

Final

Environmental Assessment



Demolition of Facilities at

Langley Air Force Base, Virginia

U.S. Air Force
Air Combat Command
1st Fighter Wing

March 2005

Report Documentation Page			Form Approved OMB No. 0704-0188		
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE 02 MAY 2005		2. REPORT TYPE Environmental Assessment		3. DATES COVERED 00-00-2002 to 00-00-2005	
4. TITLE AND SUBTITLE Environmental Assessment for Demolition of Multiple Facilities at Langley Air Force Base, Virginia			5a. CONTRACT NUMBER DACA63-02-F-0114		
			5b. GRANT NUMBER		
			5c. PROGRAM ELEMENT NUMBER		
6. AUTHOR(S) David Dischner; Lorraine Gross; David Lingner; Kathleen Sherwood			5d. PROJECT NUMBER		
			5e. TASK NUMBER		
			5f. WORK UNIT NUMBER		
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Science Applications International Corp. (SAIC), 10260 Campus Point Drive, San Diego, CA, 92121-1578			8. PERFORMING ORGANIZATION REPORT NUMBER		
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) USACE, Ft. Worth District, Attn: Contracting Division, 819 Taylor Street, Rm 2A19, P.O. Box 17300, Fort Worth, TX, 76102-0300			10. SPONSOR/MONITOR'S ACRONYM(S) USACE		
			11. SPONSOR/MONITOR'S REPORT NUMBER(S)		
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES The original document contains color images.					
14. ABSTRACT This EA describes the potential environmental consequences for the demolition of five facilities on Langley AFB, to include the LOX storage facility, LOX maintenance facility, small gas engine repair shop, greenhouse, and the security police operations building. Seven resource categories received a thorough evaluation to identify potential impacts. An increase to safety risks during demolition would be mitigated by employing standard safety procedures. Any noise associated with work at these sites would be temporary and localized. These actions would have the potential to disturb portions of various ERP sites; a waiver from ACC would be necessary, which would identify appropriate control measures. Some of the sites are located near archeological resources. In the event of an unexpected discovery, work would halt the and proper coordination procedures would be completed. These actions would be consistent with the Langley General Plan, and any transportation impacts resulting from increased traffic would be minor and temporary. Air Quality and Physical Resources would not be significantly affected by this action. No long term environmental consequences are anticipated.					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT 1	18. NUMBER OF PAGES 114	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

ACRONYMS AND ABBREVIATIONS

1 FW	1 st Fighter Wing	MSL	mean sea level
ACC	Air Combat Command	NAAQS	National Ambient Air Quality Standards
ACHP	Advisory Council on Historic Preservation	NASA	National Aeronautics and Space Administration
ADP	Area Development Plan	NEPA	National Environmental Policy Act
AFB	Air Force Base	NHPA	National Historic Preservation Act
AFH	Air Force Handbook	NO ₂	nitrogen dioxide
AFI	Air Force Instruction	NO _x	nitrogen oxide
AFOSH	Air Force Occupational Safety and Health	NRHP	National Register of Historic Places
AICUZ	Air Installation Compatible Use Zone	O ₃	ozone
Air Force	United States Air Force	OSHA	Occupational Safety and Health Administration
AQCR	Air Quality Control Region	P.L.	Public Law
CAA	Clean Air Act	PA/SI	Preliminary Assessment/Site Inspection
CAP	Corrective Action Plan	Pb	lead
CEQ	Council on Environmental Quality	PCB	polychlorinated biphenyl
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PCT	polychlorinated triphenyl
CFR	Code of Federal Regulations	PM ₁₀	particulate matter equal to or less than 10 micrometers in diameter
CO	carbon monoxide	PM _{2.5}	particulate matter equal to or less than 2.5 micrometers in diameter
CRMP	Cultural Resource Management Plan	PP	Proposed Plan
CWA	Clean Water Act	RCRA	Resource Conservation and Recovery Act
CZMA	Coastal Zone Management Act	RI	Remedial Investigation
dB	decibel	ROD	Record of Decision
dba	A-weighted decibel	ROI	region of influence
DCR	Department of Conservation and Recreation	SAFO	Secretary of the Air Force Order
DD	Decision Document	SHPO	State Historic Preservation Office
DNL	Day-Night Average Sound Level	SIP	State Implementation Plan
DoD	Department of Defense	SO ₂	sulfur dioxide
EA	environmental assessment	SR	State Route
EIAP	environmental impact analysis process	UFC	United Facilities Code
EO	Executive Order	U.S.	United States
EPCRA	Emergency Planning and Community Right-to-Know Act	USACE	United States Army Corps of Engineers
ERP	Environmental Restoration Program	USC	United States Code
ESA	Endangered Species Act	USEPA	United States Environmental Protection Agency
FONSI	Finding of No Significant Impact	USFWS	United States Fish and Wildlife Service
FS	Feasibility Study	UST	underground storage tank
FY	Fiscal Year	VDEQ	Virginia Department of Environmental Quality
HRSD	Hampton Roads Sanitation District	VDHR	Virginia Department of Historic Resources
HTA	Heavier-Than-Air	VOC	volatile organic compound
I-64	Interstate 64	VPDES	Virginia Pollutant Discharge Elimination System
IRA	Interim Remedial Action		
LOX	liquid oxygen		
LRC	Langley Research Center		
LTA	Lighter-Than-Air		

FINAL
**FINDING OF NO SIGNIFICANT IMPACT/
FINDING OF NO PRACTICABLE ALTERNATIVE**

NAME OF THE PROPOSED ACTION

Demolition of Facilities at Langley Air Force Base (AFB), Virginia.

DESCRIPTION OF THE PROPOSED ACTION AND NO-ACTION ALTERNATIVE

Langley AFB proposes to demolish five facilities at Langley AFB: #731 – Liquid Oxygen (LOX) Storage Facility, #732 – LOX Maintenance Facility, #735 – Small Gas Engine Repair Shop, #1001 – Greenhouse, and #1033 – Security Police Operations.

SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Proposed Action: This Environmental Assessment (EA) provides an analysis of the potential environmental consequences associated with the proposed action and no-action alternative. Seven resource categories received thorough evaluation to identify potential environmental consequences. As indicated in Chapter 4.0, neither the proposed action nor the no-action alternative would result in significant impacts to any resource area.

Land Use Resources: Demolition of the five facilities would be consistent with the *Langley AFB General Plan* and with the goals of the Coastal Zone Management Act (CZMA). Standard demolition practices would be included in the project demolition to reduce the potential for soil erosion into the Chesapeake Bay watershed. No conflicts with existing on-base land uses would result from the demolition. Under the proposed action, on base roads may experience lane closures temporarily during demolition activities. In all cases, the contractor would provide signage and detours to maintain access to this area for base personnel. It is possible that truck traffic may lead to some degradation of base road surfaces and occasional congestion at the West Gate. No significant adverse environmental consequences would be expected.

Cultural Resources: Demolition activities are not expected to impact archaeological or traditional resources under the Proposed Action. A 2004 archaeological survey identified some archeological resources in the vicinity, although not at the immediate project location. If resources are inadvertently discovered during demolition, all work would halt at that location, the base Cultural Resource Manager would be notified, and proper procedures for the discovery of unanticipated resources would be completed prior to work resuming. Adverse impacts to historic properties proposed for demolition could occur under the proposed action. The Greenhouse (Facility #1001) is a contributing member of the Langley Field Historic District, and other facilities proposed for demolition are located within the historic district landscape (USACE 1998). Consultation with the Virginia State Historic Preservation Office (SHPO), in compliance with Section 106 of the National Historic Preservation Act (NHPA) (16 U.S.C. §470 et seq.) with its implementing regulations (36 C.F.R. Parts 60, 63, and 800) has been completed for the demolition of the Greenhouse. SHPO consultation for the non-historic units in the Langley Field Historic District would take place as part of the Willoughby Point trail project.

Physical Resources: Demolition activities would have no significant adverse effects to individual species or native plants or animals since the only plant or animal species likely to be displaced from this marginal habitat are individuals of common and locally abundant species. No impacts are anticipated to wetlands as there are no wetlands within the project footprints. No threatened, endangered, or special species/communities would be adversely affected by the proposed action. Incidentally occurring listed, proposed, or candidate species are not likely to be adversely affected because no critical habitat exists on Langley AFB. Demolition of the five facilities would not be expected to significantly affect the water quality of the Back River and Chesapeake Bay with the adoption of standard sediment control and erosion practices. The majority of Langley AFB is located within the 100-year floodplain. There is no practicable alternative of not disturbing the floodplain with the implementation of the proposed action. No significant adverse environmental consequences are anticipated from the demolition.

Hazardous Materials and Waste Management: Demolition of the five facilities would have the potential to disturb portions of various Environmental Restoration Program (ERP) sites. The Langley AFB ERP Manager would request a waiver from Air Combat Command (ACC) policy concerning demolition disturbances on ERP sites. This waiver identifies the appropriate control measures that would be necessary for the activities at the ERP sites and no long-term adverse environmental consequences are anticipated. Hazardous waste generated during the demolition process would be managed in compliance with the Langley AFB Hazardous Waste Management Plan and no significant adverse impacts are anticipated. Demolition activities would generate solid wastes that would be recycled if possible or otherwise disposed of at a landfill. Landfill capacity would not be significantly altered with the implementation of the proposed action.

