gas Station, Joint Base Andrews, Maryland

1. The United States Headquarters Air Force District Washington (AFDW), 316<sup>th</sup> Wing has prepared the attached draft Environmental Assessment (EA) for Construction and Operation of a New Army and Air Force Exchange Service Shoppette/Gas Station, Joint Base Andrews, Prince George's County, Maryland. The purpose of this Proposed Action is to provide consolidated, centrally located facilities on Joint Base Andrews where authorized customers can obtain multiple services at a single location. This would reduce traffic congestion in some areas of the Base and allow customers to make a single stop for multiple services on Base.
2. This EA has been prepared to evaluate the Proposed Action and alternatives, including the No Action alternative. The analysis supports a Finding of No Significant Impact (FONSI) for the proposed action. In accordance with Executive Order 12372, Intergovernmental Review of Federal Programs, we request your review of the attached draft EA for Construction and Operation of a New Army and Air Force Exchange Service Shoppette/Gas Station and FONSI within 30 days of receipt. Copies are also available for review by the public at the Upper Marlboro Branch Library for a period of 30 days. The comment period is from 13 Nov 09 to 13 Dec 09.
4. Please address written comments to Anne Hodges, 316 CES/CEAO, 3466 North Carolina Ave., Andrews AFB, MD 20762-4803, or send e-mail to [anne.hodges@afncr.af.mil](mailto:anne.hodges@afncr.af.mil). If you feel additional agencies should review this analysis, please forward this letter and attachments.

A handwritten signature in black ink, appearing to read "Anne M. Hodges", is positioned above the typed name.

ANNE M. HODGES  
Environmental Planning Manager

Attachment

1. Draft EA and FONSI
2. Distribution (listed on next page)

**DISTRIBUTION:**

10 CDS & 1 HARDCOPY:

Linda C. Janey, J.D.

Assistant Secretary for Clearinghouse and Communications

Maryland Department of Planning

301 West Preston Street, Room 1104

Baltimore, MD 21201-2305

1 CD:

Leopoldo Miranda

Field Supervisor, Chesapeake Bay Field Office

U.S. Fish & Wildlife Service

177 Admiral Cochrane Drive

Annapolis, MD 21401

1 CD:

Barbara Rudnick

NEPA Team Leader, Office of Environmental Programs (3EA30)

U.S. Environmental Protection Agency

1650 Arch Street

Philadelphia, PA 19103-2029

## **Appendix B**

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

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Table 1: Proposed Facility		
Activity	Area	
	square feet	acres
store	10865	0.2494
car wash	1060	0.0243
parking area	10000	0.2296
<b>total graded space</b>		<b>0.5033</b>

Table 2: Fugitive Emissions		
Emission Factor	0.11	tons/acre/month
Total area to be cleared	0.50	acres
No. of months	3	months*
PM10 Emissions	0.17	tons

Notes:

Emission Factor obtained from Urban Emissions 2002 model (URBEMIS2002) User guide

\* 1 month is considered to include 20 working days with 8 hours of activity each day

Each parking space is assumed to be 15x10 sqft. Assume 32 spaces with entry and egress area = total of 5200 sqft

Table 3: Exhaust Emissions											
Equipment	Quantity	Duration (days) <sup>1</sup>	Rating (hp)	Emission factor <sup>2</sup> (lb/day)				Emissions (tons)			
				CO	NOX	VOC	PM	CO	NOX	VOC	PM
Extended boom rough terrain hoe	1	50	79	0.64	4.98	0.65	0.05	0.02	0.12	0.02	0.00
Mini-Excavator	1	60	28	4.1	10.67	1.84	0.45	0.12	0.32	0.06	0.01
Compactor	1	60	22	0.24	14.10	1.84	0.03	0.01	0.42	0.06	0.00
Excavator	1	80	89	0.73	10.67	1.84	0.06	0.03	0.43	0.07	0.00
Forklift	1	80	80	0.65	4.57	0.79	0.05	0.03	0.18	0.03	0.00
Crane - 30 ton	1	80	152	1.24	8.37	1.44	0.07	0.05	0.33	0.06	0.00
Generator	1	160	13	0.14	4.98	0.65	0.02	0.01	0.40	0.05	0.00
Tractor Trailer	1	120	350	10.45	11.12	1.45	0.43	0.63	0.67	0.09	0.03
Air Compressor	1	120	140	1.14	8.37	1.44	0.07	0.07	0.50	0.09	0.00
<b>Total Non-Road Emissions</b>								<b>0.958</b>	<b>3.380</b>	<b>0.515</b>	<b>0.054</b>

Notes:

1 Construction duration is assumed to be 8 months with 8 hours of operation per day.

2. Emission factors for the construction equipment obtained from:

Table 1 "EPA Tier 1-3 Nonroad Diesel Engine Emission Standards". Tier 2 standards are used as EF  
 El Dorado County APCD CEQA Guide, February 2002

Table 4: Particulate Emissions from Construction						
Activity	Area (acres)	Topsoil Removal (lb)	Earthmoving (lb)	Truck Haulage (lb)	Emissions	
					lb	tons
Preferred Alternative	0.50	4013	845	1971	6829	3.41

**Notes:**

Emission factors obtained from EPA-450/2-92-004 (Fugitive Dust document)

Factors for

Topsoil Removal	5.70	kg/VKT
Earth Moving	1.20	kg/VKT
Truck Haulage	2.80	kg/VKT

Assume vehicle kilometers traveled 320 km

VKT = [vehicle miles traveled (VMT)] (1.61 Km/mile)

Table 5: VOC Emissions from Paving				
Activity	Area (acres)	Emission Factor (lbs/acre/day)	Emissions	
			lb	tons
Off gas emissions (60 days activity)	0.25	2.62	39.91	0.02
<b>Total VOC Emissions</b>				<b>0.02</b>

**Notes:**

Asphalt Paving VOC Emission Factor obtained from Table 4.6 of the El Dorado County APCD-CEQA Guide

Table 6: VOC Emissions from Architectural Coatings				
Activity	Area (sqft)	Emission Factor (lbs/day/sqft)	Emissions	
			lb	tons
Coatings (20 days activity)	11925.00	1.63	3559.97	1.78
<b>Total VOC Emissions</b>				<b>1.78</b>

**Notes:**

Emission Factor obtained from Table 4-7 El Dorado County APCD CEQA Guide, February 2002.

For non-residential units,

$Em = (EF \cdot \sqrt{Bsize}) \cdot (Td+3)$ , where EF = 1.63 lb/day/sqft for non residential units, Bsize = Building size sqft and Td = Total Painting days if known, otherwise assumed to be 17

Table 7: VOC Emissions from Gas Dispensing and Storage			
Source	Throughput <sup>a</sup> (gallons/yr)	Emission factor <sup>b</sup> (lb/1000 gal)	VOC Emissions (tons/yr)
Fuel Dispensing	7776000	1.1	4.28
Vapor Losses <sup>c</sup>	7776000	1	3.89
<b>Total VOC Emissions</b>			<b>8.16</b>

**Notes:**

<sup>a</sup> 16 gasoline dispensers with a throughput of 40,500 gallons per month each

<sup>b</sup> Emission factor for VOC from AP-42 Table 5.2-7 Evaporative Emissions from Gasoline Service Station Operations (January 1995)

<sup>c</sup> Vapor losses occur when fuel is pumped into the tank also known as the working loss

Table 8: HAP Emissions from Gas Dispensing			
Air Pollutant	CAS Number	Speciation Factor (wt %)	Existing Emissions (tons/yr)
Benzene	71-43-2	0.77	0.033
Ethyl benzene	100-41-4	0.04	0.002
Hexane	110-54-3	1.84	0.079
o-Xylene	95-47-6	0.05	0.002
Toluene	108-88-3	0.66	0.028
<b>Total HAPs</b>			<b>0.14</b>

**Notes:**

Existing Emissions (tons/yr) = VOC Emissions (ton/yr) X Speciation Factor / 100



Table 9: Greenhouse Gas Emissions for Construction						
Pollutant	Emission Factor	Units	Amount	Units	Total Emissions	Units
CO2	10.15	kg CO2/gallons	8000	Gallons	89.427313	tons
CH4	0.01	g/mile	200	mile	0.000002	tons
N2O	0.02	g/mile	200	mile	0.000004	tons
CO2 EQ					89.43	tons

**Notes:**

Assume 8000 gallons during operation of the various construction equipment during the entire construction duration

Assume 200 miles traveled by all the construction vehicles during the construction duration

The emission factors obtained from [http://www.climateregistry.org/resources/docs/protocols/grp/GRP\\_V3\\_April2008\\_FINAL.pdf](http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf)

Emission factors are for diesel fuel

Table 10: Total Construction Emissions for the Facility					
Emission Source	Emissions (tons)				
	VOC	NOX	PM10	CO	CO2EQ
Tailpipe Exhaust	0.51	3.38	0.05	0.96	
Fugitive Emissions			0.17		
Particulate from Construction			3.41		
Architectural Coatings	1.78				
Asphalt Paving	0.02				
<b>TOTAL</b>	<b>2.31</b>	<b>3.38</b>	<b>3.63</b>	<b>0.96</b>	<b>89.43</b>

Table 11: Total Operating Emissions for the Facility		
Source	Pollutant	Emissions (tpy)
Gas Dispensing	VOC	4.28
Storage Tanks, Working Loss $L_w^a$	VOC	3.89
<b>Total VOC Emissions</b>		<b>8.17</b>

**Notes:**

<sup>a</sup> For underground tanks, it is assumed that there are no breathing or storage losses because the insulating nature of the earth limits the diurnal temperature change.

## GENERAL CONFORMITY – RECORD OF NON-APPLICABILITY (RONA)

For

**Construction and Operation of the Shoppette/Gas Station, Class Six Store,  
and Name Brand Fast Food Store at Joint Base Andrews, Camp Springs,  
Prince George's County, Maryland**

General Conformity under the Clean Air Act, Section 176 has been evaluated for this project according to the requirements of 40 CFR 93, Subpart B. The requirements of this rule are not applicable to this action because the emissions of PM<sub>2.5</sub> and NO<sub>x</sub> are below the *de minimis* level of 100 tpy and VOC are below the *de minimis* level of 50 tpy, and these emissions do not make up 10% of the region's emission inventory and are not regionally significant. Emission estimates and supporting documentation are included in the Final Environmental Assessment.

SIGNED Brian J. Dolan Date 19 Jan 10  
Brian J. Dolan, Chief  
316<sup>th</sup> Wing Asset Management Fleet

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**Appendix C**

**Notice of Intent for  
Stormwater Discharges Associated  
with Construction Activity under a  
NPDES General Permit and  
Notice of Termination**

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## MARYLAND DEPARTMENT OF THE ENVIRONMENT

1800 Washington Boulevard  
Baltimore Maryland 21230  
(410) 537-3000  
1-800-633-6101

<http://www.mde.state.md.us>

### NOTICE OF TERMINATION

This Notice of Termination form is to be completed upon final stabilization of the construction area covered by an Individual or General Permit for Stormwater Associated with Construction Activity, in accordance with the Environmental Protection Agency's National Pollutant Discharge Elimination System stormwater program. Upon completion of this form, the permittee should sign and submit it to the Maryland Department of the Environment, WMA - Compliance Program, Montgomery Park Business Center, 1800 Washington Boulevard, Suite 420, Baltimore, Maryland, 21230.

Date:

Permit/NOI Identification Number:

Type of Project: Federal ☐ State ☐ Local ☐ Private ☐

Name of Permittee:

Phone:

Address of Permittee:

Site Location (description, including County and mailing address if available):

Name of Principal Contact (for example, the general contractor):

Phone:

Address of Principal Contact:

### Permittee Certification

I certify under penalty of law that disturbed soils at the identified site have been acceptably stabilized and temporary erosion and sediment controls have been removed or will be removed at an appropriate time and that all stormwater discharges associated with construction activity from this site that are authorized by this permit have been eliminated. I understand that by submitting this Notice of Termination, I am no longer authorized to discharge stormwater associated with construction activity by the permit and that discharging pollutants in stormwater associated with construction activity to the waters of the United States is unlawful under the Clean Water Act where the discharge is not authorized by an NPDES permit. I also understand that the submittal of this Notice of Termination does not release the permittee from liability for any violations of this Permit or the Clean Water Act which may have occurred at this site.

---

(signature of permittee)

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**MARYLAND DEPARTMENT OF THE ENVIRONMENT**

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)**  
**APPLICATION FOR INDIVIDUAL OR GENERAL PERMIT TO DISCHARGE**  
**STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES**

**STATE OF MARYLAND APPLICATION FORM**

MDE USE ONLY	Permit Number:	
--------------	----------------	--

Projects that will disturb 150 acres or more and which discharge to a water listed as impaired on Maryland's 303(d) list must apply for an individual permit. All other projects may apply for a general permit. The Maryland Department of the Environment (MDE) may later determine that an individual permit is required for some projects.

<b>Applicant Information</b>	
<b>This application is for (check one):</b>	A General Permit for Stormwater Associated with Construction Activity <input type="checkbox"/> An Individual Permit for Stormwater Associated with Construction Activity <input type="checkbox"/>
<b>Name of site/project:</b>	
<b>Phase (if applicable):</b>	
<b>Name of Owner or Organization Responsible for site/project:</b>	
<b>Street Address of Owner or Organization (not site/project)</b>	Street: City: County: State: Zip Code:
<b>Mailing Address of Owner or Organization (not site/project), if different from street address</b>	Street/P.O. Box: City: County: State: Zip Code:
<b>Required Tax Information</b>	For an organization, Federal Tax Identification Number: For an individual, Social Security Number:

<b>Contact Information for Permit</b>	Principal Contact Person: Title: Telephone No.: Fax No.:
<p>Proof of workers' compensation coverage is required under § 1-202 of the Environment Article. State and Federal agencies have coverage and do not need to provide this information. All other applicants (except individuals) must provide either worker's compensation coverage information or a certificate of compliance. MDE will not begin processing the application until this information is received. If you have a Certificate of Compliance issued by the Maryland Workers' Compensation Commission, you may provide a copy of the Certificate with this application instead of the Workers' Compensation Insurance information above. If you believe you qualify for a Certificate but do not yet have one, contact the Maryland Workers' Compensation Commission Certificate of Compliance Coordinator via telephone, (410) 864-5297, outside Baltimore Metro area toll free (800) 492-0479 selecting extension 5297 when prompted, or via email: <a href="mailto:COC@wcc.state.md.us">COC@wcc.state.md.us</a>.</p>	
<b>Workers' Compensation Coverage Information</b>	Workers' Compensation Insurance Information Workers' Compensation Insurance Policy or Binder Number: Name of Provider:  <b>OR</b> Certificate of Compliance attached <input type="checkbox"/>
<b>Site Information</b>	
<b>Location</b>	Street Address: Other Location Description (if no street address is assigned):  City: County: State: Zip:  Maryland Grid Coordinates: [Use the approximate center of the site. This information may be found on site plans, ADC County Map, or by contacting MDE. Coordinates are based on 1927 origin.] N: E:  Latitude and Longitude of Discharge Point: [Refer to ADC county map. Round to the nearest 15 seconds.] Latitude: Longitude:
<b>Location Contact Information (if different from Applicant information)</b>	Site Contact Name: Telephone No: Fax No.:

<b>Site Area</b>	Total site area (in acres): Total disturbed area (in acres):
<b>Project Description</b>	Briefly describe the construction project:  Does this project currently have coverage under a General or Individual Permit for Stormwater Associated with Construction Activity? Yes <input type="checkbox"/> No <input type="checkbox"/> Permit Number (e.g., 07PGxxxx, 08SFxxxx, 09IPxxxx):  Other NPDES Number – If this project/site has an NPDES number for a discharge other than for stormwater associated with construction activities, indicate that number and type of discharge:  This project is:  Check one of the following: Private: <input type="checkbox"/> Local Government: <input type="checkbox"/> State Government: <input type="checkbox"/> Federal Government: <input type="checkbox"/>  Check one of the following: Residential: <input type="checkbox"/> Commercial: <input type="checkbox"/> Industrial: <input type="checkbox"/> Other: <input type="checkbox"/> If Other, describe:  Standard Industrial Classification: [Indicate the appropriate SIC number that best represents the eventual use of the facility under construction. For residential and commercial facilities (i.e., non-industrial) use the appropriate construction SIC number. SIC information may be obtained from the U.S. Occupational Safety and Health Administration. As of July 2009, a search function is available on the OSHA website at <a href="http://www.osha.gov/pls/imis/sicsearch.html">http://www.osha.gov/pls/imis/sicsearch.html</a> .]
<b>Erosion and Sediment Control Plan Information</b>	NOTE: Apply for this permit only after you have submitted the Erosion and Sediment Control Plan to the appropriate Approval Authority for review. When MDE is ready to issue the permit, you must provide either documentation from the Approval Authority that the plan is approved or, if the Approval Authority does not provide such documentation, complete a certification that the plan is approved. The certification form is available on MDE's website.