Noise: Demolition of the five facilities would have temporary, localized noise effects during the demolition phase. These localized noise increases may disrupt base personnel in nearby structures. Because the noise disruptions would be temporary and would be limited to daytime hours, impacts are considered insignificant.

Air Quality: Demolition-related air emissions would be generated both on base and within the region with the hauling of demolition waste from the base and from other earth-moving activities. These emissions would be less than one percent of emissions in the Hampton Air Quality Control Region (AQCR). Langley AFB is located in a maintenance area for ozone; however, the proposed action would not contribute ozone-related emissions above United States Environmental Protection Agency (USEPA) established *de minimis* levels for ozone. Therefore, a formal air quality conformity determination is not required.

Safety: Demolition activities would result in a short-term increase in the ground safety risks, however no significant adverse impacts are anticipated with the application of standard industrial safety standards. Flight safety at Langley AFB would improve with the demolition of facilities 731, 732, and 735 which are located in the airfield clear zone. A temporary airfield operations waiver would be issued by 1 FW/CEC for demolition activities in the clear zone.

No-Action Alternative: Under the no-action alternative, demolition of the five facilities would not take place and no significant environmental consequences would occur. No future use of

these facilities has been identified. Facilities 731, 732 and 735 would remain within the airfield clear zone in violation of United Facilities Criteria 3-260-01 adversely affecting flight safety.

CONCLUSION

Based on the findings of the EA, no significant impact is anticipated from implementation of the proposed action or the no-action alternative. Therefore, issuance of a Finding of No Significant Impact (FONSI) is warranted, and an environmental impact statement is not required. Pursuant to Executive Order (EO) 11988 and EO 11990, the authority delegated in Secretary of the Air Force Order (SAFO) 791.1, and taking the above information into account, I find that there is no practicable alternative to this action and that the proposed action includes all practicable measures to minimize harm to wetland and floodplain environments.



WILLIAM M. FRASER III
Lieutenant General, USAF
Vice Commander

2 May 05
DATE

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**ENVIRONMENTAL ASSESSMENT FOR
DEMOLITION OF FACILITIES AT
LANGLEY AIR FORCE BASE, VIRGINIA**

**U.S. Air Force
Air Combat Command
1st Fighter Wing**

March 2005

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EXECUTIVE SUMMARY

This Environmental Assessment (EA) describes the potential environmental consequences resulting from a proposal to demolish five facilities at Langley Air Force Base (AFB), Virginia.

ENVIRONMENTAL IMPACT ANALYSIS PROCESS

This EA has been prepared by the United States Air Force (Air Force), Air Combat Command (ACC) and the 1st Fighter Wing (1 FW) in accordance with the requirements of the National Environmental Policy Act (NEPA) of 1969, (42 United States Code [USC] 4321-4347), Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] §§ 1500-1508), and 32 CFR 989, et seq., *Environmental Impact Analysis Process (formerly known as Air Force Instruction [AFI] 32-7061)*.

PURPOSE AND NEED FOR ACTION

The purpose of this action is to demolish the following five facilities at Langley AFB: #731 – Liquid Oxygen (LOX) Storage Facility, #732 – LOX Maintenance Facility, #735 – Small Gas Engine Repair Shop, #1001 – Greenhouse, and #1033 – Security Police Operations. Several of these facilities are located within the airfield Clear Zones and the remaining facilities are in poor structural condition and the areas are being reviewed for possible future development.

PROPOSED ACTION AND ALTERNATIVES

Langley AFB proposes to demolish the following five facilities: #731 – LOX Storage Facility, #732 – LOX Maintenance Facility, #735 – Small Gas Engine Repair Shop, #1001 – Greenhouse, and #1033 – Security Police Operations. This EA analyzes the impacts associated with the demolition associated with the proposed action and the no-action alternative.

SUMMARY OF ENVIRONMENTAL CONSEQUENCES

This EA provides an analysis of the potential environmental consequences during the demolition associated with the proposed action and the no-action alternative. Seven resource categories received thorough evaluation to identify potential environmental consequences. As indicated in Chapter 4.0, demolition of these facilities would not result in significant impacts to any resource area.

Demolition of the five facilities would be consistent with base plans and with the goals of the Coastal Zone Management Act (CZMA). Standard demolition practices would be included in the project to reduce the potential for soil erosion into the Chesapeake Bay watershed. No conflicts with existing on-base land uses would result from the demolition. Under the proposed action, on base roads may experience lane closures temporarily during demolition activities. In all cases, the contractor would provide signage and detours to maintain access to this area for base personnel. It is possible that truck traffic may lead to some degradation of base road

surfaces and occasional congestion at the West Gate. No significant adverse environmental consequences would be expected.

Demolition activities are not expected to impact archaeological or traditional resources under the Proposed Action. A 2004 archaeological survey identified archeological resources in the vicinity, although not at the immediate project location. If resources are inadvertently discovered during demolition, all work would halt at that location; the base Cultural Resource Manager would be notified; and proper procedures for the discovery of unanticipated resources would be completed prior to work resuming. Adverse impacts to historic properties proposed for demolition could occur under the proposed action. The Greenhouse (Facility #1001) is a contributing member of the Langley Field Historic District and other facilities proposed for demolition are located within the historic district landscape (USACE 1998). Consultation with the Virginia State Historic Preservation Office (SHPO), in compliance with Section 106 of the National Historic Preservation Act (NHPA) (16 U.S.C. §470 et seq.), has been completed for the demolition of the Greenhouse. SHPO consultation for the non-historic units in the Langley Field Historic District would take place as part of the Willoughby Point trail project.

Demolition activities would have no significant adverse effects to individual species or native plants or animals since the only plant or animal species likely to be displaced from this marginal habitat are individuals of common and locally abundant species. No impacts are anticipated to wetlands as there are no wetlands within the project footprints. No threatened, endangered, or special species/communities would be adversely affected by the proposed action. Incidentally occurring listed, proposed, or candidate species are not likely to be adversely affected because no critical habitat exists on Langley AFB.

Demolition of the five facilities would not be expected to significantly affect the water quality of the Back River and Chesapeake Bay with the adoption of standard sediment control and erosion practices. The majority of Langley AFB is located within the 100-year floodplain. There is no practicable alternative of not disturbing the floodplain with the implementation of the proposed action. No significant adverse environmental consequences are anticipated from the demolition.

Demolition of the five facilities would have the potential to disturb portions of various Environmental Restoration Program (ERP) sites. The Langley AFB ERP Manager would request a waiver from ACC policy concerning demolition disturbances on ERP sites. The waiver would identify the appropriate control measures that would be necessary for the activities at the ERP sites and no long-term adverse environmental consequences are anticipated. Hazardous waste generated during the demolition process would be managed in compliance with the Langley AFB Hazardous Waste Management Plan and no significant adverse impacts are anticipated. Demolition activities would generate solid wastes that would be recycled if possible or otherwise disposed of at a landfill. Landfill capacity would not be significantly altered with the implementation of the proposed action.

Demolition of the five facilities would have temporary, localized noise effects during the demolition phase. These localized noise increases may disrupt base personnel in nearby structures. Because the noise disruptions would be temporary and would be limited to daytime hours, impacts are considered insignificant.

Project-related air emissions would be generated both on base and within the region with the hauling of materials and other earth-moving activities. These emissions would be less than one percent of emissions in the Hampton Air Quality Control Region (AQCR). Langley AFB is located in a maintenance area for ozone; however, the proposed action would not contribute ozone-related emissions above United States Environmental Protection Agency (USEPA) established *de minimis* levels for ozone. Therefore, a formal air quality conformity determination is not required.

Demolition activities would result in a short-term increase in the ground safety risks, however no significant adverse impacts are anticipated with the application of standard industrial safety standards. Flight safety at Langley AFB would improve with the demolition of facilities 731, 732, and 735 which are located in the airfield clear zone. A temporary airfield operations waiver would be issued by 1 FW/CEC for demolition activities in the clear zone.

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1.0 PURPOSE AND NEED FOR ACTION

1.1 INTRODUCTION

The United States Air Force (Air Force), 1st Fighter Wing (1 FW) proposes to demolish five facilities at Langley Air Force Base (AFB). This environmental assessment (EA) has been prepared to analyze the potential environmental consequences associated with the proposed action and the no-action alternative in accordance with the requirements of the National Environmental Policy Act (NEPA) of 1969 (42 United States Code [USC] 4321 *et seq.*). This document was prepared in accordance with the following:

- Regulations established by the Council on Environmental Quality (CEQ) (40 Code of Federal Regulations [CFR] 1500-1508).
- Requirements of the NEPA of 1969, (42 United States Code [USC] 4321-4347), Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] §§ 1500-1508), and 32 CFR Part 989, *et seq.*, *Environmental Impact Analysis Process (formerly known as Air Force Instruction [AFI] 32-7061)*.

Section 1.2 provides background information that briefly describes Langley AFB. The purpose and need for the proposed action are described in Section 1.3. A detailed description of the proposed action and the no-action alternative is provided in Chapter 2.0. Chapter 3.0 describes the existing conditions of various environmental resources that could be affected if the proposal were implemented. Chapter 4.0 describes how those resources would be affected by implementation of the proposed action or the no-action alternative. Chapter 5.0 addresses the cumulative effects of the proposed action, as well as other recent past, current, and future actions that may be implemented in the region of influence (ROI) for the proposed action.

1.2 BACKGROUND

Langley AFB is located approximately 175 miles south of Washington, D.C., near the south end of the lower Virginia Peninsula on the Back River, a tributary of the Chesapeake Bay. Langley AFB is situated in the Hampton Roads Standard Metropolitan Statistical Area, in the City of Hampton, Virginia. Other cities in the area include Newport News, Poquoson, Norfolk, and Portsmouth. As shown in Figure 1-1, the main base occupies 2,883 acres between the Northwest and Southwest Branches of the Back River.

Langley AFB is headquarters for Air Combat Command (ACC) and home of the 1 FW. ACC is one of eight major commands in the Air Force and is responsible for organizing, equipping, training, and maintaining combat-ready forces at the highest level of readiness. The primary mission of Langley AFB is to provide air operational support to a broad spectrum of aircraft in

both peacetime and combat environments. General goals of the base are to sustain the resources and relationships deemed appropriate to pursue national interests, and provide for the command, control, and communications necessary to execute the missions of the Air Force, ACC, and the 1 FW.

1.3 PURPOSE AND NEED

The purpose of this action is to demolish the following five facilities at Langley AFB:

- #731 – Liquid Oxygen (LOX) Storage Facility
- #732 – LOX Maintenance Facility
- #735 – Small Gas Engine Repair Shop
- #1001 – Greenhouse
- #1033 – Security Police Operations

Three facilities (#731, 732 and 735) are located within the airfield Clear Zone on the east end of Runway 26. The Clear Zone is a 206-acre area that is 3,000 feet long and 3,000 feet wide at both ends of the runway (extends 3,000 feet out from the end of the runway and 1,500 feet on either side of the runway centerline). Specific dimensions, geophysical and topographic standards, and approved land uses are discussed in detail in United Facilities Code (UFC) 3-260-01, *Airfield and Heliport Planning and Design*; Air Force Instruction (AFI) 32-7063; and Air Force Handbook (AFH) 32-7084. UFC 3-260-01 requires that the airfield clear zone not contain any permanent facilities. Removal of these facilities would be in conformance with this requirement and the Langley AFB General Plan and would also remove facilities from an area exposed to noise levels that exceed 85 decibels (dB). Currently the facilities support the F-15C mission and would not be required to support the F/A-22 mission at Langley AFB.

Facilities 1001 and 1033 are in poor structural condition and these areas are being reviewed for possible future development. The greenhouse has not been used for since the mid-1960's and was severely damaged during Hurricane Isabel. Currently grounds maintenance activities are provided by contractor support.

2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

Langley AFB proposes to demolish five facilities at Langley AFB. In addition to the proposed action, this EA evaluated the no-action alternative. No other alternatives were considered because facilities 731, 732, and 735 are within the airfield clear zone in violation of United Facilities Code (UFC) 3-260-01 and facilities 1001 and 1033 are a dilapidated state. Figure 2-1 and 2-2 depict the locations of the proposed action. Photographs of each facility are found in Appendix A.

2.1 PROPOSED ACTION

The proposed action consists of demolition of the following facilities:

- #731 – Liquid Oxygen (LOX) Storage Facility – This facility consists of 240 square foot corrugated metal facility that was built in 1968 for storage of liquid oxygen and a roofed concrete pad used for the support the transfer of liquid oxygen from the above ground storage tank to mobile trailers used along the flight line. This metal shed measures 12 feet wide and 20 feet in length; and the entire facility is proposed for demolition in fiscal year (FY) 2007. (Photograph A-1)
- #732 – LOX Maintenance Facility – This 2,484 square foot concrete block facility was built in 1985 for storage of liquid oxygen. The facility has two wings. One wing measures 60 feet wide and 40 feet in length and the second wing measures 7 feet wide and 12 feet in length. This facility is proposed for demolition in FY 2007. (Photograph A-2)
- #735 – Small Gas Engine Repair Shop – This 1,456 square foot cinder block/brick facility was built in 1988. The facility includes an oil-water separator. This facility measures 28 feet wide and 52 feet long and is proposed for demolition in FY 2007. (Photograph A-3)
- #1001 – Greenhouse – This 3,360 square foot facility was built in 1957 for horticulture use. It was converted to Civil Engineering storage space in 1967. This facility measures 29 feet wide and 84 feet in length and is proposed for demolition in FY 2004. (Photograph A-4)
- #1033 – Security Police Operations – This 2,520 square foot hollow tile facility was built in 1934 to be used as an ammunition storage facility. It was later converted to a kennel support facility and then to a security police facility. This facility measures 30 feet wide and 84 feet in length and is proposed for demolition in FY 2005. (Photograph A-5)

The demolition contractor would be responsible for the removal of asbestos-containing materials, lead-based paint from the structures and the oil-water separator at facility 732. A closure report would be provided to the base by the contractor for the removal of the oil-water separator for submittal to Virginia Department of Environmental Quality (VDEQ). The proposed demolition would involve complete dismantling and removal of all facility structures, equipment and machinery, in accordance with applicable federal and Commonwealth regulatory requirements to ensure proper handling and disposition of the waste. All utilities would be capped or disconnected. Materials from all facilities proposed for demolition would be recycled to the greatest extent practicable. The demolition contractor would dispose of the remaining materials in an approved landfill in accordance with Commonwealth and local regulations and use an established haul route for equipment delivery and debris removal. The demolition would involve minimal ground disturbance and any landscaped areas that may be disturbed by the demolition would be restored to prevent any long-term soil erosion.

2.2 NO-ACTION ALTERNATIVE

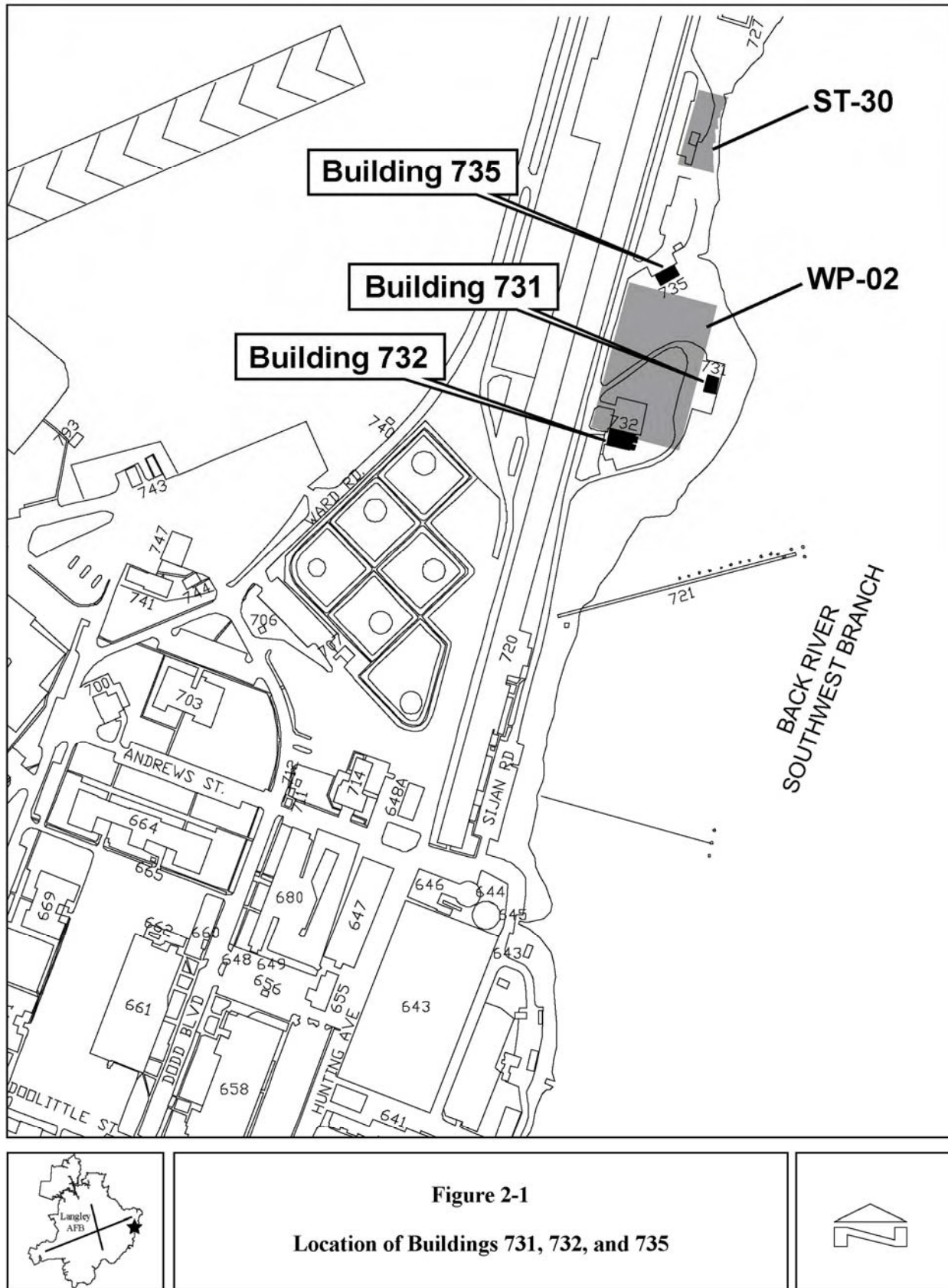
Under the no-action alternative, demolition of the five noted facilities would not occur. Facilities 731, 732 and 735 would remain within the airfield clear zone in violation of UFC 3-260-01 and no future use would be considered after the beddown of the F/A-22 was completed. Facility 1001 would continue unoccupied and in a deteriorated condition, with the function being provided by contract. The area would not be available for further development. No alternative use of these facilities has been identified by the 1st FW.