	<p>Has Erosion and Sediment Control Plan been submitted to the appropriate Approval Authority for review? Yes <input type="checkbox"/></p> <p>Name of Approval Authority for Erosion and Sediment Control Plan:</p> <p>Identifying Number for Erosion and Sediment Control Plan (if assigned by Approval Authority):</p> <p>Is this a State or Federal project for which MDE has not yet assigned an SF number to the Erosion and Sediment Control Plan? Yes <input type="checkbox"/></p>
<b>Discharge Information</b>	<p>The runoff from this site goes to: (select one)</p> <p>1. A municipal separate storm sewer system. Give name of that system and its receiving waters:</p> <p>2. Surface waters. Give name of receiving waters (use the closest named waterway):</p> <p>Watershed Basin Code – Eight-digit number that indicates the site’s watershed. This information may be obtained at local plan review offices or MDE.</p> <p>Are the receiving waters listed on the current Maryland 303(d) list as impaired? [NOTE: See MDE’s website for the 303(d) list and search tools.] Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>What is listed as the cause of the impairment (check all that are applicable)? Total Suspended Solids: <input type="checkbox"/> Sedimentation/Siltation: <input type="checkbox"/> Other: <input type="checkbox"/></p> <p>If the impaired waters are different than the waters mentioned above, list them here:</p> <p>Date that the preparer of this form compared the eventual receiving waters with the Maryland 303(d) list:</p>
<b>Impervious Surface and Runoff Curves</b>	<p>Runoff Curve Number:</p> <p>Pre-Development:                      Post-Development:</p> <p>Estimate of Impervious Surface Area in Acres (Post-development, includes rooftops, parking lots, etc.):</p>

<b>Permanent Stormwater Management Facilities (BMPs)</b>	<p>If SWM is waived or exempt, you do not need to complete this section.</p> <p>SWM waived:            Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>SWM exempt:            Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>Indicate how many of each type of permanent SWM facility will be implemented. Indicate the total drainage area for each type of these facilities. Example: if two extended detention ponds are installed, each draining 10 acres, indicate there are two extended detention ponds (place “2” in the Number column) with a total drainage area of 20 acres (place “20” in the Total Drainage Area column).</p>	
<b>BMPs</b>	<b>Number</b>	<b>Total Drainage Area</b>
Infiltration trenches		
Infiltration basins		
Offsite SWM Facility		
Retention Ponds		
Detention Ponds		
Extended Detention Ponds – Wet		
Extended Detention Ponds – Dry		
Vegetated Swales		
Wetland/Shallow Marshes		
Oil/Grit Separators		
Drywells		
Other (specify what)		
<b>Signatory Information</b>		
<p align="center"><b>Signatory Authority</b></p> <p>Applications for a State Discharge Permit must be signed by a responsible official in accordance with COMAR 26.08.04.01-1B(5): for a proprietorship, by the proprietor; for partnerships, by a general partner; for corporations, by the principal executive officer, or authorized representative; for municipal, state, or other public facility; by principal executive officer, ranking elected official, or other authorized employee. If the facility is owned by one party and leased to another, please identify both parties and have the appropriate representatives of both parties sign this application. Attach additional sheets as needed. If the facility is owned by a business entity, please identify the resident agent and principal executive officer, with their complete addresses, on this application.</p>		

Please indicate if the facility is owned by one of the following:

Sole Proprietorship ☐  
Partnership ☐  
Corporation ☐  
Public Facility ☐

**RESIDENT AGENT FOR CORPORATION:**

Name:

Street Address:

City:

County:

State:

Zip:

I certify under penalty of law that this document was completed under my supervision and that the information contained herein is accurate and truthful to the best of my knowledge. I certify that the information concerning ownership/control of this site/project is accurate. I am responsible for the construction activities of this site/project, for satisfying the requirements of this discharge permit, and any civil or criminal penalties incurred due to violations of this permit, as set forth in Maryland and/or federal laws and regulations.

Print or type name or person signing:

Title:

\_\_\_\_\_  
(Signature of applicant)/(Date signed)

**Notices**

18 U.S.C. Section 1001 provides that:

Whoever, in any matter within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up by any trick, scheme, or device a material fact, or makes any false, fictitious, or fraudulent statements or representations; or makes or uses any false writing or document knowing same to contain any false, fictitious, or fraudulent statement or entry, shall be fined not more than \$10,000 or imprisoned not more than 5 years, or both.

Privacy Act Notice: This notice is provided pursuant to the Federal Privacy Act of 1974, U.S.C Section 552a. Disclosure of your organization's Federal Tax Identification number or your personal Social Security number with this application is mandatory pursuant to the Maryland Environment Article, Section 1-203 (2003), which requires MDE to verify that applicants for the renewal of permits or licenses have paid all undisputed taxes and unemployment insurance. This information will not be used for any purposes other than those described in this Notice.

### Application Completion Checklist

**Complete all portions of the application. In addition, ensure the following are included:**

<b>Fee</b>	<p>Enclose a check or money order made payable to MDE for the appropriate application fee based on the total disturbed area (in acres) for your project/site. Local and state government projects are exempt from the fees.</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <th style="text-align: left;">Total disturbed area (in acres)</th><th style="text-align: left;">Fee</th></tr> <tr> <td>1 to less than 10</td><td>\$100</td></tr> <tr> <td>10 to less than 15</td><td>\$500</td></tr> <tr> <td>15 to less than 20</td><td>\$1500</td></tr> <tr> <td>20 or more acres</td><td>\$2500</td></tr> </table> <p>Fee enclosed: <input type="checkbox"/>  Exempt from fee: <input type="checkbox"/></p>	Total disturbed area (in acres)	Fee	1 to less than 10	\$100	10 to less than 15	\$500	15 to less than 20	\$1500	20 or more acres	\$2500
Total disturbed area (in acres)	Fee										
1 to less than 10	\$100										
10 to less than 15	\$500										
15 to less than 20	\$1500										
20 or more acres	\$2500										
<b>Map</b>	Map enclosed: <input type="checkbox"/>										
<b>Workers' Compensation</b>	If the application indicates that a Certificate of Compliance is attached, it is enclosed: <input type="checkbox"/>										
<b>Public Notice Billing Approval Form</b>	<p>If this is an application for an Individual Permit for Stormwater Associated with Construction Activity, a Public Notice Billing Approval Form is attached: <input type="checkbox"/></p> <p>NOTE: For Individual Permits, MDE cannot begin processing the application until the Public Notice Billing Approval Form is received. It is available in the Permit for Stormwater Associated with Construction Activity section of the MDE website.</p>										
<b>Retain a Copy</b>	The applicant has retained a copy of this application: <input type="checkbox"/>										
<p><b>Submit one signed original to:</b></p> <p><b>Maryland Department of the Environment</b>  <b>P.O. Box 2057</b>  <b>Baltimore, Maryland 21203-2057</b></p>											
<b>Contact Information for Questions:</b>	<p><b>DO NOT SUBMIT YOUR APPLICATION TO THIS ADDRESS.</b>  Sending your application by overnight delivery to this address <b>WILL NOT</b> expedite your application.  Maryland Department of the Environment, Compliance Program  1800 Washington Blvd.  Suite 420  Baltimore Maryland 21230  Telephone: (410) 537-3510 Website: <a href="http://www.mde.state.md.us">http://www.mde.state.md.us</a></p>										

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## **Appendix D**

# **Notification for Underground Storage Tanks**

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Waste Management Administration • Oil Control Program  
**NOTIFICATION FOR UNDERGROUND STORAGE TANKS**

**Return completed form to:**

Maryland Department of the Environment  
Oil Control Program  
1800 Washington Boulevard, Suite 620  
Baltimore MD 21230-1719

**Facility ID Number:** \_\_\_\_\_

**Type Of Notification:**

☐ New Facility   ☐ Amended   ☐ Closure   (mark one)

\_\_\_\_\_ Number of tanks at facility

\_\_\_\_\_ Number of continuation sheets attached

**State Use Only**

**Facility ID Number:** \_\_\_\_\_

**Alt ID Number:** \_\_\_\_\_

**Date Entered into Computer:** \_\_\_\_\_

**Data Clerk's Initials:** \_\_\_\_\_

**Owner Contacted to Clarify Response:** \_\_\_\_\_

**Comments:** \_\_\_\_\_

**I. OWNERSHIP INFORMATION:**

Is this an Owner Name Change?   ☐ yes   ☐ no

**Owner Name:** \_\_\_\_\_

**Street Address:** \_\_\_\_\_

**City** \_\_\_\_\_ **State** \_\_\_\_\_ **Zip Code** \_\_\_\_\_

**County:** \_\_\_\_\_

**Mailing Address (if different from above):** \_\_\_\_\_

**Telephone Number:** \_\_\_\_\_

**Contact Person:** \_\_\_\_\_

**Fax:** \_\_\_\_\_ **Email:** \_\_\_\_\_

**Owner ID:** \_\_\_\_\_

**Type of Owner:** (mark one)

**Government**

\_\_\_\_\_ Federal

\_\_\_\_\_ State

\_\_\_\_\_ Local

**Commercial**

\_\_\_\_\_ Corporation

\_\_\_\_\_ Company

\_\_\_\_\_ Partnership

\_\_\_\_\_ Individual

**Non-Commercial**

\_\_\_\_\_ Residential

\_\_\_\_\_ Agricultural

\_\_\_\_\_ Non-Profit Agency

**II. LOCATION OF TANKS:**

Is this a Facility Name Change?   ☐ yes   ☐ no

**Facility Name or Company Site Identifier:** \_\_\_\_\_

**Street Address:** \_\_\_\_\_

**City** \_\_\_\_\_ **State** \_\_\_\_\_ **Zip Code** \_\_\_\_\_ **County** \_\_\_\_\_

**Facility Water Supply (mark one):**   ☐ Potable Well   ☐ Public Water System

**Mailing Address (if different from above):** \_\_\_\_\_

**Facility Operator:** \_\_\_\_\_ **Primary Phone Number:** \_\_\_\_\_

### III. TYPE OF FACILITY: (check one)

<input type="checkbox"/> Aircraft Owner	<input type="checkbox"/> Federal Military	<input type="checkbox"/> Petroleum Distributor
<input type="checkbox"/> Airline	<input type="checkbox"/> Federal Non-Military	<input type="checkbox"/> Railroad
<input type="checkbox"/> Apartment/Condo	<input type="checkbox"/> Fire/Rescue/Ambulance	<input type="checkbox"/> Residential
<input type="checkbox"/> Auto Dealership	<input type="checkbox"/> Gas Station	<input type="checkbox"/> State Government
<input type="checkbox"/> Commercial	<input type="checkbox"/> Industrial	<input type="checkbox"/> Store
<input type="checkbox"/> Contractor	<input type="checkbox"/> Local Government	<input type="checkbox"/> Trucking/Transport
<input type="checkbox"/> Educational	<input type="checkbox"/> Marina	<input type="checkbox"/> Utilities
<input type="checkbox"/> Farm/Nursery	<input type="checkbox"/> Office	<input type="checkbox"/> Not Listed
<input type="checkbox"/> Other: _____		

### IV. CONTACT PERSON IN CHARGE OF TANKS:

Name: \_\_\_\_\_ Job Title: \_\_\_\_\_

Employer: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

City State Zip

Phone Number: \_\_\_\_\_ Fax Number: \_\_\_\_\_

Email Address: \_\_\_\_\_

### V. FINANCIAL RESPONSIBILITY: (if applicable – see instructions)

☐ Not Required For This Facility - heating oil for direct consumptive use only.

Policy #: \_\_\_\_\_ Period of Coverage: \_\_\_\_\_

Insurer: \_\_\_\_\_

Agent/Broker: \_\_\_\_\_ Phone No.: \_\_\_\_\_

#### Type of Financial Responsibility Used:

<input type="checkbox"/> Financial Test of Self Insurance	<input type="checkbox"/> Guarantee*	<input type="checkbox"/> Local Govt. Insurance Pool
<input type="checkbox"/> Third Party Insurance	<input type="checkbox"/> Surety Bond*	<input type="checkbox"/> Local Govt. Bond Rating Test
<input type="checkbox"/> Risk Retention Group	<input type="checkbox"/> Letter of Credit*	<input type="checkbox"/> Local Govt. Financial Test
<input type="checkbox"/> Trust Fund	<input type="checkbox"/> Standby Trust Fund	<input type="checkbox"/> Local Govt. Guarantee
<input type="checkbox"/> Other (specify) _____		

\*requires Standby Trust Fund

**VI. DESCRIPTION OF UNDERGROUND STORAGE TANKS:** (complete for each tank at this facility)

Tank Identification Number	Tank No.	Tank No.	Tank No.	Tank No.	Tank No.
Alternate Tank ID Number	Tank No.	Tank No.	Tank No.	Tank No.	Tank No.
<b>1. Status of Tank</b> (mark only one)					
- Currently in Use					
- Temporarily Out of Use					
- Permanently Out of Use (Complete Item 8)					
<b>2. Date of Installation</b> (month/year)					
<b>3. Total Capacity (gallons)</b>					
<b>3A. Compartmentalized?</b>	___YES ___NO		___YES ___NO		
Enter Compartment Gallons:	Tank "A"	Tank "B"	Tank "A"	Tank "B"	
<b>3B. Manifolded?</b>	YES	NO	YES	NO	YES
<b>4. Tank Construction</b> (mark all that apply)					
- Asphalt Coated or Bare Steel					
- Cathodically Protected Steel (Coating w/CP - Galvanic)					
- Cathodically Protected Steel (CP Steel - Impressed Current)					
- Composite Clad Steel (Steel w/FRP)					
- Fiberglass Reinforced Plastic (FRP)					
- Polyethylene Tank Jacket					
- Other (must describe)					
- Double-walled					
- Excavation Liner					
- Lined Interior					
- Lined Interior with Impressed Current					
- Has tank been repaired?	YES	NO	YES	NO	YES

## VI. DESCRIPTION OF UNDERGROUND STORAGE TANKS: (complete for each tank at this facility)

Tank Identification Number	Tank No.		Tank No.		Tank No.		Tank No.		Tank No.	
Alternate Tank ID Number	Tank No.		Tank No.		Tank No.		Tank No.		Tank No.	
5. Piping Construction (mark all that apply)										
- Aboveground Piping										
- Bare or Galvanized Steel										
- Bare or Galvaized Steel - sleeved in PVC, FRP, or Plastic										
- Copper										
- Copper (CP Protected)										
- Copper-sleeved in PVC, FRP, or Plastic										
- CP Steel (Galvanic)										
- CP Steel (Impressed Current)										
- Fiberglass Reinforced Plastic (FRP)										
- Flexible Plastic										
- Other (must describe)										
- No Piping										
- Double-walled										
- Double-walled with Containment Sumps										
- Secondary Containment (specify)										
6. Type of Piping (mark all that apply)										
Pressurized? (if yes, select type of Automatic Line Leak Detector (ALLD))										
• Electronic ALLD										
• Mechanical ALLD										
- Gravity Feed										
- Suction, no valve at tank (Safe Suction)										
- Suction, valve at tank (U.S. Suction)										
- Has piping been repaired?	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO

**VI. DESCRIPTION OF UNDERGROUND STORAGE TANKS:** (complete for each tank at this facility)

Tank Identification Number	Tank No.		Tank No.		Tank No.		Tank No.		Tank No.	
Alternate Tank ID Number	Tank No.		Tank No.		Tank No.		Tank No.		Tank No.	
<b>7. Substance Currently or Last Stored</b>										
- Aviation Fuel										
- Bio-Diesel										
- Car Wash-Oil/Water Separator UST										
- Diesel										
- Ethanol (E-85)										
- Gasohol (E-10)										
- Gasoline										
- Hazardous Substance (specify):										
- Heating Oil #2										
- Heating Oil #4										
- Heating Oil #5										
- Heating Oil #6										
- Kerosene										
- Lube Oil										
- Methanol										
- Mixture (specify):										
- Used Oil										
- Other (must describe)										
7A. On-site consumptive use?	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO
7B. Emergency Generator?	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO
<b>8. Closing of Tank</b>										
- Estimated date last used (month/day/year)										
- Date Tank Closed (month/day/year)										
- Tank Removed From Ground?	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO
- Tank Filled with Inert Material?	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO
- If yes, inert material used.										
- Change in service to non-regulated substance?	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO
8A. Site Assessment Completed?	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO
8B. Assessment Report submitted to MDE?	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO

**VI. DESCRIPTION OF UNDERGROUND STORAGE TANKS:** (complete for each tank at this facility)

Tank Identification Number	Tank No.		Tank No.		Tank No.		Tank No.		Tank No.	
Alternate Tank ID Number	Tank No.		Tank No.		Tank No.		Tank No.		Tank No.	
<b>9. Release Detection</b> (see instructions)	<b>TANK</b>	<b>PIPING</b>	<b>TANK</b>	<b>PIPING</b>	<b>TANK</b>	<b>PIPING</b>	<b>TANK</b>	<b>PIPING</b>	<b>TANK</b>	<b>PIPING</b>
<b>9A. Tank – Mark One</b> <b>Primary (P) and All</b> <b>Secondary (S) Methods</b>										
- Manual Tank Gauging										
- Tank Tightness Testing (See Instructions)										
- ATG 0.2 gph Test										
- Inventory/Statistical Inventory Reconciliation (SIR)										
- Groundwater Monitoring										
- Interstitial Monitoring Double-Walled Tank										
- Other Method Approved by MDE (must specify)										
<b>9B. Piping – Mark One</b> <b>Primary (P) and All</b> <b>Secondary (S) Methods</b>										
- Interstitial Monitoring Double-Walled Piping										
- Electronic ALLD Testing (0.1 or 0.2 gph)										
- Annual Line Tightness Testing (Pressurized)										
- 2-year Line Tightness Testing (U.S. Suction)										
- Inventory/Statistical Inventory Reconciliation (SIR)										
- Groundwater Monitoring										
- Other Method Approved by MDE (must specify)										
<b>10. Spill and Overfill Protection</b>										
<b>10A. Overfill Device Installed?</b> (if yes, select one below)	<b>YES</b>	<b>NO</b>	<b>YES</b>	<b>NO</b>	<b>YES</b>	<b>NO</b>	<b>YES</b>	<b>NO</b>	<b>YES</b>	<b>NO</b>
> Flapper Valve (FV)										
> Ball Float Valve (BFV)										
> High Level Alarm (HLA)										
> Other (must describe)										
<b>10B. Spill Catch Basin Fill Pipe?</b> (5 gallon minimum)	<b>YES</b>	<b>NO</b>	<b>YES</b>	<b>NO</b>	<b>YES</b>	<b>NO</b>	<b>YES</b>	<b>NO</b>	<b>YES</b>	<b>NO</b>
<b>11. Stage I Vapor Recovery?</b>	<b>YES</b>	<b>NO</b>	<b>YES</b>	<b>NO</b>	<b>YES</b>	<b>NO</b>	<b>YES</b>	<b>NO</b>	<b>YES</b>	<b>NO</b>
<b>12. Stage II Vapor Recovery?</b>	<b>YES</b>	<b>NO</b>	<b>YES</b>	<b>NO</b>	<b>YES</b>	<b>NO</b>	<b>YES</b>	<b>NO</b>	<b>YES</b>	<b>NO</b>



**VII. UNDERGROUND STORAGE TANK (UST) TECHNICIAN CERTIFICATION OF COMPLIANCE:**

(Complete for all new installed, replaced, and upgraded underground storage systems at this location)

I certify, under penalty of law, that I am certified by the State of Maryland as an UST Technician, that I am in good standing as a certified Technician with the State, and that I am familiar with the UST regulatory requirements in COMAR 26.10.02—26.10.11. I further certify, under penalty of law that, based upon my personal inspection and/or work upon the UST system(s) at the Facility identified on this Notification Form, the UST system(s) is/are in compliance with the requirements of COMAR 26.10.02—26.10.11.

**Installer:** \_\_\_\_\_  
Print Name Signature Date

**MDIC:** \_\_\_\_\_  
State Identification Number Expiration Date Company

*Penalties for False Statements: Any person who makes any false statement, representation, or certification herein is subject to criminal penalties of a fine and imprisonment and to civil monetary penalties, pursuant to §4-417 of the Environment Article of the Annotated Code of Maryland.*

**VIII. OWNER CERTIFICATION:** (to be completed by owner or owner's representative)

I certify, under penalty of law, that I have personally examined and am familiar with the information submitted in this Notification Form and all attached documents, and that the information provided is true, accurate, and complete. I further certify, under penalty of law, that I have met the financial responsibility (FR) requirements in accordance with applicable federal and State laws (40CFR Part 280 Subpart H; §4-409(b) of the Environment Article; and COMAR 26.10.11) and that I can provide documentation thereof to the Maryland Department of the Environment upon its request, or that I am not required to meet the FR requirements because the UST system stores heating oil for direct consumptive use only.

**Name (print / type):** \_\_\_\_\_ **Title:** \_\_\_\_\_

**Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

*Penalties for False Statements: Any person who makes any false statement, representation, or certification herein is subject to criminal penalties of a fine and imprisonment and to civil monetary penalties, pursuant to §4-417 of the Environment Article of the Annotated Code of Maryland.*

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# MARYLAND DEPARTMENT OF THE ENVIRONMENT

Waste Management Administration • Oil Control Program

1800 Washington Boulevard • Suite 620 • Baltimore, Maryland 21230-1719

410-537-3442 • 800-633-6101 ext. 3442 • <http://www.mde.state.md.us>

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## NOTIFICATION FOR UNDERGROUND STORAGE TANKS (USTs) INSTRUCTIONS AND GENERAL INFORMATION

Registration is required by Maryland Law (Environment Article §4-411.1) for all underground storage tank (UST) facilities currently or previously used to store regulated substances. The owner, operator, or person in charge of a UST facility shall register the facility with the Department (MDE) using form MDE/WAS/PER.012.

Unless an underground oil storage tank facility is registered with the Department in accordance with Maryland law, no oil may be sold to or received by the underground oil storage facility.

The primary purpose of this notification program is to locate and evaluate USTs that store, or have stored, petroleum or regulated substances. It is expected that the information you provide will be based on reasonably available records, or, in the absence of such records, your knowledge, belief, or recollection.

**When to Notify:** (1) Immediately register all USTs that are in use or that have been taken out-of-service, but are remaining in the ground; (2) Prior to placing in service, register all new USTs; (3) Within 30 days after any change that affects either the facility or UST information on a previously filed notification, submit an amended notification form (e.g. ownership, substance, tank status, financial responsibility changes).

**Who Must Notify?** Maryland law requires that owners, operators, or the person in charge of USTs that store regulated substances must notify the State of the existence of their tanks unless those tanks are excluded.

**Excluded Tanks are:** (1) single family residence and farm tanks of 1,100 gallons or less capacity used for storing regulated substances for non-commercial or personal use; (2) septic tanks; (3) storm water or waste water collection system; (4) flow-through process tanks; or (5) storage tanks in an underground area (such as a basement or vault) if the storage tank is located above the surface of the floor.

**What Substances are Covered?** The notification requirements apply to USTs that store regulated substances. This includes any substance defined as oil or hazardous. "Oil" is defined in Maryland Law (Environment Article §4-401(h) and includes: petroleum; petroleum by-products, including used/waste oil; crude

oils; aviation fuel; gasoline; kerosene; light and heavy fuel oils; diesel motor fuel, including biodiesel fuel, regardless of whether the fuel is petroleum based; ethanol that is intended to be used as a motor fuel or fuel source; and regardless of specific gravity, every other non-edible, non-substituted liquid petroleum fraction. "Oil" does not include liquefied propane, liquefied natural gas, or any edible oils.

"Regulated Substance" is defined in the Code of Federal Regulations (40CFR 280.12) as any substance defined in section 101(14) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980 (but not including any substance regulated as a hazardous waste under subtitle C).

**Financial Responsibility:** The owner of a regulated UST is required to maintain insurance for taking corrective action and for compensating third parties for injuries and damages caused by UST releases. Maryland regulations ([http://www.dsd.state.md.us/comar/subtitle\\_chapters/26\\_chapters.htm](http://www.dsd.state.md.us/comar/subtitle_chapters/26_chapters.htm); click on Subtitle 10, then click on 26.10.11) incorporate by reference the federal regulations (found at: [http://www.epa.gov/OUST/fedlaws/280\\_h/pdf](http://www.epa.gov/OUST/fedlaws/280_h/pdf)).

Additional guidance on what is required may be found at the following links: Fact Sheet – <http://www.epa.gov/OUST/ustsystem/finresp.htm>; Dollars and Sense Publication – <http://www.epa.gov/oust/pubs/dol&sens.pdf>.

**Penalties:** Any owner, operator, or person in charge of an UST or any UST Technician who makes any false statement, representation, or certification in this Notification Form is subject to criminal penalties of a fine and imprisonment and to civil monetary penalties, pursuant to §4-417 of the Environment Article, Annotated Code of Maryland.

**Any Questions?** Additional information may be found at: [http://www.mde.state.md.us/programs/landprograms/oil\\_control/usthome/index.asp](http://www.mde.state.md.us/programs/landprograms/oil_control/usthome/index.asp). If you have questions concerning your UST(s), please contact the Oil Control Program at 1-800-633-6101, extension 3442, or 410-537-3442. Questions regarding vapor recovery may be directed to the Air and Radiation Management Administration at 1-800-633-6101, extension 3231, or 410-537-3231.

## SPECIFIC INSTRUCTIONS

Please refer to form MDE/WAS/PER .012 (4/09)

### Do Not Fill in Any Shaded Areas

**Facility ID Number:** (All Pages) – If this is an existing facility, MDE has assigned an identification number to it. Insert this number where indicated on every page of this form. If this is a new facility, leave blank.

**Type of Notification:** (Page 1)

New Facility: Mark this box if this facility has never been registered with MDE.

Amended: Mark this box if the facility was previously registered with MDE and you are updating information, including the installation of new underground storage tank (UST) system(s).

Closure: Mark this box if one or more underground storage systems at the facility have been permanently or temporarily closed (taken out-of-service).

Number of tanks at facility: Enter the total number of USTs to be registered for this facility, including all active, permanently closed, and temporarily out-of-service tanks.

Number of continuation sheets attached: If you have more than five (5) USTs to be registered, copy pages 3 through 6 prior to completing and indicate the total number of additional sheets included with this Notification.

#### **I. OWNERSHIP INFORMATION** (page 1):

Ownership refers to the owner of the UST system. The owner's name is the individual owner or business name registered with the Maryland Department of Assessments and Taxation. Contact person is the individual the Department should contact if we have questions regarding this Notification. **Do not enter any information in the OWNER I.D. block.**

Owner Name Change: Mark "yes" or "no" if the owner name is being changed.

**TYPE OF OWNER:** Mark the one line that best describes the type of owner.

---

#### **II. LOCATION OF TANK(S)** (page 1):

Facility Name Change: Mark "yes" or "no" if the facility name is being changed.

Facility Name or Company Site Identifier. Use this line to write in the name of the facility or company site (for example: "ABC Gasoline" or your company's identifier for the site "Store 109").

Street Address: Use a complete street address which includes property number (such as "109 Maple Street"). No post office boxes, route numbers, or listings such as "at the intersection of Main and 12th Streets" will be accepted.

Facility Water Supply: Mark whether the facility is on private or public drinking water.

Facility Operator: This space is used to identify the operator if different than the owner. If facility operator is the owner, indicate "same as owner."

Primary Telephone Number: The phone number provided here is where the facility operator can be best contacted during regular business hours.

### III. TYPE OF FACILITY (page 2) Mark only one.

Aircraft Owner: Facility used to support individual owners of aircraft primarily for recreational use.

Airline (Air Taxi): Facility used to support the airline industry both for passengers or cargo.

Apartment /Condo: A commercial building for multiple families.

Auto Dealership: A commercial facility used to sell both retail and wholesale cars and trucks.

Commercial: A fixed facility used for retail or wholesale business and not specifically defined by other facility types in these instructions.

Contractor: Facility used to support an owner who performs contractual services such as building, painting, construction, etc.

Educational: Includes colleges, universities, secondary and elementary schools both public and privately owned.

Farm/Nursery: A tract of land devoted to the production of crops or raising animals, including fish.

Federal Military: Owned or operated by the U.S. Department of Defense.

Federal Non-Military: Owned or operated by the federal government that is not Department of Defense related.

Fire/Rescue/Ambulance: Includes public, private or volunteer organizations.

Gas Station: A commercial facility that retails gasoline to the general public.

Industrial: A fixed commercial facility used for manufacturing or warehousing goods, products or industrial services.

Local Government: If the Type of Owner on page 1 of this form is a Local Government, use the facility type in this section that best fits the

facility. If there is no best fit, mark this line and identify the facility under "Other" (e.g., animal control building).

Marina: A facility used to store, moor or repair marine vessels.

Not Listed: If the Type of Owner on page 1 of this form is other than Government and no facility type in this section matches, mark this line and identify the facility under "Other."

Office: A building used to house one or more businesses and workers to operate the business.

Other: If no facility type in this section matches, mark this line and identify the facility.

Petroleum Distributor: Facility that stores and distributes oil products in bulk.

Railroad: Facility that operates solely for the transportation of goods or passengers by the rail system.

Residential: The dwelling of an individual and/or family and used solely for non-commercial purposes (i.e., a single family residence).

State Government: If the Type of Owner on page 1 of this form is a State Government, use the facility type in this section that best fits the facility. If there is no best fit, mark this line and identify the facility under "Other."

Store: A commercial business that retails goods to the public and is not a gas station.

Public Service: Includes law enforcement agencies, local municipalities (i.e. public works, roads, refuse departments).

Trucking/Transport: Facility used to provide transportation to move goods, products, and passengers over the roads.

Utilities: Facilities that provide supply power, communication, water and/or sewer services.

#### IV. CONTACT PERSON IN CHARGE OF TANKS (page 2)

This section should be used to identify the person who the Department should contact regarding information on the storage systems. Provide the complete mailing address, including zip code, and the primary phone number, fax number, and email address for contacting this person.

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#### V. FINANCIAL RESPONSIBILITY (FR) (page 2)

This section is to be completed by the owner(s) of any UST system that stores motor fuels, lube oils, and bulk heating oil, including emergency generators. Pursuant to federal law (40CFR 280 Subpart H) and Maryland statutes and regulations (§4-409(b) of the Environment Article and COMAR 26.10.11), UST owners shall meet specific financial responsibility (FR) requirements that demonstrate the owner's insurance provisions for taking corrective action and for compensating third parties for injuries and damages that may ensue from UST releases. A general liability policy does not meet this requirement. Heating oil used for direct consumption is exempt from this requirement and "Not Required" should be marked. However, if a heating oil UST is serving a dual purpose as an emergency generator, it must meet the FR requirements. See page one of these instructions for further information on applicable statutes and regulations to ensure that your FR coverage is adequate and your certification is accurate.

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#### VI. DESCRIPTION OF UNDERGROUND STORAGE TANKS (page 3)

Tank Identification Number (also found on pages 4, 5, and 6): If you are updating facility information and MDE has previously assigned a tank number, enter that number. Otherwise, leave blank and MDE will complete.

Alternate Tank I.D. Number (also found on pages 4, 5 and 6): This line may be used by you to record the tank numbers your company uses to refer to the tanks at this facility.

##### 1. **Status of Tank** (page 3): Please mark only one of the following.

Currently In Use: UST system actively being used.

Temporarily Out Of Use: An UST system not being used and has not been permanently closed according to Maryland regulations. **No more than 1 inch of liquid is allowed in this system.**

Permanently Out Of Use: An UST system that has been properly closed according to Maryland Regulations. Proper closure is the removal or filling in place of the storage system. You must complete item 8 in this section for any UST system identified as permanently out-of-use.

##### 2. **Date of Installation** (page 3): Report the date the storage system was installed by writing in the month and year. If unsure, estimate the year.

##### 3. **Total Capacity** (page 3): This line is to report the maximum capacity of the storage tank (such as 6,000 gallons). Piping capacity should not be reported. Identify if the storage tank is compartmented and if yes, the maximum capacity of each compartment. Identify if the storage tank is manifolded.

##### 4. **Tank Construction** (page 3): This section is to report tank construction materials. Mark all that apply for the tank only. Piping is covered in Section 5.

Asphalt Coated or Bare Steel: This box is normally marked for older tank systems installed prior to 1985. These are tanks that are made of steel with only a thin coating of asphalt or paint, if any coating at all.

Cathodically Protected Steel (Galvanic): This type of tank is known as a STIP3 tank in which sacrificial anodes are installed as part of the UST system.

**4. Tank Construction** (page 3): This section is to report tank construction materials. Mark all that apply for the tank only. Piping is covered in Section 5.

Cathodically Protected Steel (Impressed Current): Usually a bare steel tank that has been retro-fitted with an impressed current cathodic protection system.

Composite Clad Steel: This type of tank is made of steel then wrapped on the outside with fiberglass. Examples of these tanks are: Buffhide, Glasteel, High-life FRP, or ACT 100 tanks.

Fiberglass Reinforced Plastic: This type of tank is made exclusively of fiberglass. Tank manufacturers include: Xerxes, Owens Corning, and Fluid Containment.

Polyethylene Tank Jacket: This is a steel tank that has an external covering of material other than fiberglass. An example of this is Total Containment.

Other: If you know the type of construction but it does not appear as an option, use this line to specify the material (e.g. concrete).

Double-Walled: This type of manufactured construction is a primary tank within a secondary tank in which the interstitial space can be monitored for an oil release.

Excavation Liner: If the tank field has been lined to collect product for release detection, mark this box.