2.3 ENVIRONMENTAL IMPACT ANALYSIS PROCESS

The EIAP includes the review of all information pertinent to the proposed action and reasonable alternatives and provides a full and fair discussion of potential consequences to the natural and human environment. The process includes involvement with the public and agencies to identify possible consequences of an action, as well as the focusing of analysis on environmental resources potentially affected by the proposed action or the no-action alternative.

2.3.1 Public and Agency Involvement

Through the scoping process, the Air Force obtained information regarding pertinent environmental issues the agencies felt should be addressed in the environmental impact analysis. The comments received (copies of which are also contained in Appendix B) were reviewed and additional information conveyed by them was incorporated, where appropriate, into the final version of the EA. No comments were received that required additional analysis that would have resulted in changes to the impacts previously identified. The Air Force prepared and published an advertisement in the local newspaper, The Daily Press, announcing the availability of the Draft EA for public and agency review. Copies of the Draft EA were distributed to the local libraries and also provided to the USFWS and the Virginia Department



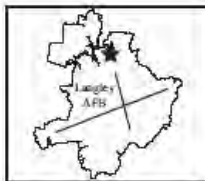
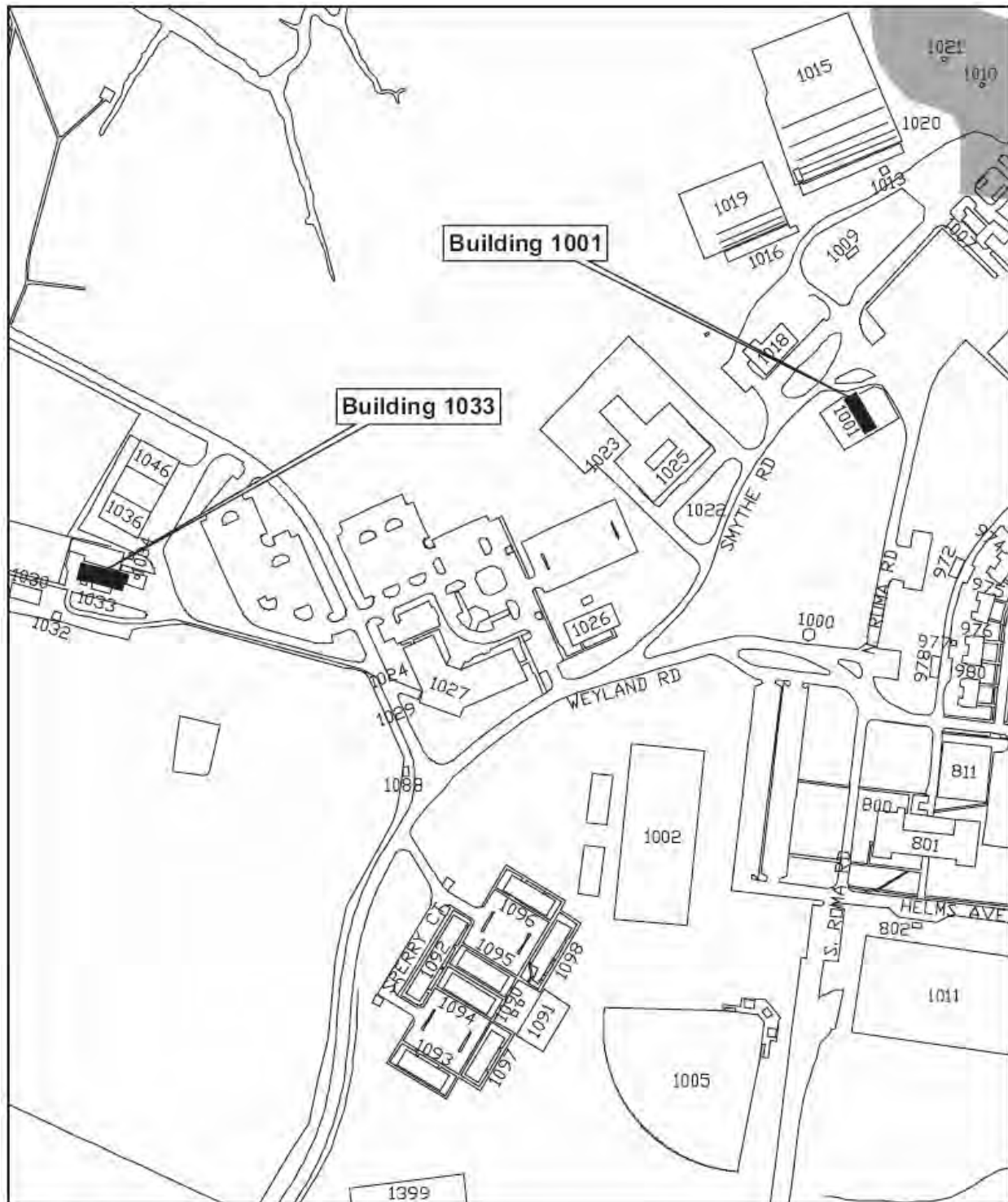
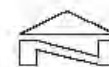


Figure 2-2
Location of Buildings 1033 and 1001



of Environmental Protection Single Point of Contact for distribution to all pertinent agencies to allow for review by appropriate federal, state and local agencies.

2.3.2 Regulatory Compliance

This EA has been prepared to satisfy the requirements of NEPA (Public Law [P.L.] 91-190, 42 USC 4321 et seq.) as amended in 1975 by P.L. 94-52 and P.L. 94-83. The intent of NEPA is to protect, restore, and enhance the environment through well-informed federal decisions. In addition, this document was prepared in accordance with the requirements of the NEPA of 1969, (42 United States Code [USC] 4321-4347), Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] §§ 1500-1508), and 32 CFR 989, et seq., *Environmental Impact Analysis Process (formerly known as Air Force Instruction [AFI] 32-7061)*.

Implementation of the proposed action or the no-action alternative requires coordination with several regulatory agencies. Compliance with the ESA involves communication with the Department of the Interior (delegated to the U.S. Fish and Wildlife Service [USFWS]) in cases where a federal action could affect the listed threatened or endangered species, species proposed for listing, or species that could be candidates for listing. A letter was sent to the appropriate USFWS agencies, as well as their state counterparts, informing them of the proposed action and the no-action alternative and requesting data regarding applicable protected species. Appendix B includes copies of relevant coordination letters and letters regarding protected species provided by the United States Department of Fish and Wildlife Service and the Virginia Department of Game and Inland Fisheries.

The preservation of cultural resources at Langley AFB falls under the purview of the Virginia State Historic Preservation Office (SHPO), as mandated by the National Historic Preservation Act (NHPA) (16 U.S.C. §470 et seq.) and its implementing regulations. A letter was sent to the Virginia SHPO informing them of the proposed action and the no-action alternative. Additional consultation with the SHPO/Virginia Department of Historic Resources (VDHR) concerning the demolition of the Greenhouse, a contributing resource to the Langley Field Historic District is included in Appendix B.

2.3.3 Permit Requirements

This EA has been prepared in compliance with NEPA; other federal statutes, such as the Clean Air Act (CAA) and the Clean Water Act; Executive Orders (EOs), and applicable state statutes and regulations. Table 2-1 summarizes applicable federal, state, and local permits necessary for implementation of the proposed action or the no-action alternative. In addition to this EA being prepared for the decision maker and the interested public, it is also a tool for Air Force personnel to ensure compliance with all regulatory requirements from proposal through project implementation.

Table 2-1. Environmental Related Permitting

<i>Type of Permit or Regulatory Requirement</i>	<i>Requirement</i>	<i>Agency</i>
Endangered Species Act	Required to consult on impacts of project implementation on federally listed or proposed threatened and endangered species	U.S. Fish and Wildlife Service
Clean Water Act	Virginia Pollutant Discharge Elimination System Stormwater General Permit for Construction Activities	Commonwealth of Virginia, Department of Environmental Quality
National Historic Preservation Act Section 106	Consultation with State Historic Preservation Office	Commonwealth of Virginia, Department of Historic Resources
Coastal Consistency Determination	Determine consistency with enforceable policies of Commonwealth's Coastal Zone Management Program	Commonwealth of Virginia, Department of Environmental Quality

2.4 COMPARISON OF ALTERNATIVES

Table 2-2 summarizes the potential environmental impacts of the proposed action and the no-action alternative, based on the detailed impact analyses presented in Chapter 4.0. In no instance would the potential environmental consequences be significant with the implementation of the proposed action or the no-action alternative. Under the no-action alternative, no changes would be made to the existing structures.