Lined Interior: If you have a steel tank that has been entered and lined with a fiberglass type spray, mark this box. This activity is normally performed on a bare steel tank over 15 years of age. **As of January 12, 2009, lined interiors are not allowed as a repair unless the Department's approval is received.**

Lined Interior with Impressed Current: If you have a lined steel tank with impressed current, mark this box. **As of January 12, 2009, lined interiors are not allowed as a repair unless the Department's approval is received.**

Has the tank been repaired? Mark this line "yes" if the tank has been repaired because of a leak.

**5. Piping Construction** (page 4): This section is to report piping materials connected to each tank. Mark all that apply.

Aboveground Piping: If piping conveying flammable or combustible liquids is above ground, it must be constructed of steel or an approved marina pipe.

Bare or Galvanized Steel: This type of piping may be black iron, galvanized coated (silver color), or wrapped with no cathodic protection.

Bare or Galvanized Steel -sleeved in PVC, FRP, or Plastic: Steel piping inserted into some type of plastic piping to provide corrosion protection.

Copper: This type of piping is usually found on small heating oil tanks and does not have corrosion protection.

Copper (CP Protected): Copper piping that is cathodically protected.

Copper-sleeved in PVC, FRP, or Plastic: Copper piping inserted into some type of plastic piping to provide corrosion protection.

Cathodically Protected (CP) Steel (Galvanic or Impressed Current): This type of piping is usually metal and is protected by either sacrificial anodes (galvanic) or an impressed current system. These boxes may

**5. Piping Construction** (page 4): This section is to report piping materials connected to each tank. Mark all that apply.

be marked if your Bare Steel or Galvanized piping has been upgraded with corrosion protection. These boxes are rarely used if you checked Fiberglass Reinforced Plastic or Flexible Plastic.

Fiberglass Reinforced Plastic: This type of piping is specifically manufactured for underground use and is made of fiberglass. Examples of brands are: Ameron, Fibercast, and Smith Fiberglass.

Flexible Plastic: This type of piping looks like a hose and is specifically manufactured for petroleum underground storage systems. The piping may be green, blue, yellow, or white. Current manufacturers include APT, Enviroflex, Titeflex, and Environ.

Other: If you know the type of piping but it does not appear as a choice listed above, use this line and specify the type.

No Piping: If there is no piping (e.g. used oil tank), mark this block.

Double-walled: This type of piping is UL971 or MDE approved, has an inner wall to convey oil, and an outer wall that can allow for the detection and collection of a release from the inner wall.

Double-walled with Containment Sumps: All underground piping installed, upgraded, or replaced on or after January 26, 2005 must be of this construction.

Secondary Containment: Any type of piping that provides secondary containment and is not double-walled (e.g. a piping trench liner or concrete trench).

**6. Type of Piping** (page 4): This section is used to report how the tank's contents are moved through the piping system. Mark all that apply.

Pressure: This is a piping system that delivers product under pressure to a dispenser and usually uses a submersible pump located at the storage tank. Automatic Line Leak Detectors are required and either electronic or mechanical must be identified.

Gravity Feed: This type of system is rare for underground tank use. Product is delivered to a dispenser or point of use by the force of gravity.

Suction-No Valve at Tank: This type of piping uses a pump at the point of use to pull product to the pump. A single check valve is used at the pump. If there is a release then suction is broken. By breaking suction the release can be detected (also known as Safe Suction).

Suction-Valve at Tank: This type of piping uses a pump to pull product to the point of use. A foot or angle-check valve is used at the top of the tank. This is the most commonly used suction system (also known as U.S. Suction or Unsafe Suction).

Has piping been repaired? If during the life of the underground storage system the piping has been repaired, you must mark this line "yes."



**7. Substance Currently or Last Stored** (page 5): Please mark only one box or line per tank unless it is a compartmented tank. For compartmented tanks identified under Section VI, "Total Capacity," Item 3A, identify the tank number and the compartment as "A" or "B" in the Alt. Tank ID Number block and identify the substance in each compartment. If your product is not listed, use the "other" line and specify the product. All hazardous substances must be specified on the hazardous substance line.

**7A. On-Site Consumptive Use?** (page 5): If this UST is storing heating oil that is used on-site (direct consumptive use), mark "yes."

**7B. Emergency Generator?** (page 5): If this UST is being used to store oil for an emergency generator, mark "yes."

**8. Closing of Tank** (page 5): This section is to be completed for tank systems that have been taken permanently out of service.

Estimated Date Last Used: This is the last date tank system was fully operational.

Date Tank Closed: Indicate the date only if the tank has been closed in accordance with Maryland regulations.

Tank Removed from Ground? Mark "yes" or "no." If "yes," complete 8A and 8B. If "no," continue to "Tank Filled with Inert Material."

Tank Filled with Inert Material? Mark "yes" or "no." If "yes," go to "Inert Material Used."

Inert Material Used: This line is to identify the inert material used. Material could be sand, concrete, flow ash, or some other slurry.

Change in Service: If the tank once stored a regulated substance but is now used for a non-regulated substance (such as water or sewage), mark this line "yes".

**8A. Site Assessment Completed?** (page 5): This section is to be filled out if you completed Section 8. Mark "yes" only if a MDE inspector was at the site during tank closure.

**8B. Assessment Report submitted to MDE?** (page 5): This section is to be filled out if you completed Section 8A. If MDE was at the site during tank closure and "Site Assessment Completed" is marked "yes", MDE will verify if Site Assessment was submitted.

**9. Release Detection** (page 6): This section must be completed for tanks storing motor fuels and bulk storage of all petroleum products. New or replaced USTs, including emergency generators, installed after January 12, 2009 are required to have interstitial monitoring. USTs containing heating oil used for direct consumption are not required to have release detection. One primary method and all applicable secondary methods of release detection being used for both tanks and piping at this facility must be identified by inserting "P" for primary and "S" for secondary. Tank (precision) tightness testing is not approved as a sole method of release detection for existing USTs containing motor fuels or used for bulk storage. If "Other Method" is selected, it must be MDE approved (e.g., vapor monitoring). If you are unfamiliar with release detection and your system requires it, please contact MDE and request the fact sheet, "Release Detection for Underground Storage Tank (UST) System" or visit the MDE website at: [http://www.mde.state.md.us/programs/landprograms/oil\\_control/usthome/oil\\_release.asp](http://www.mde.state.md.us/programs/landprograms/oil_control/usthome/oil_release.asp).

**10. Spill and Overfill Protection** (page 6):

Overfill Device Installed: This is a device that will prevent an overfill or alert that an overfill is about to occur. If "yes," select the device being used. If none of the listed devices are applicable, a description in the "Other" box must be provided.

Spill Catch Basin: This is a piece of equipment that is used on the storage tank fill. The basin is a sealed bucket and catches minor drips from the delivery hose and spillage during stick readings.

**11. Stage I Vapor Recovery** (page 6): This is required during the delivery of product for all gasoline storage tanks with an individual storage capacity greater than 2,000 gallons.

**12. Stage II Vapor Recovery** (page 6): This is required at any dispenser for gasoline products at facilities having a total gasoline tank capacity greater than 2,000 gallons in the following Maryland jurisdictions: Anne Arundel County; Baltimore City and County; Calvert County; Carroll County; Cecil County; Charles County; Frederick County; Harford County; Howard County; Montgomery County; and Prince George's County.

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**VII. CERTIFICATION OF COMPLIANCE** (page 7):

This section is to be completed at the time of installation by the Maryland-certified UST technician only for new, replaced, or upgraded systems. A signature is required by the certified UST technician.

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**VIII. OWNER CERTIFICATION** (page 7)

Please read the certification statement. Code of Maryland Regulations (COMAR) 26.10.02-26.10.11 are the requirements which pertain to the notification, design, construction, installation, upgrade, repair, closure, and financial responsibility for underground storage systems. If this Certification is not completed in its entirety by the owner or the owner's representative, it will be returned by the Oil Control Program.

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Thank you for completing the "Notification for Underground Storage Tank" form. If you need additional guidance, please contact the Department's Oil Control Program at the number provided on Page 1 of this form.

**Title 26**  
**DEPARTMENT OF**  
**THE ENVIRONMENT**

**Subtitle 10 OIL POLLUTION AND TANK MANAGEMENT**

**Notice of Proposed Action**

[08-292-P]

The Secretary of the Environment proposes to amend:

- (1) Regulations **.01, .02, .03, .03-4, .04, .05, and .06** under **COMAR 26.10.02 Underground Storage Tanks**;
- (2) Amend Regulations **.01, .02, .03, .04, .05, and .10** under **COMAR 26.10.03 UST Systems: Design, Construction, Installation, Notification and Inspection**;
- (3) Amend Regulations **.01** and **.04** under **COMAR 26.10.04 General Operating Requirements**;
- (4) Amend Regulations **.01, .02, and .04** under **COMAR 26.10.05 Release Detection**; a
- (5) Amend Regulations **.03, .04, .09, and .10** under **COMAR 26.10.06 Underground Storage System Technician, Remover and Inspector Certification**;
- (6) Amend Regulation **.01** under **COMAR 26.10.11 Underground Storage Tank Financial Responsibility**; and
- (7) Amend Regulations **.02** and **.05** under **COMAR 26.10.14 Underground Storage Tank Site Cleanup Reimbursement**.

**Statement of Purpose**

The purpose of this action is as follows:

COMAR 26.10.02.01—prohibit an owner/operator from selling, receiving, or dispensing oil or any other regulated substance from a non-compliant underground storage tank (UST) system; to require the Department to notify the owner/operator in writing of the non-compliant UST system; and to allow the Department to attach a tag, notice, or locking device to monitor the UST system until compliance is achieved.

COMAR 26.10.02.02—clarify (1) that a new or replaced UST, including an emergency generator UST, shall have interstitial monitoring to meet release detection and (2) new or replaced secondary containment piping shall meet the requirements for release detection. Also, the deferral previously allowed for emergency generator UST systems to not meet release detection requirements will end on February 28, 2008.

COMAR 26.10.02.03—reduce the number of counties presently included in the high risk groundwater use area, correct the values for certain “levels of concern” of specific chemicals analyzed in the high risk groundwater use area to meet federal drinking water standards, and add definitions for “local government”, “well”, and “well head protection area”.

COMAR 26.10.02.03-4—eliminate redundancy as a result of the change to Regulation .03 for the counties in the high risk groundwater use area, modify certain requirements for owners of existing gasoline UST systems located in areas served by individual water supply systems, and add requirements for owners of existing gasoline UST systems located in a well head protection area.

COMAR 26.10.02.04—define “completion”, “groundwater drain system”, “replace”, “secondary containment” and “under-dispenser containment” for USTs; clarify in the definition for “underground storage tank” that a residential or farm UST no longer in use is required to be properly closed in accordance with COMAR 26.10.10; and clarify in the definition of “upgrade” that this term includes 40 percent of the piping connected to a single underground storage tank.

COMAR 26.10.02.05—clarify what UST systems are permitted in Subtitle 10 by adding language to require the removal or decommissioning of all nonoperational components or appurtenances of an UST system to ensure proper operation of that system and prevention of a release.

COMAR 26.10.02.06—update three incorporation-by-reference documents: NFPA 31: Standard for the Installation of Oil-Burning Equipment; PEI/RP 100-05: Recommended Practices for Installation of Underground Liquid Storage Systems; and API 1637: Using the API Color-Symbol System to Mark Equipment and Vehicles for Product Identification at Gasoline Dispensing Facilities and Distribution Terminals.

COMAR 26.10.03.01—require all new or replaced underground storage tanks, including emergency generator tanks, to have secondary containment; and change the owner's notification to the Department from 3 to 5 working days before beginning the installation of a new or replacement UST system.

COMAR 26.10.03.02—clarify where fiberglass reinforced plastic and flexible piping cannot be used for UST systems.

COMAR 26.10.03.03—clarify inspection requirements by the owner/operator for overfill prevention equipment and to include under-dispenser containment sumps in the containment sumps requirements.

COMAR 26.10.03.04—prohibit the installation of a groundwater drain system in a tank excavation area unless written approval is received from the Department.

COMAR 26.10.04.01F(3)—require the UST owner to notify the Department within 2 hours of discovery of daily inventory measurements totaling a shortage of 500 gallons or more in 7 consecutive days and investigated immediately to determine the cause of the shortage.

COMAR 26.10.04.01J—require more frequent precision testing of either a heating oil UST installed for 15 years or more or an UST for which an installation date is unknown and which do not have interstitial monitoring performed monthly, and require the owner of the UST to comply with COMAR 26.10.08 if the UST system fails the precision testing requirements.

COMAR 26.10.04.04D—prohibit the installation of interior lining in an UST unless written approval is received from the Department.

COMAR 26.10.05.01—clarify that field inspection, testing, calibration, and maintenance of the release detection method is required in addition to following the manufacturer's instructions for installation, calibration, operation, and maintenance of the release detection method.

COMAR 26.10.05.02—(1) for pressurized piping, to add “and” to make the requirement as stringent as the corresponding federal standard; (2) for suction piping, to change the release detection rate from 0.025 gph to 0.10 gph to be as stringent as the corresponding federal standard; (3) to not require precision (or

tightness) testing when “safe” suction is being used; (4) to require certain methods of interstitial monitoring when secondary containment piping is used; and (5) to clarify testing schedules for secondary containment piping.

COMAR 26.10.05.04—(1) delete the line (piping) tightness values in the table found in §D of this regulation; (2) clarify that vapor monitoring will not be an acceptable method of release detection unless approved by the Department; and (3) clarify that to use groundwater monitoring as a method of release detection, an assessment shall be conducted before implementing this method and that the Department has the authority to request a written report of the assessment which shall demonstrate that the testing/monitoring requirements in §G of the regulation are met.

COMAR 26.10.05.05—clarify the precision testing requirements for new, replaced, repaired, or upgraded UST systems.

COMAR 26.10.05.10—clarify that the owner of a new UST motor fuel system installed on or after January 16, 2006 shall have the system inspected within 6 months of installation; and that the Department shall notify owners of UST systems installed before January 16, 2006 to have the identified UST facility inspected, correct all deficiencies, and provide a copy of the inspection report to the Department within 60 days of the notification.

COMAR 26.10.06.03—clarify that a certified UST remover must provide verifiable proof of UST removals within the previous 36 months and with a company or organization that removes UST systems.

COMAR 26.10.06.04—clarify that a certified inspector can determine, as part of an inspection, whether the release detection and overfill devices are functioning properly if certain Department requirements, including training, are met.

COMAR 26.10.06.09—clarify requirements for renewing certifications for removers, technicians, and inspectors. The required information shall be submitted 30 days before the certification expiration date and if not, then the person shall take the appropriate exam to renew their certification.

COMAR 26.10.06.10—remove the section of this regulation allowing an UST owner to employ certified inspectors to perform compliance inspections at the owner's facilities if certain conditions required by the Department were met because it is less stringent than the federal Inspection Grant Guidelines (USEPA, 4/24/2007).

COMAR 26.10.11.01—further clarify certain existing exceptions to language found in the federal regulations to ensure that Maryland has the authority to enforce the federal regulations incorporated by reference in this chapter.

COMAR 26.10.14.02—clarify that costs associated with a residential heating oil tank removal are eligible for reimbursement if the removal is necessary in accomplishing soil treatment.

COMAR 26.10.14.05—clarify that a residential heating oil tank removal, in order to accomplish soil treatment, is an eligible site rehabilitation cost.

### **Comparison to Federal Standards**

In compliance with Executive Order 01.01.1996.03, this proposed regulation is more restrictive or stringent than corresponding federal standards as follows:

(1) Regulation citation and manner in which it is more restrictive than the applicable federal standard:

26.10.02.02A: The U.S. EPA Secondary Containment Grant guidelines (11-15-2006) require secondary containment and interstitial monitoring for new or replaced UST systems, including emergency generators, that are located within 1,000 feet of any existing community or potable water system. The proposed amendment requires all new or replaced UST systems in Maryland including emergency generators to have secondary containment and interstitial monitoring.

26.10.02.04B(64): The federal definition for underground storage tank (40 CFR §280.12) excludes a farm or residential tank of 1,100 gallons or less capacity from the UST regulations. The proposed amendment continues to exclude these tanks unless they are no longer in use. If no longer in use, the tank owner must comply with COMAR 26.10.10 for out-of-service UST systems and proper closure.

26.10.02.04B(65): The federal definition for upgrade (40 CFR §280.12) does not specify any replacement percentages. The phrase, “ or the replacement of 40 percent or more of an UST system”, was added to COMAR in January 2006. However it was determined that “UST system” is too vague and is being replaced in this proposed amendment to specifically mean: “piping connected to a single underground tank”.

26.10.03.01: The federal Secondary Containment Grant Guidelines (11/15/2006) require secondary containment with interstitial monitoring for new or replaced UST systems, including emergency generators, which are located within 1,000 feet of any existing community or potable water system. The proposed amendment requires all new or replaced UST systems installed in Maryland, including emergency generator UST systems, to have secondary containment and interstitial monitoring without regards to their location.