Table 2-2. Summary of Potential Environmental Impacts of Proposed Action and No-Action Alternative

<i>Resource</i>	<i>Proposed Action</i>	<i>No-Action Alternative</i>
Land Use Resources	+	-
Cultural Resources	-	0
Physical Resources ¹	-	0
Hazardous Materials and Waste Management	-	0
Noise	-	0
Air Quality	-	0
Safety	+	-
- = Adverse, but not significant, impact + = Positive/beneficial impact 0 = No change		

Note: ¹ Physical Resources includes Biological and Water Resources

3.0 AFFECTED ENVIRONMENT

This chapter describes relevant existing environmental conditions at Langley AFB for resources potentially affected by the proposed action and no-action alternative described in Chapter 2.0. In compliance with guidelines contained in the NEPA, CEQ regulations, and the requirements of the (NEPA of 1969, (42 United States Code [USC] 4321-4347), Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] §§ 1500-1508), and 32 CFR Part 989, et seq., *Environmental Impact Analysis Process (formerly known as Air Force Instruction [AFI] 32-7061)*, the description of the existing environment focuses on those environmental resources potentially subject to impacts. These resources and conditions are: land use, including visual and transportation; cultural resources; physical resources, including water and biological resources; hazardous materials and waste; noise; and air quality. The expected geographic scope of potential impacts, known as the region of influence (ROI), is defined for each resource analyzed.

RESOURCES ELIMINATED FROM DETAILED CONSIDERATION

Several resources were not evaluated in this EA because it was determined that implementation of the proposed action is unlikely to affect them. These resources include airspace, earth resources, recreation, socioeconomics and environmental justice. A brief explanation of the reasons why each resource has been eliminated from further consideration in this EA is provided below.

Airspace. The proposed action and the no-action alternative do not involve aircraft or airspace modifications.

Earth Resources. Since the demolition involves existing structures and previously developed areas, no impacts to earth resources (e.g., soils, paleontological resources) would occur as a result of the proposed action. The physical resources section addresses erosion concerns.

Recreation. With the implementation of this proposed action, no change in personnel or base expansion would result affecting recreation.

Socioeconomics and Environmental Justice. The proposed action and the no-action alternative do not involve modifications to current manpower authorizations. Additionally with the proposal to complete this action over several fiscal years, the expenditure of funds would not have any appreciable effect on local economic resources; therefore socioeconomics was eliminated from further analysis.

Environmental justice addresses the disproportionately high and adverse human health or environmental effects on minority and low-income populations. Determination of disproportionately high and adverse human health effects are established by identifying the impact on the natural or physical environment and influence on minority and low-income populations. Because the proposed action takes place within the boundaries of the base, and

minority or low-income populations would not be significantly affected by implementation of the proposed action, environmental justice was eliminated from further analysis.

3.1 LAND USE RESOURCES

The attributes of land use addressed in this analysis include land use, transportation, and visual resources. Land use focuses on general land use patterns, as well as management plans, policies, ordinances, and regulations. These provisions determine the types of uses that are allowable and identify appropriate design and development standards to address specially designated or environmentally sensitive areas. Transportation addresses roads and circulation. Visual resources present the natural and manufactured features that constitute the aesthetic qualities of an area. The ROI for land use resources consists of Langley AFB.

3.1.1 Land Use

Land uses on Langley AFB are grouped by function in distinct geographic areas. For example, aircraft operations and maintenance facilities are located in the southern portion of the base. The residential areas on base are located along the Back River in the southeastern and northeastern portions of the base.

Adopted plans and programs guide land use planning on Langley AFB. Base plans and studies present factors affecting both on- and off-base land use and include recommendations to assist on-base officials and local community leaders in ensuring compatible development. The *Langley General Plan* (Air Force 2003a) provides an overall perspective concerning development opportunities and constraints. Area Development Plans (ADPs), part of the Langley General Plan, provide focused information on the future organization and circulation of personnel, facilities, and equipment within portions of the base. The Communications Squadron ADP specifically addresses areas where demolition is to take place, and outlines development opportunities and constraints in the vicinity of Facility #1001.

The Langley AFB *Cultural Resources Management Plan* (CRMP) (ACC 2004) provides the installation with a blueprint for attaining the preservation goals of the Langley AFB Historic Preservation Plan and for complying with federal law and Air Force regulation regarding the management of these resources. The CRMP contains current management and maintenance procedures that may affect historic resources, and recommended strategies for integrating an effective cultural resources management program into operational procedures at the installation.

The base's *Integrated Natural Resource Management Plan* (Air Force 1998a) is used to coordinate natural resource management. Langley's *Urban Forest Inventory Review and Management Plan* (Davey Resource Group 1997) is an important component of this plan. Trees are an integral component of the base's urban environment. Their shade and beauty contribute to the quality of life and soften the hard appearance of concrete structures and streets, moderating harsh urban conditions. Trees help stabilize the soil by controlling wind and water erosion. They also

help reduce noise levels, cleanse pollutants from the air, produce oxygen and absorb carbon dioxide, which is believed to contribute to the greenhouse effect. Trees also provide significant economic benefits. Several studies have shown that properly placed trees provide shade and act as windbreaks, helping to decrease residential energy consumption. Trees return overall benefits and value far in excess of the time and money invested in them for planting, pruning, care, and removal.

Langley Air Force Base officials have recognized these benefits and realize the need to protect their investment with a comprehensive, urban forest management program. Such a program begins with an inventory of the trees and an evaluation of their condition. The inventory draws attention to immediate problems and provides the basis for designing a long-term management plan. The management plan, in turn, allows for a more effective use of existing tree care funds and for accurate budget projections.

The Coastal Zone Management Act (CZMA) was enacted to develop a national coastal management program that comprehensively manages and balances competing uses of land impacts to any coastal use or resource. The CZMA federal consistency requirement, CZMA section 307, mandates that federal agency activities be consistent to the maximum extent practicable with the enforceable policies of a state management program. The federal consistency requirement applies when any federal activity, regardless of location, affects any land or water use or natural resource of the coastal zone. The question of whether a specific federal agency activity may affect any natural resource, land use, or water use in the coastal zone is determined by the federal agency.

The Virginia Department of Environmental Quality (VDEQ) oversees activities in the coastal zone of the Commonwealth through a number of enforceable programs. In reviewing the proposed action, VDEQ may require agencies to coordinate with its specific divisions or other agencies for consultation or to obtain permits; they also may comment on environmental impacts and mitigation. VDEQ enforceable programs and policies pertain to fisheries management, subaqueous lands management, wetlands management, dunes management, non-point source pollution control, point source pollution control, shoreline sanitation, air pollution control, and coastal lands management.

3.1.2 Transportation

Access to Langley AFB is provided from Interstate 64 (I-64) via Armistead Avenue to the west of the base, and from Mercury Boulevard (United States [U.S.] Route 258/Virginia State Route [SR] 32), via LaSalle Avenue (SR 167) or King Street (SR 278). Langley AFB has a network of streets that provide access to all base facilities. Nealy Avenue begins at the LaSalle Gate and continues northeast through the installation. Sweeney Boulevard is the primary east west corridor linking directly to the West Gate at Armistead Avenue. It has three lanes, (center lane reversible) from the gate to the intersection with Nealy Avenue/Hammond Avenue. Parking in some on-base areas is limited. The combination of Ward Road, Clarke Avenue, Weyland Road

and Lee Road comprise the “perimeter road.” Clarke Avenue passes through the Lighter-Than-Air (LTA) family housing area.

3.1.3 Visual Resources

Langley AFB is located in the city of Hampton near the southern end of the lower Virginia Peninsula, between the Northwest and Southwest Branches of the Back River, a branch of the Chesapeake Bay. The base is in the Coastal Plain physiographic province on Hampton Flat, a nearly flat plain that gently slopes toward the east, with elevations between 5 and 11 feet above mean sea level (MSL).

The main base occupies 2,883 acres of the total site. The largest structures on base are the aircraft operations and maintenance facilities located in the southern portion of the base. National Aeronautics and Space Administration (NASA) operates a facility complex in the northwestern, southern, and southeastern portion of the base. The large wind tunnels and aeronautical test equipment that comprise the NASA facility resemble a large industrial area. A number of older facilities on base, such as the Albert Kahn-designed hangars, give the base a character reflecting its history as an important airbase from the beginning of the aviation era. The majority of the demolition would occur within the Langley Field Historic District.

Much of the vegetation on base was planted at the time of the base’s original construction (circa 1916). Towering oak trees are the dominant species of trees in the Langley Field Historic District. They have been used mainly as street plantings and as decorative plantings around many facilities.

3.2 CULTURAL RESOURCES

Cultural resources are defined as any prehistoric or historic district, site, building, structure, or object considered important to a culture, subculture, or community for scientific, traditional, or religious reasons. They can be divided into three categories: archaeological; architectural/engineering; and traditional.

Archaeological resources are locations where prehistoric or historic activity measurably altered the earth, or produced deposits of physical remains. Architectural/engineering resources include standing buildings, dams, canals, bridges, and other structures of historic significance. Architectural/engineering resources generally must be more than 50 years old to be considered for inclusion in the National Register of Historic Places (NRHP). However, more recent structures, such as Cold War era resources, may warrant protection if they manifest “exceptional significance” or the potential to gain significance in the future. Traditional resources are resources associated with cultural practices and beliefs of a living community that are rooted in its history and are important in maintaining the continuing cultural identity of the community.

The ROI for cultural resources is the area within which the proposed action has the potential to affect existing or potentially occurring archaeological, architectural, or traditional resources. For the proposed action and no-action alternative, the ROI is defined as Langley AFB.