26.10.04.01F(3): Has been required since 1991 and requires certain responses to occur by the UST owner if daily inventory variations for certain motor fuel UST systems are exceeded in a 7-day period. The corresponding federal regulation (40 CFR §280.43(a)) requires monthly inventory control only. The proposed amendment will additionally require the owner to contact the Department within 2 hours of discovery when the inventory variation is 500 gallons or greater in 7 consecutive days and for the owner to investigate immediately to determine the cost.

26.10.04.04D: The corresponding federal regulation (40 CFR 280.21(b)(1)) allows interior lining of USTs to occur without written approval if certain requirements are met. The proposed amendment prohibits the interior lining of an UST unless written approval is received from the Department.

26.10.05.01A(5): The corresponding federal regulation (40 CFR §280.40(a)) requires the owner of an UST system to provide a method, or combination of methods, of release detection that (1) can detect a release from any portion of the UST system that routinely contains product, (2) is installed, calibrated, operated, and maintained in accordance with the manufacturer's instructions and (3) meet certain performance standards listed in 40 CFR §§280.43 and 280.44. The proposed amendment adds a requirement to ensure that the method is being field tested, inspected, maintained, and operated properly to detect a release.

26.10.05.02D(4) and (5): The corresponding federal standard (40 CFR §280.41) does not have specific requirements to ensure that secondary containment piping is tested. The proposed amendments identifies allowable methods for testing the interstice area of secondary containment as well as a schedule of testing for new, upgraded, replaced, and existing secondary piping.

26.10.05.04F: The corresponding federal standard (40 CFR §280.43(e)) allows vapor monitoring as a release detection method with no other oversight. Compliance inspections have revealed that in most instances where this method is being used, a proper assessment was not completed which resulted in ineffective release detection monitoring. The proposed amendment prohibits the use of vapor monitoring as a release detection method unless approved by the Department.

26.10.05.04G: The corresponding federal standard (40 CFR §280.43(f)) does not require an assessment or written report to a regulatory authority. Compliance inspections have revealed that in most instances where this method is being used, a proper assessment was not completed which resulted in ineffective release detection monitoring. The proposed amendment requires that an assessment shall be conducted 60 days before implementing ground water monitoring as an acceptable method of release detection at an oil storage facility. The assessment shall demonstrate that this method meets the nine requirements identified in the regulations and that MDE may request a written report of this assessment.

(2) Benefit to the public health, safety or welfare, or the environment:

26.10.02.02A: An UST system (tank and piping) that has secondary containment allows greater protection of the environment by preventing an immediate release should the integrity of the primary system be compromised, versus a tank or piping that has only single wall construction. Regulations that became effective January 26, 2005 already make it mandatory Statewide for new or replaced UST piping to have secondary containment. By adding the proposed amendment, all new or replaced UST systems will be secondarily contained in their entirety.

26.10.02.04B(64): The Department is responding to an increasing number of residential and farm heating oil UST systems that were improperly closed and are now leaking and impacting the environment, property owners, and third parties as a result of groundwater contamination. By requiring residential and farm property owners to properly close these UST systems, impacts to drinking water and the cost of closure will be reduced for the owner rather than being financially responsible for the remediation of contaminated ground water.

26.10.02.04B(65): The existing regulation identified 40 percent replacement of an UST system as an “upgrade”. However, due to the many components of an UST system, the regulated community requested the definition to be more specific and the Department agreed the existing wording was not clear. The regulated community and the Department agreed that the original intent of this change should have been for 40 percent of the piping connected to a single underground storage tank. The benefit to the environment is that if more than 40 percent of the piping needs to be changed, the piping must be totally replaced and brought to present day standards instead of being replaced piecemeal and being more prone to a release.

26.10.03.01: An UST system (tank and piping) that is secondarily contained allows greater protection of the environment by preventing an immediate release should the integrity of the system be compromised, versus a tank or piping that has only single wall construction. Regulations that became effective January 26, 2005 already make it mandatory Statewide for new or replaced UST piping to have secondary containment.

26.10.04.01F(3): By requiring the owner of the UST system to notify the Department within 2 hours that the owner is aware of a potential release, the Department will be able to more closely monitor the investigation process that the owner is required to do. If a release has occurred, a quicker response action will be initiated resulting in minimal impact to the public's health and safety and to the environment.

26.10.04.04D: The Department has found that in most instances, USTs being repaired by using interior linings in accordance with the federal requirements have a high propensity of failure that subsequently results in costs to the owner that may have been applied towards replacing the existing tank with a new tank. The Department will continue to allow tank lining. However, the owner must receive written approval before this repair activity can occur.

26.10.05.01A(5), .02D(4) and (5), .04F, and .04G: The proposed amendments relate to release detection methods allowed for UST systems. The amendments are a result of numerous inspections of UST facilities by Oil Control Program inspectors and of the determination that these methods were being implemented improperly with no additional testing to ensure the methods or their components were operating in accordance with existing requirements.



(3) Analysis of additional burden or cost on the regulated person:

26.10.02.02A: (a) For a typical motor fuel UST (fiberglass clad steel) presently being installed in Maryland, the price for a 12,000-gallon single wall tank is approximately \$9,000 and the same size/type double wall tank is approximately \$12,000. Piping for new and replaced UST systems is already required to have secondary containment and release detection so this cost will not change. Construction costs will also be equivalent for either type of tank installed. A typical new motor fuel facility would be installing 2—3 USTs so the additional cost for double wall tanks is estimated to be \$6,000—\$9,000. (b) For a typical emergency generator UST (fiberglass clad steel or fiberglass reinforced plastic) presently being installed in Maryland, the price for a 1,000-gallon single wall tank is approximately \$3,600 —\$4,100 whereas the same size/type double wall tank is approximately \$5,500—\$6,300. To install interstitial monitoring to meet release detection requirements, the cost is estimated to be \$5,000—\$8,000 per tank. At most facilities there is only one emergency generator UST system so the additional cost for a new or replaced system is estimated to be \$7,000—\$10,000.

26.10.02.04B(64): The average cost for closure (removal and assessment) of a 550 gallon residential UST (typical home heating oil UST ranges from 275—1,000 gallons) is estimated to be \$2,500. If the assessment determines contamination is present and requires remediation, a residential or farm property owner will need to expend additional funds to meet the State's clean-up requirements. Historically, these clean-up costs for the majority of tank owners do not exceed \$15,000. Homeowner insurance does not usually cover this type of activity unless a special “rider” policy is purchased. However, through June 30, 2010, the owner may apply to the Department's Oil Contaminated Site Environmental Cleanup Fund for reimbursement up to \$20,000 (\$500 deductible is required) from the Department for certain costs associated with the clean-up. It should be noted that an amendment to COMAR 26.10.14, to include tank removal as an eligible reimbursement cost if soil treatment is required, is also being proposed at this time. If this proposed amendment is passed, the actual burden of cleanup will be reduced for that owner as tank removals will become an eligible cost for reimbursement.

26.10.02.04B(65): The Department believes that, if more than 40 percent of the piping needs replacement then the piping integrity as a whole is poor and the piping should be totally upgraded to prevent a release. The additional burden of cost will be minimal for double wall piping (whether less than 40 percent is replaced or if 100 percent must be replaced), as construction activities, testing, etc. will be equivalent. For replacement of 100 feet of double-walled piping on a single underground storage tank, it is estimated that the cost will be \$12,000—\$15,000. However, when single wall piping must be upgraded in its entirety by double wall piping, higher costs will result due to the need to bring the entire UST system into compliance which will require the addition of containment sumps, interstitial monitoring, and conversion of vent lines to double wall piping, etc. It is estimated that the cost of a typical upgrade from single-wall to double-wall piping will be \$50,000 —\$70,000.

26.10.03.01: See 26.10.02.02A.

26.10.04.01F(3): No additional burden or cost on the regulated person will occur as the only change is for the owner to notify the Department within 2 hours of being made aware that an UST system exceeded the daily inventory requirement by 500 or more gallons in 7 consecutive days. All other requirements, including immediate investigation, remain unchanged.

26.10.04.04D: No additional burden or cost on the regulated person will occur as the difference between the cost of repairing a tank by installing an interior lining versus the cost and added life expectancy of installing a new tank is minimal.

26.10.05.01A(5) and 26.10.05.04F: The proposed amendments are clarifications to existing regulations and no additional cost is anticipated for the regulated person.



26.10.05.02D(4) and (5): Testing of secondary containment piping in accordance with the identified methods of this proposed amendment will cost approximately \$700 per test.

26.10.05.02.04G: An assessment to determine whether ground water monitoring may be used as a release detection method will involve use of geoprobe equipment to make this determination. It is estimated that using equipment to make this determination will cost approximately \$3,000—\$5,000. Presently, there are few UST owners using this method and it is believed most UST owners will use other methods of release detection instead of ground water monitoring.

(4) Justification for the need for more restrictive standards:

26.10.02.02A: Maryland relies heavily on its surface and ground water resources for drinking water, industrial processes and recreational uses. Secondary containment for new and replaced UST systems is an important step in further preventing releases into the environment that result in health and safety impacts to Maryland citizens and there fore should not be limited to certain areas as the federal Secondary Containment Grant Guidelines are requiring.

26.10.02.04B(64): By requiring previously excluded residential/farm UST systems (that are no longer in use and left in the ground containing oil) to complete specific closure requirements, groundwater contamination that the Department has responded to and occasionally must expend State funds to remediate will be significantly reduced.

26.10.02.04B(65): By requiring total replacement of piping attached to a single underground tank when more than 40 percent of the piping run must be repaired, the Department believes that releases from older piping will be reduced. This will subsequently reduce ground water contamination and impacts to third parties as well as to the UST owner.

26.10.03.01: Maryland has already promulgated regulations requiring double wall piping Statewide for new and replaced systems. By requiring new and replaced USTs to also be double walled (that is, secondary containment), the integrity of the entire UST system is greatly enhanced thereby reducing the chance of a major release of oil to occur. Because Maryland is dependent on both surface and ground water for a variety of uses, the circumstances dictate that the more restrictive standard be implemented.

26.10.04.01F(3): Previously, the owner was not required to notify the Department until an investigation was completed and only if a release was confirmed. This allowed for an extended period of time before the Department was made aware of a release as well as a slower response by the owner to address the release. Additionally, COMAR 26.10.01.03B has specific spill reporting requirements including when a spill must be reported and this proposed amendment mirrors the time limit to report.

26.10.04.04D: The Department has seen limited success with repair of an existing UST using interior lining. The repair is often applied to an UST that has integrity problems and the life of that UST is usually minimally extended. It is believed that money spent on this type of repair should, in most instances, be applied towards the replacement of the existing UST.

26.10.05.01A(5), .02D(4), .02D(5), .04F and .04G: The federal regulations were promulgated in 1988 and no changes by the federal authority have occurred since. The Department's Oil Control Program received delegated authority from the EPA in 1992 to administer the federal UST/LUST Program and adopted the federal regulations as part of this authority in order to be as stringent as those regulations. Although the federal regulations provide an excellent framework for the removal and installation of UST systems, the Department has recognized the continuing need to review and update COMAR 26.10 based on many years of field experience. This has resulted in some instances for COMAR to be more restrictive than the federal standards to ensure protection of Maryland's citizens and the natural resources which can be directly and indirectly affected by a release of oil from an UST system.

The applicable federal standard is not sufficient to protect the public health, safety, or welfare of Maryland citizens.

## **Estimate of Economic Impact**

### **I. Summary of Economic Impact.**

COMAR 26.10.02.01 prohibits the owner of a regulated UST system from selling, receiving, or dispensing product if the system is not in compliance and it allows the Department to affix a monitoring device if necessary until the system is returned to compliance with the State and federal regulations. Used only by the Department in the worst noncompliance situations, a single UST system or an entire facility may be closed depending on the magnitude and severity of the violations. This would result in partial or full loss of business for a period of time. The economic impact cannot be quantified.

COMAR 26.10.02.02 will require all new or replaced USTs, including emergency generator tanks, to have secondary containment and interstitial monitoring. A typical new 12,000 gallon motor fuel UST with secondary containment costs approximately \$3,000 more than a comparable tank without secondary containment. A typical new 1,000 gallon emergency generator UST with secondary containment costs approximately \$2,000 more than a comparable tank without secondary containment. An additional cost of \$2,000—\$8,000 for interstitial monitoring will be incurred for each emergency generator UST system as release detection was not previously required.

COMAR 26.10.02.03-4A will reduce the sampling and testing frequency for owners of existing gasoline UST systems in the high risk groundwater use area served by an individual water supply system. Presently, annual costs (1) for sampling and analyzing a potable well and 3 monitoring well samples every 180 days is estimated to cost \$2,200 per year and (2) to complete an UST system pressure test annually, for a typical facility having 2—3 gasoline UST systems, is estimated to cost \$1,500. The proposed regulation will reduce (1) sampling and analyses of wells to once per year (\$1,100) and (2) the pressure test to once every 2 years. Therefore, costs over a 2-year period will be reduced by 50 percent for the UST owner.

COMAR 26.10.02.03-4B will require the owners of all existing gasoline UST systems in a well head protection area in the high risk groundwater use area to (1) install three monitoring wells, (2) sample and test the wells after installation, (3) sample and test the wells annually thereafter, (4) perform an initial UST system pressure test, and (5) repeat the pressure test every 2 years thereafter. Initial costs incurred by the UST owner are estimated to be (1) \$10,500 for 3 monitoring wells, (2) \$850 for initial sampling and testing of the wells and (3) \$1,500 for completing the initial pressure test (typical facility with 2—3 gasoline UST systems (8,000—10,000 gals capacity each). Costs for the second year are estimated to be \$850 for sampling and testing of the monitoring wells. Costs for the third year are estimated to be \$850 for sampling and testing of the monitoring wells and \$1,500 for the UST pressure test. The costs for year 2 and year 3 will continue to repeat.

COMAR 26.10.02.04B(64) will require that residential and farm tanks of 1,100 gallons or less storing motor fuels or heating oils must be closed in accordance with COMAR 26.10.10 if the tank is no longer in use. These tanks were previously exempted from the regulations unless they leaked. A typical heating oil tank of 550 gallons will cost approximately \$2,500 dollars to properly close if no additional remediation is required. A program (see COMAR 26.10.14) presently exists in the Department that provides reimbursement of certain costs of environmental cleanup from residential heating oil systems.

COMAR 26.10.02.04B(65) will require the owner of an UST to upgrade an entire run of piping connected to a single underground storage tank if 40 percent or more requires replacement. A typical piping run for a single underground storage tank at a retail facility is estimated to be 100 feet. If the existing piping is double wall, replacement of the piping will cost \$10—\$22 per foot. Upgrade of a typical double wall system, including labor and construction, is estimated to be \$12,000—\$15,000. If the existing piping is single wall, not only will the damaged piping need to be replaced, the entire piping system (including vent

line) will need to be upgraded to double wall along with the addition of containment sumps, upgraded dispenser systems, and interstitial monitoring. Replacement of a typical single wall system is estimated to be \$50,000—\$70,000.

COMAR 26.10.02.06 will require the Department to provide copies of the three updated reference standards to its inspectors and supervisors as well as provide copies to State depository libraries and the AELR. Although not required, it is expected that some of the regulated industry and the trade professions will purchase these documents as well.

A typical double wall 12,000-gallon motor fuel UST at a commercial facility will cost approximately \$3,000 more than an identical single wall tank. All other installation costs will be comparable. A typical double wall 1,000-gallon emergency generator UST will cost approximately \$2,000 more than an identical single wall tank. All other installation costs, with the exception of release detection that had not been previously required, will be comparable. Interstitial monitoring for an emergency generator tank is estimated to cost \$5,000—\$8,000.

If it is determined that a heating oil UST is 15 years old or older or the installation date of an UST is unknown and interstitial monitoring is not being performed monthly in accordance with COMAR 26.10.05.04H, the owner must complete a precision test within 120 days of the effective date of these regulations. Therefore, owners of these USTs must perform one additional test. If the UST passes the test, further testing reverts to the same schedule (every 5 years) as the existing regulation. If and when the UST does not pass this testing, the owner is further required to report and investigate the failure, and to permanently close the tank if repairs cannot be made.

COMAR 26.10.05.02D(4) and D(5) require testing of secondary containment piping. New, repaired, or replaced piping must be tested before operation of the UST system and completion of the facility. Existing piping must be tested within 5 years of January 1, 2009. All piping must subsequently be tested every 5 years thereafter. The cost of each test is estimated to be \$700 per UST system having secondary containment piping.

COMAR 26.10.05.04G requires an assessment to be completed which demonstrates that ground water monitoring can be used as a method of release detection. To conduct the proper assessment, use of geoprobe technology will be required and the estimated cost for this one-time assessment is estimated to be \$3,400.

Residential heating oil tank owners will have a positive economic impact as the changes to these regulations now allow tank removal as an eligible site rehabilitation cost if the tank must be removed to accomplish soil treatment.