3.2.1 Identified Cultural Resources

A total of 18 archaeological sites and many historic architectural resources have been identified within Langley AFB (USACE 2004; ACC 2004). The Langley Field Historic District encompasses most of the eastern base, including the present project area. All facilities considered under the present action are located in the Langley Field Historic District except for Security Police Operations (#1033). The Greenhouse and Security Police Operations facilities were built in the early 1930s during an era of great expansion at Langley when nearly 75 percent of the housing as well as many major facilities were constructed (USACE 1998). Table 3-1 lists the facilities proposed for demolition and their National Register status.

Table 3-1. Facilities Proposed for Demolition

<i>Facility Number</i>	<i>Facility Name</i>	<i>Construction Date</i>	<i>Langley Field Historic District</i>	<i>National Register Status</i>
731	LOX Storage Facility	1968	Yes	Not eligible
732	LOX Maintenance Facility	1985	Yes	Not eligible
735	Small Gas Engine Repair Shop	1988	Yes	Not eligible
1001	Greenhouse	1934	Yes	Contributing in a Historic District
1033	Security Police Operations	1934	No	Not eligible

Sources: Personal communication, Allan 2003; Roxlau et al. 1997; USACE 1998.

No traditional resources have been identified at Langley AFB, and no federally recognized American Indian tribes or lands are located in the ROI or in the state of Virginia.

3.3 PHYSICAL RESOURCES

3.3.1 Biological Resources

For purposes of the impact analysis, biological resources are divided into three major categories: (1) terrestrial communities, (2) wetland and freshwater aquatic communities, and (3) threatened,

endangered, and special status species/communities. The ROI for biological resources includes Langley AFB and the specific areas associated with the proposed action.

TERRESTRIAL COMMUNITIES

Only a relatively small portion of Langley AFB is forested or remains in its natural state. Plant communities include approximately 250 acres of mixed oak-hickory hardwood forests, 60 acres of 60-year-old planted loblolly pine forests, 450 acres of tidal salt marshes, and an undetermined amount of old-field successional areas. The remaining portions of the base consist of managed lawns and developed areas of buildings, structures, and pavement.

Wildlife on the base are widespread species that are habitat generalists or tolerant of disturbance. This includes a wide variety of game and furbearing species, small mammals, waterfowl, songbirds, raptors, amphibians, reptiles, and fish. The proximity of the base to estuarine and marine habitats of Chesapeake Bay provides habitat for a variety of neotropical migrants and waterfowl.

WETLAND AND FRESHWATER AQUATIC COMMUNITIES

Wetlands at Langley AFB encompass approximately 652 acres, 462 acres of which are non-freshwater estuarine wetlands. Freshwater wetlands on base include palustrine forested, emergent, and scrub-shrub wetlands. Forest and scrub-shrub wetlands occur in low-lying upland areas with nutrient-poor sandy soils and are dominated by bottomland hardwood trees and shrubs. Emergent wetlands primarily occur as small remnant patches, along drainage ditches, and as tidal marsh (Hobson 1996, Air Force 1998a). A wetlands delineation of the entire base was conducted in late 2000 and resulted in the wetlands map presented in Figure 3-1. The jurisdictional wetlands identified during this effort were verified by the USACE - Norfolk District on 22 January 2004 (Project Number 01-R-2076) (USACE 2004).

Salt and freshwater marshes of the Northwest and Southwest Branches of the Back River, New Market Creek, Brick Kiln Creek, Tabbs Creek, and Tides Mill Creek surround the base on three sides. Tidal flow from the Chesapeake Bay is substantial along these margins; however, most inland freshwater wetlands have been filled, drained to ditches, or converted into golf course features (Air Force 1998a). Currently, Langley AFB is in the process of restoring and stabilizing sections of Chesapeake shoreline through the establishment of smooth and saltmeadow cordgrass fringe marsh. This project would result in a more erosion-resistant shoreline, improve water quality, and promote the Chesapeake Bay's unique estuarine ecosystem (Air Force 2001a).

THREATENED, ENDANGERED, AND SPECIAL STATUS SPECIES/COMMUNITIES

Sixteen special status species occur, or have the potential to occur, on Langley AFB and are presented in Table 3-2. Eleven have special state status and five have additional federal status. No critical habitat occurs on base.

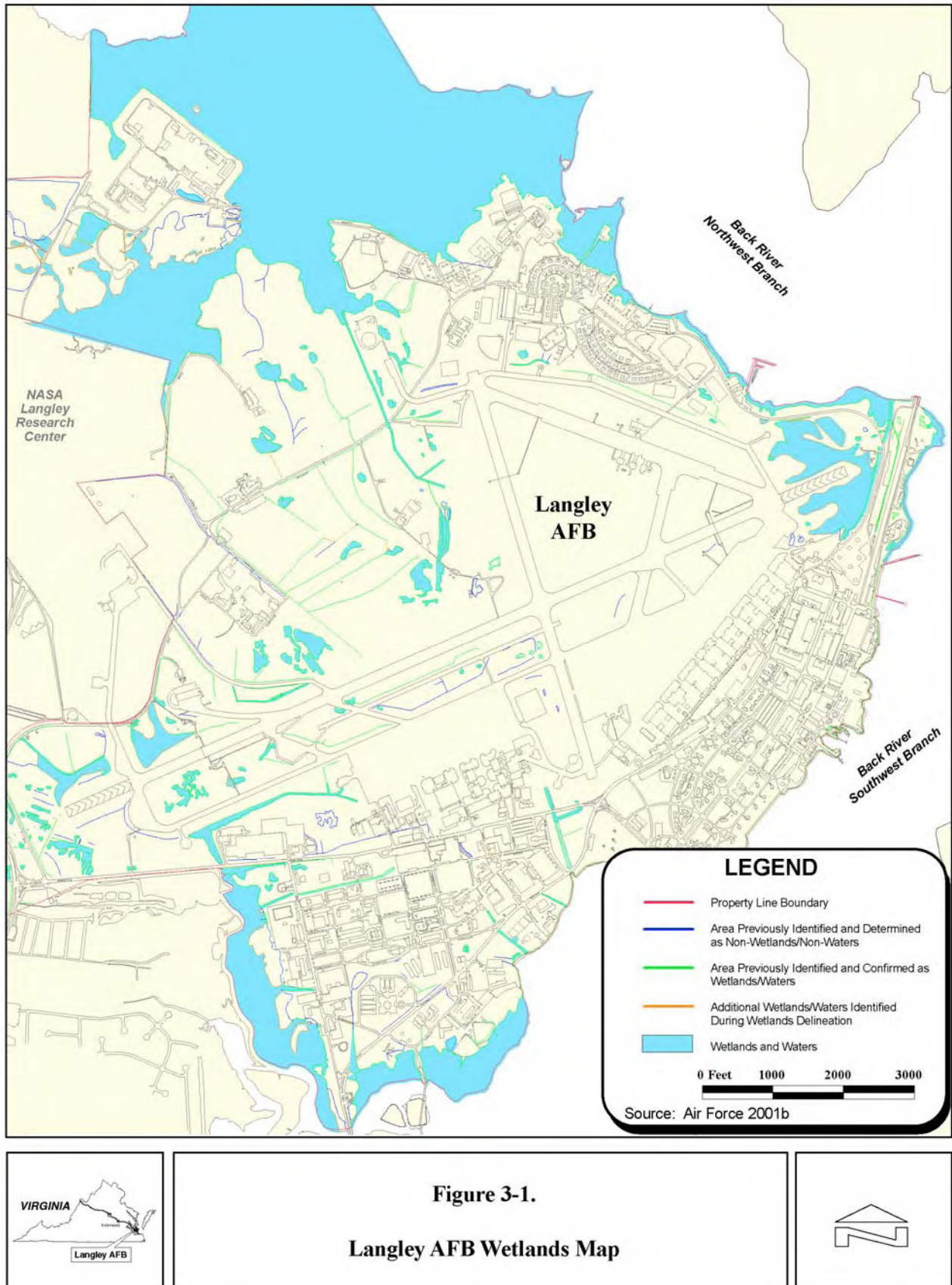


**Table 3-2. Threatened, Endangered, and Special-Status Species/
Communities that Occur or Potentially Occur on Langley AFB**