II. Types of Economic Impact.	Revenue (R+/R-) Expenditure (E+/E-)	Magnitude
A. On issuing agency:		
(1) 26.10.02.01	(E+)	\$1,000
(2) 26.10.02.06	(E+)	\$5,000
B. On other State agencies:		
(1) 26.10.02.01	(E+)	Unquantifiable
(2) 26.10.02.02	(E+)	Unquantifiable

(3) 26.10.02.03-4A	(E-)	-\$3,700 every 2 years
(4) 26.10.02.03-4B	(E+)	\$12,550 initial cost
(5) 26.10.02.04B(65)	(E+)	Unquantifiable
(6) 26.10.02.06	(E+)	Unquantifiable
(7) 26.10.03.01	(E+)	Unquantifiable
(8) 26.10.04.01J	(E+)	\$400 per tank test
(9) 26.10.05.02D(4) and (5)	(E+)	\$700 per UST system test

C. On local governments:

(1) 26.10.02.01	(E+)	Unquantifiable
(2) 26.10.02.02	(E+)	Unquantifiable
(3) 26.10.02.03-4A	(E-)	-\$3,700 every 2 years
(4) 26.10.02.03-4B	(E+)	\$12,550 initial cost
(5) 26.10.02.04B(65)	(E+)	Unquantifiable
(6) 26.10.02.06	(E+)	Unquantifiable
(7) 26.10.03.01	(E+)	Unquantifiable
(8) 26.10.04.01J	(E+)	\$400 per tank test
(9) 26.10.05.02D(4) and (5)	(E+)	\$700 per UST system test

Benefit (+)  
Cost (-)      Magnitude

D. On regulated industries or trade groups:

(1) 26.10.02.01	(-)	Unquantifiable
(2) 26.10.02.02	(-)	Unquantifiable
(3) 26.10.02.03-4A	(+)	Unquantifiable
(4) 26.10.02.03-4B	(-)	Unquantifiable
(5) 26.10.02.04B(65)	(-)	Unquantifiable
(6) 26.10.02.06	(-)	Unquantifiable
(7) 26.10.03.01	(-)	\$3,000
(8) 26.10.04.01J	(-)	\$400 per tank test
(9) 26.10.05.02D(4) and (5)	(-)	\$700 initial and \$700 every 5 years
(10) 26.10.05.04G	(-)	\$3,400 one time

E. On other industries or trade groups:

(1) 26.10.02.01	(+)	Unquantifiable
(2) 26.10.02.02	(+)	Unquantifiable
(3) 26.10.02.03-4A	(-)	-\$3700 every 2 years

(4) 26.10.02.04B(64)	(+)	\$12,550 initial cost
(5) 26.10.02.04B(65)	(+)	Unquantifiable
(6) 26.10.02.06	(-)	\$200 one time
(7) 26.10.03.01	(+)	Unquantifiable
(8) 26.10.04.01J	(+)	\$400 per tank test
(9) 26.10.05.02D(4) and (5)	(+)	\$700 initial and \$700 every 5 years
(10) 26.10.05.04G	(+)	\$3,400 one time

F. Direct and indirect effects on public:

(1) 26.10.02.01	(+)	Unquantifiable
(2) 26.10.02.02	(+)	Unquantifiable
(3) 26.10.02.03-4A	(-)	Unquantifiable
(4) 26.10.02.03-4B	(+)	Unquantifiable
(5) 26.10.02.04B(64)	(-)	Unquantifiable
(6) 26.10.02.04B(65)	(+)	Unquantifiable
(7) 26.10.03.01	(+)	Unquantifiable
(8) 26.10.04.01J	(+)	Unquantifiable
(9) 26.10.05.02D(4) and (5)	(+)	Unquantifiable
(10) 26.10.05.04G	(+)	Unquantifiable
(11) 26.10.14	(+)	Unquantifiable

**III. Assumptions.** (Identified by Impact Letter and Number from Section II.)

A(1). The Department has had to purchase lockout tags and labels for noncompliant systems and produce guidance information to be provided to the UST system owner/operator.

A(2). The Department will purchase 25 each of the reference documents for inspectors and supervisors and is also required to produce 20 copies of each reference document to be placed in State Depository libraries, the AELR, and the Department.

B(1), C(1). Unless State and local government agencies are impacted by these amended regulations, no immediate costs will be incurred. If an UST system is found to be noncompliant and require the system to be closed down by the Department, costs to bring the tank into compliance will vary depending on the number and severity of the violations.

B(2), C(2). If a new or replacement UST system is installed, it must have secondary containment. A 12,000-gallon UST meeting this requirement will cost approximately \$3,000 more than the same size single wall tank. A 1,000-gallon emergency generator UST meeting this requirement with interstitial monitoring will cost approximately \$7,000—\$10,000 more than the same system installed before March 1, 2008.

B(3), C(3). A reduction in costs for owners of existing gasoline UST systems in the high risk groundwater use area served by an individual water supply system will occur. Presently, the estimated cost to complete sampling and testing requirements for 2 years is \$7,400. The proposed regulation reduces the sampling and

testing frequency and the estimated cost for 2 years will be \$3,700. There are approximately 55 State and local government gasoline UST facilities located in the high risk groundwater use area. It cannot be determined how many of these facilities presently meet the high risk groundwater use area requirements for sampling.

B(4), C(4). Additional costs, for owners of existing gasoline UST systems in a well head protection area of a high risk groundwater use area, will be required for installing monitoring wells and perform sampling and testing. Initial costs to install 3 monitoring wells, sample and analyze these wells, and perform a pressure test on 2-3 gasoline UST systems at each facility is estimated to be \$12,550. The second year will only require sampling of the monitoring wells and the estimated cost will be \$850. The third year will require sampling of the monitoring wells and pressure testing of the gasoline UST systems and the cost is estimated to be \$2,350. Year 2 and 3 costs will continue to repeat. Presently, all high risk groundwater use area counties have identified well head protection areas but only Carroll and Frederick Counties and the Town of Aberdeen (Harford County) have implemented regulations. There are less than 10 State and local government UST facilities in those jurisdictions having regulations. After review of ongoing enforcement cases in these jurisdictions, State and local government facilities do not appear to be affected by this well head protection area requirement.

B(5), C(5). If more than 40 percent of existing piping to a single UST requires upgrading, then the piping must be replaced entirely. Cost to replace a typical single UST piping system will vary depending on whether the existing piping is single or double wall. For an existing double wall system the replacement cost is estimated to be \$12,000—\$15,000 whereas for an existing single wall system to be upgraded to a double wall system, the replacement cost is estimated to be \$50,000—\$70,000.

B(6), C(6). Purchasing three updated reference standards is approximately \$200 although copies of these documents are available for review at the State depository libraries at no cost.

B(7), C(7). The replacement or new installation of an UST system does not regularly occur as most State and local agencies utilize and maintain their existing systems or are installing aboveground storage tanks if a new or replacement system is required, therefore the economic impact to these agencies will be minimal.

B(8), C(8). Based on approximately 1,300 heating oil USTs (200 State owned, 400 local government and the remaining 700 commercially owned) that are 15 years old or older, it is estimated that 10 percent or 130 USTs may be required to investigate further as a result of not passing this test and therefore having additional costs incurred.

B(9), C(9). Those UST facilities having secondary containment piping will be required to perform an initial test and then perform additional testing on a 5 year cycle. The estimated cost to perform this testing is \$700 each time per UST system having secondary piping.

D(1). Unless regulated industries are impacted by these amended regulations, no immediate costs will be incurred. If an UST system is found to be non-compliant and require the system to be closed down by the Department, costs to bring the tank into compliance will vary depending on the number and severity of the violations.

D(2). If a new or replacement UST system is installed, it must have secondary containment. A 12,000 gallon UST meeting this requirement will cost approximately \$3,000 more than the same single wall tank. A 1,000 gallon emergency generator UST meeting this requirement with interstitial monitoring will cost approximately \$7,000—\$10,000 more than the same system installed before March 1, 2008.

D(3). A reduction in costs for owners of existing gasoline UST systems in the high risk groundwater use area served by an individual water supply system will occur. Presently, the estimated cost to complete sampling and testing requirements for 2 years is \$7,400. The proposed regulation reduces the sampling and testing frequency and the estimated cost for 2 years will be \$3,700. There are approximately 565 gasoline



UST facilities located in the high risk groundwater use area. It is believed that at least 10 percent of these facilities, because of location or previously implemented safeguards, were not required to install monitoring wells or do sampling and testing. The remaining facilities will experience a cost savings as discussed.

D(4). Additional costs, for owners of existing gasoline UST systems in a well head protection area of a high risk groundwater use area, will be required for installing monitoring wells and perform sampling and testing. Initial costs to install 3 monitoring wells, sample and analyze these wells, and perform a pressure test on 2—3 gasoline UST systems at each facility is estimated to be \$12,550. The second year will only require sampling of the monitoring wells and the estimated cost will be \$850. The third year will require sampling of the monitoring wells and pressure testing of the gasoline UST systems and the cost is estimated to be \$2,350. Year 2 and 3 costs will continue to repeat. Presently, all high risk groundwater use area counties have identified well head protection areas but only Carroll and Frederick Counties and the Town of Aberdeen (Harford County) have implemented regulations. There are approximately 195 UST facilities in those jurisdictions having regulations. After review of ongoing enforcement cases in these jurisdictions, it is estimated that 20 facilities will be affected by this regulation.

D(5). If more than 40 percent of existing piping to a single UST requires upgrading then the piping must be replaced entirely. Cost to replace a typical single UST piping system will vary depending on whether the existing piping is single or double wall. For an existing double wall system the replacement cost is estimated to be \$12,000—\$15,000 whereas for an existing single wall system, the replacement cost is estimated to be \$50,000—\$70,000.

D(6). Purchasing the three updated reference standards is approximately \$200 although copies of these documents are available for review at the State depository libraries at no cost.

D(7). For a typical 12,000 gallon tank, additional cost is approximately \$3,000. For the 1 year period from November 1, 2006 through October 31, 2007, 85 new tanks were installed at 41 oil storage facilities. Of the 85, 77 were motor fuel, 8 were heating oil, 80 were commercially owned, and the remaining 5 were owned by government agencies. Our data is not able to determine the number of replacement tanks installed for this same time period, however, existing USTs are usually not replaced until they either fail testing requirements or are found to have an active leak. As it is more often that the piping fails on an UST system, it is believed that the number of USTs needing to be replaced is small. Therefore, the impact on regulated industry will be minimal.

D(8). Based on approximately 1,300 heating oil USTs (200 State owned, 400 local government, and the remaining 700 are commercially owned) that are 15 years old or older, it is estimated that 10 percent or 130 USTs may be required to investigate further as a result of not passing this test and therefore having additional costs incurred.

D(9). Those UST facilities having secondary containment piping will be required to perform an initial test and then perform additional testing on a 5-year cycle. The estimated cost to perform this testing is \$700 each time per UST system having secondary piping.

D(10). If an UST owner wants to use groundwater monitoring as a release detection method at a facility, a proper assessment to determine if this method can be used will cost approximately \$3,400. It is believed that State and local government agencies will not use this method as other approved release detection methods that do not require an assessment can be installed and used for similar costs. Presently, very few nongovernment regulated facilities are using this method and as stated previously, other approved release detection methods are available which do not require an assessment to determine if conditions at a site will allow a method of release detection to work.

E(1), E(2), E(4), E(5). Those industries employing certified removers, technicians, and inspectors will benefit economically as a result of inspections, tank and piping removal, piping upgrade, installation of required equipment to bring an UST system into compliance, new or replacement tank and piping

installation and sampling and testing. Certified well drillers will be required to install monitoring wells. Costs cannot be quantified, as each facility will vary in what must be completed to be in compliance with the regulations.

E(3). Although a cost savings for the UST owners, there will be a reduction in business by those industries which test the UST systems and sample and analyze monitoring wells.

E(6). Purchasing the three updated reference standards is approximately \$200 although copies of these documents are available for review at the State depository libraries.

E(7). There will be a beneficial impact to (1) companies manufacturing and selling USTs and (2) companies employing MDE certified removers and technicians who will be providing equipment and services to have facilities replace or install tanks with secondary containment.

E(8), E(9). The testing required must be approved by the Department and can only be performed by qualified companies. Most of these companies have offices or contractors, or both, located in Maryland so the economic benefit is positive for the additional business they receive.

E(10). Other industries and trade groups will benefit by providing testing and assessment services and many of these are Maryland owned or operated businesses.

F(1), F(2), F(4), F(6). Indirectly, the public will benefit by having noncompliant UST systems shut down until compliance is achieved; requiring new or replaced UST systems to have secondary containment; having additional protection where those high risk ground water use area local governments are regulating their well head protection areas; and replacing UST piping when more than 40 percent requires upgrading.

F(3). Although the sampling and testing frequency requirements are being reduced, the Oil Control Program now has several rounds of sampling and testing data from the UST facilities in the high risk ground water use areas and have identified those gasoline UST facilities requiring additional attention. Additionally, as ethanol is now being used in most areas of Maryland, groundwater issues with the oxygenate MtBE have shown a decline.

F(5). Residential and farm UST owners will now be required to properly close USTs 1,100 gallons or less that are no longer in use. A typical closure with minimal remediation costs approximately \$2,500. When required, depending on the type and duration of additional remediation, costs can increase considerably. However, the Department has a site cleanup reimbursement program for residential heating oil systems that allows an applicant to be reimbursed up to \$20,000 (\$500 deductible) for eligible costs. This program will continue through June 30, 2010.

F(7). There will be a beneficial impact on the public as new and replaced USTs and UST systems will be required to have secondary containment which will enhance the spill prevention characteristics of these systems and result in fewer releases to the environment.

F(8). By requiring additional testing for older heating oil UST systems that are of a higher risk to leak, the Department believes this risk will be significantly reduced and oil releases from these tanks will be discovered faster. A lower risk of release equates to better protection of groundwater for the public.

F(9), F(10). The public will indirectly benefit by the Department requiring additional testing and assessment of certain release detection methods.

F(11). The proposed amendments clarify that the cost of a residential heating oil tank system removal is eligible for reimbursement if soil treatment, as defined in this chapter, is necessary and, in order to accomplish that soil treatment, the tank system must be removed. Soil treatment includes excavation and



proper disposal or on-site treatment. Owners previously were not allowed to submit the cost of the tank system removal as an eligible reimbursement. However, the proposed amendments will allow this cost to be reimbursed in most instances.

### **Economic Impact on Small Businesses**

The proposed action has a meaningful economic impact on small businesses. An analysis of this economic impact follows.

For COMAR 26.10.02.04B(64) there may be a temporary reduction in household purchasing power while money is expended to properly close a residential or farm UST and perform cleanup if required. However, property owners are eligible to apply to the Department for reimbursement, up to \$20,000 after meeting a \$500 deductible, for certain eligible costs of cleanup so the final impact will be minimal in most instances if the UST owner takes advantage of the reimbursement program.

The types of businesses affected by these proposed regulations are those having underground motor fuel storage tanks. These businesses include service stations, convenience stores, and service industries such as trucking companies, buses, etc.

For COMAR 26.10.02.01, the Department will have the option to close an UST that is not in compliance with certain State requirements. Depending on the severity of the violations at a business, the UST system or systems may be closed temporarily until compliance is met or may be permanently closed which will require the system to be removed. It cannot be determined if small businesses may be more impacted than other businesses.

For COMAR 26.10.02.02, the impact to businesses will be either the cost of installing new double wall USTs, or the cost of replacing an existing tank (usually as a result of a testing failure) with a double wall tank. Most of the new UST system installations inspected by the Department are not associated with small businesses and replacement of existing UST systems is also not predominantly associated with small businesses so impacts to small businesses will be minimal.

For COMAR 26.10.02.04B(65), UST piping shall be replaced if more than 40 percent of the piping connected to a single tank needs to be upgraded. If the existing piping is double walled, replacement of 100 feet of similar piping is estimated to cost \$12,000—\$15,000. If the existing piping is single wall, replacement will require upgrading to double wall piping and will also require additional upgrades to the entire UST system. The estimated cost in this instance is estimated to be \$50,000—\$70,000. The number of small businesses affected or the present total payroll or employment of these businesses cannot be quantified.

The proposed regulations are not expected to cause businesses to incur any other additional expenses of doing business in Maryland.

Primarily, Maryland businesses will provide equipment, parts, labor, and inspections to meet the requirements of the proposed action. No estimate of Maryland small businesses positively affected can be provided.

By installing or replacing UST systems with secondary containment USTs and piping, the long-term impact is for businesses to reduce the potential for an environmental release for which the costs could be significant.

### **Impact on Individuals with Disabilities**

The proposed action has no impact on individuals with disabilities.

## Opportunity for Public Comment

Comments may be sent to Gail Castleman, Regulations Coordinator, Department of the Environment, Waste Management Administration, 1800 Washington Blvd., Baltimore, MD 21230, or call 410-537-3310, or email to [gcastleman@mde.state.md.us](mailto:gcastleman@mde.state.md.us), or fax to 410-537-4112. Comments will be accepted through November 10, 2008. A public hearing will be held October 30, 2008 at 10 a.m. in the Maryland Department of Environment's Aeris and Aqua Conference Rooms, 1800 Washington Blvd., Baltimore MD.