<i>Species</i>	<i>Status</i>	<i>Areas of Occurrence</i>
Plants		
Harper's fimbriatylis <i>Fimbristylis perpusill</i>	SE	Coastal seasonal ponds.
Virginia least trillium <i>Trillium pusillum var. virginianum</i>	FSC	Forested wetlands and mesic woods including the "green sea" wetlands. Recorded from the City of Hampton.
Invertebrates		
Northeastern beach tiger beetle <i>Cicindela dorsalis dorsalis</i>	FT	Broad beaches with well-developed sand dunes.
Amphibians		
Barking treefrog <i>Hyla gratiosa</i>	ST	Breeds in coastal seasonal freshwater ponds. Needs fish-free breeding habitat. Base at northern edge of range. Spends warm months in treetops, seeks moisture during dry periods by burrowing among tree roots and clumps of vegetation.
Mabee's salamander <i>Ambystoma mabeei</i>	ST	Breeds in coastal seasonal freshwater ponds. Needs fish-free breeding habitat. Tupelo and cypress bottoms in pine woods, open fields, and lowland deciduous forest.
Northern Diamond-backed terrapin <i>Malaclemys terrapin terrapin</i>	FSC	Breeds on sandy beaches or dunes. Prefers the brackish water of estuaries, tidal marshes, the tidal portions of rivers, and sometimes seen in the Atlantic Ocean. They are found overwintering in mud.
Reptiles		
Canebrake rattlesnake <i>Crotalus horridus atricaudatus</i>	SE	Meadows, canebrake or "green sea" wetlands. At risk because of wetland loss. Swampy areas, canebrake thickets, and floodplains.
Birds		
Bald eagle <i>Haliaeetus leucocephalus</i>	FT/SE	Forages occasionally on base. Nests within three miles of the base.
Foster's tern <i>Sterna forsteri</i>	SSC	Coastal and marshland bird that fishes the waters of the region.
Glossy ibis <i>Plegadis falcinellus</i>	SSC	Wades in marshes and fishes the waters of the region.
Great egret <i>Asmerodius albus</i>	SC	Palustrine and estuarine wetlands; marshes.
Night-heron yellow-crowned <i>Nyctanassa violacea violacea</i>	SSC	Wades in marshes and fishes the waters of the region.
Northern harrier <i>Circus cyaneus</i>	SSC	Hunts over marshes and fields and is known to nest in the area.
Least tern <i>Sterna antillarum</i>	SSC	Found feeding or nesting on beaches in the area.
Peregrine falcon <i>Falco peregrinus</i>	SE	Observed foraging over salt marshes on base. Open wetlands near cliffs.
Piping plover <i>Charadrius melodus</i>	FT/ST	Prefers areas with expansive sand or mudflats (for foraging) in close proximity to a sand beach (for roosting). Fifty-two designated critical habitat units from North Carolina south to northern Florida along mainland beaches and barrier islands.
Notes: FSC = Federal Species of Concern FT = Federal Threatened SC = State Candidate		
SE = State Endangered SSC = State Special Concern ST = State Threatened		

Langley AFB provides habitat for one federally listed threatened species: the bald eagle. Surveys conducted in 1993 and 1994 indicated that foraging by bald eagles occurs to a limited extent within creeks and marshes of the base. Habitat suitable for nesting or roosting occurs among the loblolly pines on the northern side of the base, but no nesting or long-term roosting has ever been observed. Uniform age/size structure of loblolly pine stands may limit use of the base as nesting or roosting habitat (Barrera 1995). The bald eagle has nested within 3 miles of the base in recent years. A nest was about 3 miles west of the base in 1997 and 1998. This nest has not been active since 1998 (personal communication, Wilcox 2001). An active bald eagle nest site is 3 miles directly east of the base. This nest has been active for the last two breeding seasons (personal communication, Davis 2001). The second federally listed threatened species, the northeastern beach tiger beetle, has no record of occurrence on base; it typically inhabits broad sandy beaches and has become a species of concern within the Chesapeake Bay ecosystem. The third federally listed threatened species, the piping plover, is associated with sandy beaches, which are not found on Langley AFB. The Virginia least trillium, found in forested wetlands, is a federal species of concern.

Virginia special status species include the barking treefrog, canebrake rattlesnake, Foster's tern, glossy ibis, great egret, Harper's fimbriatilis, least tern, Mabee's salamander, night-heron yellow-crowned, and the peregrine falcon. The Canebrake rattlesnake has been found along the shore of the southwest branch of the Back River.

The USFWS, Virginia Field Office, and the Virginia Department of Game and Inland Fisheries were notified of the proposed action and the no-action alternative (see Appendix B) and the Virginia Department of Conservation and Recreation's National Heritage website for rare, threatened and endangered plants and animals (Virginia Department of Conservation and Recreation [DCR] 2003) was reviewed to complete Table 3-1.

3.3.2 Water Resources

Water resources include surface and groundwater features located within the base as well as watershed areas affected by existing and potential runoff from the base, including floodplains. The ROI is defined as the base and the immediate vicinity.

Langley AFB occupies a flat lowland peninsula with a gentle eastward slope of 1 foot per mile and elevations of 5 to 11 feet MSL within the Atlantic Coastal Plain physiographic province. The base is bounded on the northeast side by the Northwest Branch of the Back River, and on the southeast side by the Southwest Branch of the Back River, which flow into the Chesapeake Bay.

In the Langley AFB area, groundwater occurs in a shallow water table aquifer, an upper artesian aquifer system, and the principal artesian aquifer system. All three aquifers in this area contain water of moderate to poor quality due to high salinity and total dissolved solids; they have little or no potential for a conventional water supply. Standard demolition practices would be applied to control sedimentation and erosion during demolition pursuant to

Executive Order 12088-Federal Compliance with Pollution Control Standards and the Sikes Act. Additionally, Federal agencies and their authorized agents conducting regulated land disturbing activities on private and public lands in the state must comply with the Virginia Erosion and Sediment Control Law and Regulations (VESCL&R), Virginia Stormwater Management Law and Regulations (VSWML&R) and other applicable federal non-point source pollution mandates. Clearing and grading activities, installation of staging areas, parking lots, roads, buildings, utilities, or other structures, soil/dredge spoil areas, or related land conversion activities that disturb 2,500 square feet or more would be regulated by VESCL&R and those that disturb one acre or greater would be covered by VSWML&R. Accordingly, Langley AFB would have erosion and sediment control and storm water management plans prepared and implemented by the contractor to ensure compliance with state law.

Due to its proximity to the Back River and the Chesapeake Bay, much of Langley AFB lies within the 100-year floodplain. Langley AFB is susceptible to high tide surges during storms and spring tides, and flooding is sometimes severe on the base. Figure 3-1 illustrates the extent of the 100-year floodplain on Langley AFB.

Much of the proposed action is located in the 100-year floodplain. An examination of Figure 3-1 indicates that areas above the 100-year floodplain are located within the clear zone on the western end of the runway, and at a few small locations on the north side of the base within the golf course, away from existing infrastructure.

3.4 HAZARDOUS MATERIALS AND WASTE MANAGEMENT

Hazardous materials are identified and regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); the Occupational Safety and Health Administration (OSHA); and the Emergency Planning and Community Right-to-Know Act (EPCRA). Hazardous materials have been defined in AFI 32-7086, *Hazardous Materials Management*, to include any substance with special characteristics that could harm people, plants, or animals. Hazardous waste is defined in the Resource Conservation and Recovery Act (RCRA) as any solid, liquid, contained gaseous or semisolid waste, or any combination of wastes that could or do pose a substantial hazard to human health or the environment. Waste may be classified as hazardous because of its toxicity, reactivity, ignitibility, or corrosivity. In addition, certain types of waste are “listed” or identified as hazardous in 40 CFR 263. The ROI for this resource consists of Langley AFB.

Hazardous Materials

The majority of hazardous materials used by Air Force and contractor personnel at Langley AFB are controlled through an Air Force pollution prevention process called HAZMART. This process provides centralized management of the procurement, handling, storage, and issuing of hazardous materials and turn-in, recovery, reuse, or recycling of hazardous materials. The HAZMART process includes review and approval by Air Force personnel to ensure users are aware of exposure and safety risks. Pollution prevention measures are likely to minimize

chemical exposure to employees, reduce potential environmental impacts, and reduce costs for material purchasing and waste disposal.

Hazardous Waste

Langley AFB is a large-quantity hazardous waste generator. Hazardous wastes generated during operations and maintenance activities include solvents, metal-contaminated spent acids, and sludge from wash racks. Langley AFB recycles all lubricating fluids, batteries, oil filters, and shop rags. Hazardous wastes are managed in accordance with the *Langley AFB Hazardous Waste Management Plan*, dated 15 December 2003.

Langley AFB has a Spill Prevention and Facility Response Plan (certified 15 August 2004). The plan meets the Federal Spill Prevention Control and Countermeasures requirements, the Virginia Oil Discharge Contingency Plan requirements and the Coast Guard requirements.

Environmental Restoration Program

The Department of Defense (DoD) developed the Environmental Restoration Program (ERP) to identify, investigate, and remediate potentially hazardous material disposal sites that existed on DoD property prior to 1984. Forty-eight ERP sites, including one at Bethel Manor Housing, have been identified since the ERP began at Langley AFB. Thirty-three sites have been closed or require no further action. The remaining 15 sites are regulated under CERCLA. The *Langley AFB Management Action Plan* (Air Force 2003b) summarizes the current status of the base environmental programs and presents a comprehensive strategy for implementing actions necessary to protect human health and the environment. This strategy integrates activities under the ERP and the associated environmental compliance programs that support full restoration of the base.

ACC policy requires that any proposed project on or near a Langley AFB ERP site be coordinated through the Langley ERP Manager. Demolition at three of the five facilities (731, 732, and 735) would take place at or near ERP sites WP-02 (soils), and OT-64 (groundwater beneath WP-02).