### 26.10.02 Underground Storage Tanks

Authority: Environment Article §§4-401, 4-402, 4-405, 4-407, 4-408, 4-409, 4-410, 4-411, 4-411.1, 4-411.2, 4-415.1, 4-417, 4-701 et seq.,  
and 7-201 et seq.,  
Annotated Code of Maryland

#### **.01 Program Scope.**

A.—C. (text unchanged)

*D. An owner or operator may not allow the selling, receiving, or dispensing of oil or any other regulated substance from an UST system that is not in compliance with COMAR 26.10.02—26.10.11 as determined by the Department. The Department shall notify, in writing, the owner or operator that an UST system is not in compliance and may affix a monitoring device, such as a tag, notice, or locking mechanism, to the UST system until compliance is achieved.*

[D.] E. (text unchanged)

#### **.02 Applicability.**

A. *Requirements.*

*(1) The requirements of COMAR 26.10.02—26.10.11 apply to all owners and operators of an UST system, as defined in Regulation .04 of this chapter, that is used or may be used to store a regulated substance, except as otherwise provided in §§B and C of this regulation.*

*(2) A new or replaced UST, including an emergency generator tank, shall have interstitial monitoring in accordance with COMAR 26.10.05.04H.*

*(3) New or replaced secondary containment piping shall meet the requirements of COMAR 26.10.05.02D(4).*

B. (text unchanged)

C. *Deferrals.*

*(1) (text unchanged)*

*(2) COMAR 26.10.05 does not apply to [any] an UST system installed or replaced before March 1, 2008, that stores oil solely for use by emergency power generators.*

*(3) (text unchanged)*

#### **.03 High Risk Groundwater Use Area—Definitions.**

A. (text unchanged)

B. Terms Defined.

(1) (text unchanged)

(2) “High risk groundwater use area” means all areas served by individual water supply systems, as defined in COMAR 26.04.03.01-1B(8), in [Anne Arundel, Baltimore, Carroll, Cecil, Charles, Calvert, Frederick, Harford, Howard, Montgomery, and Prince George's counties.]:

*(a) Baltimore, Carroll, Cecil, Frederick, and Harford counties;*

*(b) Anne Arundel, Baltimore, Carroll, Cecil, Frederick, and Harford counties for groundwater contamination notification requirements of Environment Article, §4-411.2, Annotated Code of Maryland.*

(3) “Levels of concern” means:

(a) (text unchanged)

[(b) Total Benzene, Toluene, Ethyl benzene, and Xylene (BTEX) at ( $\geq$ ) 100 parts per billion; and]

*(b) Toluene at ( $\geq$ ) 1,000 parts per billion;*

*(c) Ethylbenzene at ( $\geq$ ) 700 parts per billion;*

*(d) Xylenes at ( $\geq$ ) 10,000 parts per billion; and*

[(c)] (e) (text unchanged)

(4) “Local government” means a county, municipal corporation, or sanitary district.

[(4)] (5) (text unchanged)

(6) “Well” means a hole made in the ground to obtain or monitor ground water.

(7) “Well head protection area” in this chapter means an area in Baltimore, Carroll, Cecil, Frederick, and Harford counties identified and regulated by a local government:

*(a) Surrounding one or more wells serving a community water system as defined by COMAR 26.04.01.01B(5); or*

*(b) Surrounding one or more wells serving a public water system as defined by COMAR 26.04.01.01B(34).*

#### **.03-4 Existing Gasoline UST System.**

A. The owner of an existing gasoline UST system in a high risk groundwater use area [of Baltimore, Carroll, Cecil, Frederick, or Harford County] served by one or more individual water supply systems, as defined in COMAR 26.04.03.01-1B(8), shall:

[A.] (1) Use a method approved by the Department to:

[(1)] (a)—[(3)] (c) (text unchanged)

[(4)] (d) Test water samples obtained in [§A(2) and (3)] §A(1)(b) and (c) of this regulation in accordance with Regulation .03-3 of this chapter; and

[(5)] (e) Sample and test [every 180 days] *annually* thereafter, as required in [§A(2)—(4)] §A(1)(b)—(d) of this regulation; and

[B.] (2) Within 1 year of January 26, 2005, and [annually] *every 2 years* thereafter:

[(1)] (a) (text unchanged)

[(2)] (b) Repair any leaks or deficiencies found during the testing required by this regulation and retest in accordance with [§B(1) and (2) of] this [regulation] *subsection* to insure the system does not leak.

*B. The owner of an existing gasoline UST system in a well head protection area, as defined in Regulation .03B(7) of this chapter, shall:*

*(1) Use a method approved by the Department to:*

*(a) Test all spill catchment basins and containment sumps in accordance with COMAR 26.10.03.03;*

*(b) Sample any existing monitoring wells by January 1, 2010;*

*(c) By January 1, 2010, install, in accordance with COMAR 26.04.04, and sample a minimum of three groundwater monitoring wells outside the UST excavation area in locations that will determine groundwater flow and detect a release from the UST system;*

*(d) Test water samples obtained in §B(1)(b) and (c) of this regulation in accordance with Regulation .03-3 of this chapter; and*

*(e) Sample and test annually thereafter, as required in §B(1)(c)—(d) of this regulation; and*

*(2) By January 1, 2010, and every 2 years thereafter:*

*(a) Test all primary piping that does not contain liquid gasoline, including tank top fittings, Stage II piping, riser pipes, and vent piping using a helium pressure test, or other test approved by the Department, in accordance with procedures prescribed by the Department; and*

*(b) Repair any leaks or deficiencies found during the testing required by this regulation and retest in accordance with this subsection to insure the system does not leak.*

#### **.04 Definitions.**

A. (text unchanged)

B. Terms Defined.

(1)—(10) (text unchanged)

*(10-1) “Completion” means the final grade for an underground oil storage facility is finished including all concrete pads and asphalt paving.*

(11)—(25) (text unchanged)

(25-1) *Groundwater Drain System.*

(a) *“Groundwater drain system” means a permanent installation of a horizontal pipe or gravel trench intercepting an underground storage tank excavation for the purpose of removing, directing, or relieving groundwater accumulation to an alternative location.*

(b) *“Groundwater drain system” does not mean a temporary sump pump or temporary well point dewatering system.*

(26)—(53) (text unchanged)

(53-1) *“Replace” means to remove and install any of the following:*

(a) *An underground tank; or*

(b) *40 percent or more of piping connected to a single underground storage tank.*

(54)—(56) (text unchanged)

(56-1) *“Secondary containment” means a UL listed or Department-approved system that:*

(a) *Prevents a release by containing both the liquid and vapor portions of a regulated substance released from the primary tank or piping until it is detected and removed; and*

(b) *Detects a release by meeting the requirements of COMAR 26.10.05.04H.*

(57)—(62) (text unchanged)

(62-1) *“Under-dispenser containment” means containment underneath a dispenser that shall:*

(a) *Prevent leaks from the dispenser from reaching soil or groundwater;*

(b) *Be liquid-tight on its sides, bottom, and at any penetrations;*

(c) *Be compatible with the substance conveyed by the piping;*

(d) *Be tested in accordance with COMAR 26.10.03.03; and*

(e) *Allow for access to the components in the containment system or be monitored.*

(63) (text unchanged)

(64) *Underground Storage Tank (UST).*

(a) *“Underground storage tank (UST)” means any one or combination of tanks, including underground pipes connected to the tank, and the volume of which, including the volume of underground pipes connected to it, is 10 percent or more beneath the surface of the ground.*

(b) *“Underground storage tank” does not include a:*

[(a)] (i) Farm or residential tank of 1,100 gallons or less capacity used for storing motor fuel or heating oil for noncommercial purposes[;] *unless it is no longer in use, in which case a farm or residential tank shall comply with COMAR 26.10.10.*

[(b)] (ii)—[(h)] (viii) (text unchanged)

(65) “Upgrade” means the addition or retrofit of *some* systems such as interior lining, cathodic protection, spill and overfill controls, or the replacement of 40 percent or more of [an UST system] *piping connected to a single underground storage tank.*

(66)—(68) (text unchanged)

#### **.05 General Operations Permit.**

All underground storage systems regulated [pursuant to] *under* this subtitle are permitted if *the* following conditions are met:

A. (text unchanged)

*B. Components and appurtenances connected to an UST system that are not operational are removed or properly decommissioned to:*

*(1) Ensure proper operation of all spill and overfill, corrosion protection, and release detection equipment of the UST system; and*

*(2) Prevent a release;*

[B.] C.—[D.] E. (text unchanged)

#### **.06 Incorporation by Reference.**

In this subtitle, the following documents are incorporated by reference:

A.—B. (text unchanged)

C. Installation of Underground Petroleum Storage Systems (API Recommended Practice 1615, Fifth Edition, March 1996, *Reaffirmed November 2001*);

D. Closure of Underground Petroleum Storage Tanks (API Recommended Practice 1604, Third Edition, March 1996, *Reaffirmed 2001*);

E.—G. (text unchanged)

H. Recommended Practices for Installation of Underground Liquid Storage Systems (Petroleum Equipment Institute Publication, [PEI/RP100-2000, 2000] *PEI/RP 100-05, 2005*);

I. (text unchanged)

J. Using the API Color-Symbol System to Mark Equipment and Vehicles for Product Identification at [Service Stations] *Gasoline Dispensing Facilities* and Distribution Terminals (API Recommended Practice 1637, [First Edition, October 1986] *Third Edition, July 2006*); and

K. Standard for the Installation of Oil-Burning Equipment (NFPA 31, [1997] 2006 Edition).

### **26.10.03 UST Systems: Design, Construction, Installation, Notification and Inspection**

Authority: Environment Article §§4-401, 4-402, 4-405, 4-407, 4-408, 4-409, 4-410, 4-411, 4-411.1, 4-411.2, 4-415.1, 4-417, 4-701 et seq.,  
and 7-201 et seq.,  
Annotated Code of Maryland

#### **.01 Performance Standards for New UST Systems.**

A. In order to prevent releases due to structural failure, corrosion, or spills and overfills for as long as the UST system is used to store regulated substances, all owners and operators of new *or replaced* UST systems shall meet the requirements of this chapter.

B. Tanks. Each tank shall be properly designed and constructed, *shall have secondary containment*, and shall be protected from corrosion, in accordance with one of the following:

(1)—(4) (text unchanged)

C. The UST system owner, operator, or person in charge shall notify the Administration [3] *in writing* 5 working days before *beginning* the installation of a new or replacement UST system.

#### **.02 Performance Standards for Piping.**

A. Piping that routinely contains a petroleum vapor or regulated substance and is installed, upgraded, or replaced on or after January 26, 2005 shall be:

(1)—(2) (text unchanged)

(3) Terminated, when a product dispenser is part of the UST system, in [a liquid tight] *an under-dispenser* containment sump that is maintained clean and liquid free; and

(4) (text unchanged)

B. (text unchanged)

C. Fiberglass-reinforced plastic [and flexible] piping systems may not be used [for]:

(1) [Direct] *For direct* fill lines; or

[(2) Above-ground vent lines.]

(2) *Aboveground or above grade.*

D. *Flexible piping systems may not be used for any of the following when new, upgraded, or replaced UST systems are installed after January 1, 2009:*

(1) *Direct fill lines;*

(2) *Vent lines; or*

(3) *Stage II vapor recovery lines.*

**.04 UST System Installation.**

A.—H. (text unchanged)

*I. A groundwater drain system may not be installed in a tank excavation area without prior written approval by the Department.*

**.05 Precision Test.**

A. An UST system installed, *or replaced*, or an existing UST system repaired or upgraded, shall be tested for tightness by the “precision test” as defined in COMAR 26.10.02.04[, upon completion of installation, repair, or upgrade and] before operation of the system *and completion of the underground oil storage facility.*

B. (text unchanged)

**.10 UST Inspection Requirements.**

A. (text unchanged)

B. Initial Inspections.

(1) [An] *Within 60 days of notification by the Department, the owner of an underground motor fuel storage tank system installed before [the effective date of this regulation shall be inspected not later than December 31, 2007.] January 16, 2006 shall have an inspection completed by a Department certified inspector.*

(2) [An] *The owner of an underground motor fuel storage tank system installed on or after [the effective date of this regulation] January 16, 2006 [shall be inspected] shall have an inspection completed by a Department certified inspector within 6 months of installation.*

C. Inspection Schedule.

(1) (text unchanged)

(2) [The] *After receiving notification by the Department to complete a certified inspection, the owner of an underground motor fuel storage tank system shall have [30] 60 days to correct all deficiencies found, in accordance with COMAR 26.10.02—[.11] 26.10.11, [during any certified inspection of that system,] unless an alternative schedule is approved by the Department.*

D.—E. (text unchanged)

F. Record Keeping.

(1) (text unchanged)

(2) The owner of the UST *motor fuel* system shall maintain and make available to the Department records of the *certified* inspections conducted, including:

*(a) A copy of the most recent certified inspection report submitted to the Department not later than 60 days after receiving notification by the Department to conduct the inspection;*



[(a)] (b)—[(b)] (c) (text unchanged)

## 26.10.04 General Operating Requirements

Authority: Environment Article §§4-401, 4-402, 4-405, 4-407, 4-408, 4-409, 4-410, 4-411, 4-411.1, 4-411.2, 4-415.1, 4-417, 4-701 et seq.,  
and 7-201 et seq.,  
Annotated Code of Maryland

### .01 Spill and Overfill Control.

A.—E. (text unchanged)

F. Inventory Variations.

(1)—(2) (text unchanged)

(3) *Daily inventory which shows 7 consecutive days of shortage totaling 500 gallons or more, regardless of percent, shall be:*

(a) *Reported to the owner of the UST system;*

(b) *Reported to the Department within 2 hours of discovery; and*

(c) *Investigated immediately to determine the cause of the loss.*

[(3)] (4) (text unchanged)

G.—I. (text unchanged)

J. [Except for underground storage systems, regulated by COMAR 26.10.03.08 and protected against corrosion and installed as provided in COMAR 26.10.03, and which have release detection that complies with COMAR 26.10.05, an underground storage tank, which has been buried] *The owner of a heating oil UST system installed for 15 years or more, or [a storage] an UST system for which no installation date can be determined, [shall meet the following requirements] that does not have interstitial monitoring performed monthly in accordance with COMAR 26.10.05.04H:*

(1) [It shall be tested] *Shall test the UST system for tightness within 120 days of January 1, 2009 in accordance with a precision test as defined in COMAR 26.10.02.04;*

(2) *May test for tightness in accordance with COMAR 26.10.07 if the UST system has a total capacity of 1,000 gallons or less;*

[(2)] (3) [The] *Shall repeat the precision test [shall be repeated on a storage] on the UST system at intervals of not greater than 5 years; and*

[(3)] *Storage systems with a total capacity of 1,000 gallons or less may be tested in accordance with COMAR 26.10.07.]*

(4) *Shall comply with COMAR 26.10.08 if the UST system fails the precision testing requirements.*

K.—R. (text unchanged)

**.04 Repairs Allowed.**

A.—C. (text unchanged)

*D. A tank may not be repaired by installing an internal liner unless written approval is received from the Department.*

[D.] E.—[G.] H. (text unchanged)

**26.10.05 Release Detection**

Authority: Environment Article §§4-401, 4-402, 4-405, 4-407, 4-408, 4-409, 4-410, 4-411, 4-411.1, 4-411.2, 4-415.1, 4-417, 4-701 et seq.,  
and 7-201 et seq.,  
Annotated Code of Maryland

**.01 Release Detection: General Requirements for All UST Systems.**

A. Owners and operators of new and existing UST systems shall provide a method, or combination of methods, of release detection that:

(1)—(2) (text unchanged)

(3) Meets the performance requirements in Regulation .04 of this chapter as verified by the manufacturer's specifications; [and]

(4) Shall be capable of detecting the leak rate or quantity specified in this chapter with a probability of detection of not less than 0.95 and a probability of false alarm of not more than 0.05[.]; *and*

*(5) Is inspected, field tested, or calibrated as may be required to ensure that the method is being maintained and operated properly to detect a release in accordance with the requirements of this chapter.*

B.—D. (text unchanged)

**.02 Requirements for Petroleum UST Systems.**

A.—C. (text unchanged)

D. Piping.

(1) (text unchanged)

(2) Pressurized Piping. Underground piping that conveys regulated substances under pressure [shall]:

(a) [Be] *Shall be* equipped with an automatic line leak detector which is tested annually and which will:

(i) (text unchanged)

(ii) Detect a release of a regulated substance of at least 3 gallons per hour at 10 pounds per square inch line pressure within 1 hour; *and*

*(b) Shall:*

[(b)] (i)—[(c)] (ii) (text unchanged)

(3) Suction Piping. Underground piping that conveys regulated substances under suction shall be tested for tightness at least every 2 years with a precision test performed for 1 hour at a pressure between 5 and 15 pounds per square inch that detects a [0.025] 0.1 gallon per hour release, or be monitored monthly in accordance with Regulation .04F—I of this chapter. Release detection [is] *and precision testing are* not required for suction piping when:

(a)—(e) (text unchanged)

*(4) Secondary Containment Piping. Piping that utilizes secondary containment or that is double walled shall have the interstice tested for leaks, using one of the following:*

*(a) A method in accordance with the piping manufacturer's specifications;*

*(b) A method in accordance with procedures prescribed by the Department for a helium pressure test; or*

*(c) Another test approved by the Department.*

*(5) Secondary containment piping shall be tested:*

*(a) For new, upgraded, or replaced piping before operation of the UST system and completion of the underground oil storage facility;*

*(b) For existing piping within 5 years of January 1, 2009; and*

*(c) Every 5 years thereafter for §D(5)(a) and (b) of this regulation.*

#### **.04 Method of Release Detection.**

A.—C. (text unchanged)

D. Precision Tightness Testing.

(1) (text unchanged)

(2) When a precision test is performed, the following table shall be used to determine UST system tightness:

Tanks greater than (gals.) and	Up to and Including (gals.)	Criterion (gph)
0	12,500	0.05
12,500	17,500	0.063
17,500	22,500	0.075
22,500	27,500	0.088
27,500	32,500	0.100
32,500	37,500	0.113

37,500	42,500	0.125
42,500	47,500	0.138
47,500	greater	0.150
[Lines		
Pressurized		0.010
Suction		0.025]

(3)—(5) (text unchanged)

E. (text unchanged)

F. Vapor [Monitoring. Within the excavation zone, vapor monitoring may be used for release detection if the following criteria are met:

- (1) The materials used as backfill are sufficiently porous, such as pea gravel or sand, to readily allow diffusion of vapors from releases into the excavation area;
- (2) The stored regulated substance, or a tracer compound placed in the tank system, is sufficiently volatile to cause a vapor level that is detectable by the monitoring devices located in the excavation zone in the event of a release from the tank;
- (3) The location of vapor monitoring devices is not subjected to ground water, rainfall, soil moisture, or other known interferences with vapor measurements for more than 30 consecutive days;
- (4) The level of background contamination in the excavation zone will not interfere with the method used to detect releases from the tank;
- (5) The vapor monitors are designed, calibrated, and operated to detect an increase in concentration of the regulated substance, a component of that substance, or a tracer compound placed in the tank system;
- (6) In the UST excavation zone, the site is assessed to ensure compliance with the requirements in §F(1)—(4) of this regulation and to establish the number and positioning of vapor monitoring wells that will detect releases within the excavation zone from any portion of the tanks that routinely contains a regulated substance; and
- (7) Vapor monitoring wells are clearly marked and secured to avoid unauthorized access and tampering.] *monitoring is not an acceptable method of release detection and may not be used after January 1, 2009 unless approved under §I of this regulation.*

G. Ground Water Monitoring. [Testing] *An assessment shall be performed 60 days before the implementation of this method. A written report of this assessment shall be provided to the Department upon request and shall demonstrate that the testing or monitoring to detect a regulated substance on the ground water shall meet all of the following requirements:*

(1)—(9) (text unchanged)

H. Interstitial Monitoring. Interstitial monitoring between the UST system and a secondary barrier immediately around or beneath it shall be used, but only if the system is designed, constructed, and

installed to detect a leak from any portion of the tank that routinely contains a regulated substance and also meets one of the following requirements:

(1) (text unchanged)

(2) For UST systems with a secondary barrier within the excavation zone, the sampling or testing method used can detect a release between the UST system and the secondary barrier provided that:

(a) The secondary barrier around and beneath the UST system consists of artificially constructed material that is sufficiently thick and impermeable, at least  $[10^{-6}] \text{ } l \times 10^{-6}$  centimeter/second for the regulated substance stored, to direct a release to the monitoring point and permit its detection;

(b)—(f) (text unchanged)

(3) (text unchanged)

I.—J. (text unchanged)

### **26.10.06 Underground Storage System Technician, Remover and Inspector Certification**

Authority: Environment Article §§4-401, 4-402, 4-405, 4-407, 4-408, 4-409, 4-410, 4-411, 4-411.1, 4-411.2, 4-415.1, 4-417, 4-701 et seq.,  
and 7-201 et seq.,  
Annotated Code of Maryland

#### **.03 Remover Requirements.**

A.—B. (text unchanged)

C. Verifiable proof is provided of direct involvement in a minimum of six underground storage system removals *within the last 36 months with a company or organization that removes UST systems.*

D. (text unchanged)

#### **.04 Inspector Requirements.**

A. A certified inspector is allowed to conduct environmental compliance audits and inspections of underground storage tank systems, *including the determination that release detection and overfill devices are functioning correctly*, if the following requirements are met:

(1) (text unchanged)

(2) There is verifiable proof of completion of all of the following:

(a) One or more nationally recognized [and] *or* Department approved training courses, classes, examinations, or workshops pertaining to UST design, installation, *operation*, testing, or inspection;

(b)—(c) (text unchanged)

B. (text unchanged)

**.09 Terms and Renewal of Certification.**

A. (text unchanged)

B. To renew a technician or a remover certification, an applicant shall:

(1) (text unchanged)

(2) Submit all of the following *30 days before the certification expiration date*:

(a) (text unchanged)

(b) [Proof] *Verifiable proof, which shall include the facility identification number or other appropriate facility identification, of performing repairs, upgrades, installations, or closures at six UST sites within the last 2 years, and*

[(c) A letter of employment which states the applicant has 2 years of UST experience.]

(c) *A completed application form.*

C. To renew an inspector certification, an applicant shall:

(1) (text unchanged)

[(2) Meet the following requirements:

(a) Successfully complete training programs approved by the Department; and

(b) Submit all of the following:

(i) A completed renewal application form;

(ii) Proof of performing inspections at 20 UST sites within the last 2 years; and

(iii) A letter of employment that states the applicant has 2 years of UST compliance inspection experience.]

(2) *Submit all of the following 30 days before the certification expiration date:*

(a) *Proof of attendance within the last 2 years of the following:*

(i) *A minimum of one Department approved training program for compliance inspections of underground storage systems; and*

(ii) *A Department approved third party inspection update seminar;*

(b) *Verifiable proof, which shall include the facility identification number or other appropriate facility identification, of performing inspections at 10 UST sites; and*

(c) *A completed renewal application form.*

D. (text unchanged)

## **.10 Conflict of Interest.**

A.—B. (text unchanged)

[C. The Department may allow an oil storage facility or UST system owner to employ one or more certified inspectors if the Department determines the owner:

- (1) Establishes procedures to prevent falsification of inspections and inspection documents;
- (2) Demonstrates that continuing education, especially targeting pollution prevention and tank management, is practiced by the UST owner; and
- (3) Signs an agreement with the Department that defines expectations, standard operating procedures, and quality assurance plans that the owner shall implement to ensure a conflict of interest does not occur.]

### **26.10.11 Underground Storage Tank Financial Responsibility**

Authority: Environment Article §§4-401, 4-402, 4-405, 4-407, 4-408, 4-409, 4-410, 4-411, 4-411.1, 4-411.2, 4-415.1, 4-417, 4-701 et seq.,  
and 7-201 et seq.,  
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## **.01 Incorporation by Reference.**

A. (text unchanged)

B. Exceptions.

(1) “Director of the Implementing Agency” or “*Director of the EPA*” means the Secretary of the Environment.

(2) “EPA” or “*Environmental Protection Agency*” means the State of Maryland.

(3) (text unchanged)

### **26.10.14 Underground Storage Tank Site Cleanup Reimbursement**

Authority: Environment Article §§4-401, 4-402, 4-405, 4-407, 4-408, 4-409, 4-410, 4-411, 4-411.1, 4-411.2, 4-415.1, 4-417, 4-701 et seq.,  
and 7-201 et seq.,  
Annotated Code of Maryland

## **.02 Exclusions.**

This chapter does not provide reimbursements for:

A.—C. (text unchanged)

D. Costs resulting from underground storage tank or heating oil tank system removals, upgrades, or replacements *unless a residential heating oil tank removal is necessary to accomplish soil treatment*;

E.—I. (text unchanged)

**.05 Eligible Site Rehabilitation Costs.**

A.—E. (text unchanged)

F. Residential Heating Oil Tank Applications Received On or After July 1, 2005. The Department shall reimburse an applicant for up to a total of \$20,000 for the following site rehabilitation costs, if they are cost effective, reasonable, and consistent with an application received on or after July 1, 2005:

(1)—(3) (text unchanged)

(4) Domestic well replacement; [and]

(5) Odor abatement activities, such as forced venting and petroleum saturated material removal, replacement, or restoration to a degree as determined by the Department to return the dwelling to a habitable condition[.]; *and*

(6) *Tank removal necessary to accomplish soil treatment as described in §F(1) of this regulation.*

SHARI T. WILSON  
Secretary of the Environment



# **Appendix E**

# **Newspaper Affidavit**

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# AFFIDAVIT OF PUBLICATION

**AD# 175037**

DISTRICT OF COLUMBIA, ss,  
Personally appeared before me, FAITH H. ALLBRITTON,  
a Notary Public in and for the District of Columbia,

CARL S. JOHNSON, who is being duly sworn according to law, an oath says that he is  
an AUTHORIZED AGENT of THE WASHINGTON TIMES, L.L.C., publisher of

## The Washington Times

Circulated daily, in the City of Washington, District of Columbia,  
and that the advertisement, of which the annexed is a true copy, was published  
in said newspaper 1 time(s) on the following dates:

2009 NOVEMBER 13

at the flat rate of \$ 2.91 Per line

Total Cost \$ 291.00 Dollars

Carl S. Johnson

Subscribed and sworn to before me

JANUARY 22, 2009

Notary Public

Faith H. Allbritton

Faith H. Allbritton  
Notary Public, District of Columbia  
My Commission Expires 6-14-2010

My Commission expires \_\_\_\_\_

### PUBLIC NOTICE

#### Notice of Availability Draft Environmental Assessment and Finding of No Significant Impact

The United States Air Force District Washington (AFDW), 316th Wing has prepared an Environmental Assessment (EA) for the Construction and Operation of an Army and Air Force Exchange Service shoppette/gas station, Class Six store, and name brand fast food facility on Joint Base Andrews, Prince George's County, Maryland. The purpose of this Proposed Action is to provide consolidated, centrally located facilities on Joint Base Andrews where authorized customers can obtain multiple services at a single location. This would reduce the traffic congestion in some areas of the Base and allow customers to make a single stop for multiple services on the Base. This EA has been prepared to evaluate the Proposed Action and alternatives, including the No Action Alternative. Resources addressed in the EA include, land use, socioeconomic and environmental justice, infrastructure, transportation, geological resources, water resources, biological resources, cultural resources, air quality, noise, hazardous materials and waste management, and safety. The results, as found in the EA, show that the Proposed Action would not have a significant adverse impact on the environment, indicating that a Finding of No Significant Impact would be appropriate. An Environmental Impact Statement should not be necessary to implement the Proposed Action.

A copy of the Draft EA is available for review for 30 days from publication of this notice, at the Upper Marlboro Branch Library, 14730 Main St., Upper Marlboro, MD 20772. Please address written comments to Ms. Anne Hodges, 316 CES/CEAO, 3466 North Carolina Ave., Andrews AFB, MD 20762, or send e-mail to [anne.hodges@afncr.af.mil](mailto:anne.hodges@afncr.af.mil).

Ad #175037



# **Appendix F**

## **Finding of No Significant Impact (FONSI)**

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## **Finding of No Significant Impact**

### **Environmental Assessment for the Construction and Operation of a New Shoppette/Gas Station, Class Six Store, and Name-Brand Fast Food Store at Joint Base Andrews, Camp Springs, Prince George's County, Maryland**

#### **Introduction**

The Environmental Assessment (EA) for the construction and operation of a new Army and Air Force Exchange Service (AAFES) shoppette/gas station, Class Six store, and name-brand fast food facility at Joint Base Andrews-Naval Air Facility Washington, Maryland, was prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality (CEQ) regulations (40 Code of Federal Regulations (CFR) § 1500-1508), and the Air Force Environmental Impact Analysis Process (32 CFR § 989). The EA (attached herein) analyzes potential environmental consequences from implementation of five alternatives, including the No Action Alternative. Alternatives to upgrade the existing AAFES facility (Building 1685) and to relocate the AAFES facility to two other sites on the west side of the Base were considered, but eliminated from further consideration. These alternatives were rejected because of the site limitations, traffic congestion, Base aesthetics, or duplication of existing services.

The existing AAFES facility (Building 1685) is approximately 2,625 square feet and was constructed in 1972. The facility is located in a confined space adjacent to other shopping facilities, is highly congested, and is too small to adequately serve the customer base. Further, the age of the existing facility is such that building upgrades cannot be accomplished to meet current building standards.

The purpose of the Proposed Action is to provide consolidated, centrally located facilities on Joint Base Andrews where authorized customers can obtain multiple services at a single location. The need for the Proposed Action is to better serve the military community through the improvement of shopping, food services, and automobile services.

The construction of new facilities would provide AAFES and the Joint Base Andrews Morale, Welfare, and Recreation program with additional revenue. In addition, the building and infrastructure design improvements of the new AAFES facility would increase energy efficiency and reduce overall operational and maintenance costs.

## **Description of the Proposed Action and Alternatives**

The 316<sup>th</sup> Wing and AAFES propose to construct the new facility starting in fiscal year 2010.

### **Proposed Action**

The Proposed Action would rectify the deficiencies of the existing AAFES facility through the construction and operation of a new, approximately 11,000-square-foot shoppette with gasoline sales and a retail fast food facility on an approximately 3.0-acre site. Construction would consist of a reinforced concrete slab/foundation with steel or concrete framing, including complete mechanical, electrical, and life/safety systems. The proposed facility would be designed and constructed in accordance with Leadership in Energy and Environmental Design (LEED)-Silver Certifiable-New Construction standards; however, AAFES does not intend to complete the certification process for this facility.

The proposed facilities would connect to existing utility services and communications systems and would provide for pavement, sidewalks, curbs, gutters, storm drainage, retention walls, and other site improvements, as necessary. These collocated facilities would include retail gasoline sales through the installation of three 20,000-gallon double-walled tanks; 16 multi-product dispensers with 32 fuel dispenser nozzles; a canopy roofing system; and 57 parking spaces for use by authorized patrons at Joint Base Andrews. New construction would be in accordance with all applicable U.S. Department of Defense Unified Facilities Criteria provisions.

### **Construct the New Shoppette on the Northwest Corner of F Street and Colorado Avenue (Alternative 4)**

Under this alternative, the AAFES facility would be constructed on the northwest corner of the Colorado Avenue and F Street intersection. The proposed site is of adequate size to accommodate all components of the Proposed Action. The new facility would be in compliance with all applicable requirements and would provide energy efficiencies associated with new construction.

Further, the site would allow ingress and egress from three roads (Perimeter Road, F Street, and Colorado Avenue), thereby minimizing traffic congestion and increasing safety within these areas. Additionally, the site would be located within 1,000 feet of the main gate, increasing visibility of the AAFES services, and would be located near other community services (car care center, shopping center, and restaurants), thereby increasing opportunities to obtain multiple services within these areas.

### **No Action Alternative**

Under the No Action Alternative, the new AAFES facilities at Joint Base Andrews would not be constructed. Implementation of this alternative would not result in the consolidation and collocation of



facilities, continuing the use of inadequate services (Building 1685). Further, Base personnel would not benefit from the expanded customer services and AAFES would not receive additional revenue from these services, which, in turn, would not be contributed to the Base's Morale, Welfare, and Recreation program budget.

## **Summary of Findings**

The Proposed Action would replace an aging and inadequate facility that is currently too small to provide sufficient services for Base personnel.

Potential impacts (short-term, long-term, or cumulative) from implementation of the Proposed Action and alternative to the resources evaluated would not be significant. Long-term emissions of air pollutants would be below *de minimis* levels, however short-term impacts associated with increased construction traffic and potential dust would be minor. There would be no change to the noise, visual, or socioeconomic environment, or cultural resources, and the proposed activities would be consistent with land use plans. No impacts to geology and topography are expected; no wetlands would be filled. Temporary and minor impacts to soil and water resources are expected from grading and the installation of additional impervious surface area. No impacts are expected to wildlife populations, including migratory birds, because of the small acreage of the Proposed Action and the absence of rare habitats or threatened or endangered species. No long-term impacts to Base vegetation would occur. Short-term impacts to trees (removal) will be mitigated in accordance for the Base Arbor Plan. The Proposed Action would be implemented in accordance with applicable state and federal regulations to avoid potential impacts to hazardous materials and wastes.

## **Conclusion**

In accordance with the CEQ regulations implementing NEPA and the Air Force Environmental Impact Analysis Process (32 CFR 989), I conclude that the Proposed Action would have no significant impact on the quality of the human environment and that the preparation of an Environmental Impact Statement is not warranted.



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LEE K. DEPALO, Colonel, USAF  
Vice Commander, 316th Wing

12 Feb 10

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Date