ERP Site WP-02 is an abandoned wastewater treatment plant covering approximately 0.5 acres near Willoughby Point in the northeastern part of the base. The treatment plant operated from 1917 to 1968 to disinfect final effluent prior to discharge into the Back River. Since 1968, all on-Base sewage has been discharged to the publicly owned treatment works. An Interim Removal Action (IRA) was conducted in February 1998, which included the demolition of all onsite structures, soil excavation 4 feet beyond the foundation boundary and to a depth of 4 feet below ground surface, and pumping of 5,500 gallons of non-hazardous liquids. All debris was disposed of at the Bethel Landfill and liquids were transported for disposal at the off-site water treatment plant. The Final Remedial Investigation (RI) report was submitted in December 2000 and accepted in March 2001. The Record of Decision (ROD) was issued by the Air Force in 2002, but it was not signed by the EPA or concurred upon by VDEQ. The agencies have agreed

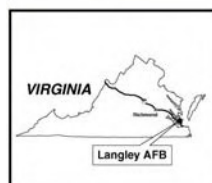
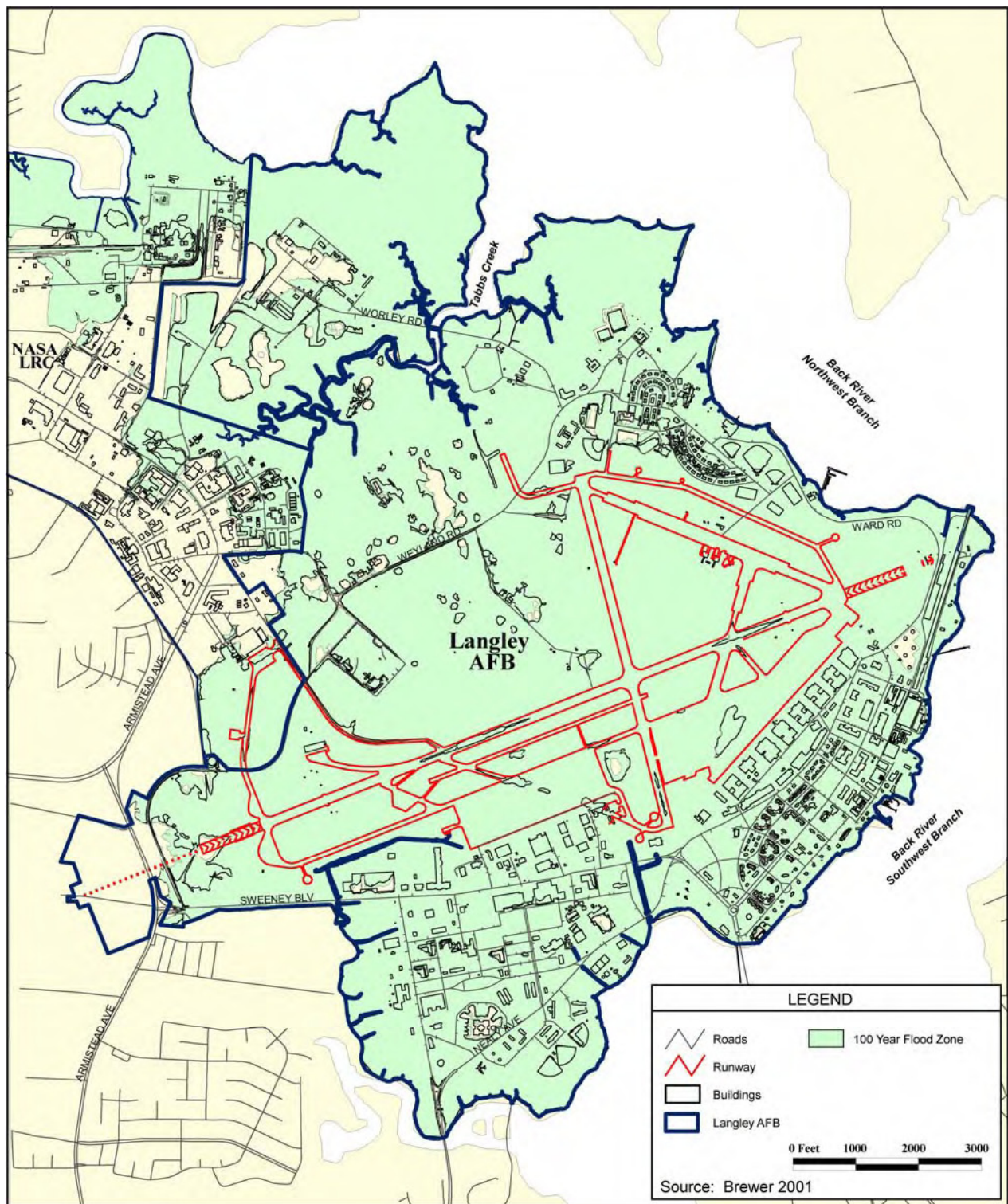


Figure 3-2
Langley AFB Floodplain Map



to proceed with the remedial action in spite of the dispute over specific language in the RODs. The Remedial Design and Remedial Action Work Plan were finalized in April 2004. Final Remedial Action would result in a clean closure in FY 05 with no land use controls on the soil component of the closure (personal communication, Patterson 2004).

ERP Site OT-64 is an operable unit that addresses base-wide ground water contamination from 22 ERP sites including WP-02. In general, the contaminants of concern in the ground water are metals, pesticides, and semi-volatile organic compounds (personal communication, Gravette 2005).

Solid Waste Management

Solid waste generated on Langley AFB is removed by contract services to either the City of Hampton's Bethel Sanitary Landfill or to the Hampton Waste-to-Energy facility for incineration. In FY 2003, the base generated 3,685 tons of solid waste and diverted 1,928 tons through recycling and composting activities. The base also generated 4,131 tons of construction and demolition debris and was able to recycle 2,890 tons of the debris. Big Bethel is a sanitary landfill, but also accepts construction and demolition waste. In 2003, this facility received 574,386 tons of waste of all types. With a total capacity of about 27,953,000 tons, it has a remaining useful life of about 49 years (VDEQ 2004). In addition, there are four dedicated construction/ demolition waste disposal landfills in the Hampton Roads area (Table 3-4). Their combined capacity is 1,970,686 tons. These facilities together received 284,162 tons of construction and demolition waste in 2003, and have a collective remaining useful life of about 6.1 years.

Table 3-3. Capacity, Disposal Rates, and Remaining Useful Life (RUL) for Construction-Demolition Waste Disposal Facilities in Hampton Roads

<i>Name</i>	<i>Permit</i>	<i>Location</i>	<i>Capacity (tons)</i>	<i>2003 Disposal (tons)</i>	<i>RUL</i>
Craney Island Landfill	041	Portsmouth	1,279,970	75,267	17.0
Higgerson-Buchanan Inc.	493	Chesapeake	593,516	133,640	4.4
Waltrip Landfill	322	James City	7,200	3,929	1.8
Wolftrap Operations Inc. Debris Landfill	436	York County	90,000	71,326	1.3
Total for Hampton Roads			1,970,686	284,162	6.1 ¹
Total for Virginia			18,054,541	2,455,035	7.4
Note: 1. This is the combined (average) RUL for the four facilities, not the sum of their individual Rules. Source: Commonwealth of Virginia Department of Environmental Quality, June 2004					

Asbestos Waste/Lead Based Paint Management

The 1 FW *Asbestos Management and Operations Plan* provides guidance for the identification of asbestos-containing materials (ACMs) and the management of asbestos. An asbestos facility register is maintained by Civil Engineering. Persons inspecting, designing, or conducting asbestos response actions in public or commercial buildings must be properly trained and accredited through an applicable asbestos training program. The design of building alteration projects and requests for self-help projects are reviewed to determine if asbestos contaminated materials are present in the proposed work area and, if so, are disposed of in an off base permitted landfill.

The 1 FW *Lead-Based Paint Management and Operations Plan* contains policies and procedures associated with the management of lead-based paint. The plan is designed to establish operations and management organizational responsibilities and procedures so that personnel at Langley AFB are not exposed to excessive levels of lead-contaminated dust or soils. Plan components identify management actions for worker training, notification, and labeling, the Langley AFB Work Request program, record-keeping, personal protective equipment, construction inspection, the disposal of LBP-containing wastes, and lead toxicity investigations (Air Force 2003c).

3.5 NOISE

Noise is defined as any sound that is undesirable because it interferes with communication, is intense enough to damage hearing, or is otherwise annoying. Human response to noise varies according to the type and characteristics of the noise source, distance between source and receptor, receptor sensitivity, and time of day. The ROI for noise includes the area surrounding the project location.

Sound is measured with instruments that record instantaneous sound levels in decibels (dB). A-weighted sound level measurements (often denoted dBA) are used to characterize sound levels that are heard especially well by the human ear. All sound levels analyzed in this EA are A-weighted; thus, the term dB implies dBA unless otherwise noted.

At Langley AFB, noise contributions from aircraft operations and ground engine run-ups at the airfield have been calculated using the NOISEMAP model, the standard noise estimation methodology used for military airfields. NOISEMAP uses the following data to develop noise contours: aircraft types, runway utilization patterns, engine power settings, airspeeds, altitude profiles, flight track locations, number of operations per flight track, engine run-ups, and time of day. The Air Installation Compatible Use Zone (AICUZ) indicates that facilities 731, 732 and 735 are located in the 80-85+ dB Day-Night Average Sound Level (DNL) noise contours and facilities 1001 and 1033 are in the 70-75 dB noise contours (Air Force 1997).

3.6 AIR QUALITY

Air quality is described by the atmospheric concentration of six pollutants: ozone (O₃), nitrogen dioxide (NO₂), carbon monoxide (CO), sulfur dioxide (SO₂), particulate matter equal to or less than 10 micrometers in diameter (PM₁₀), and lead (Pb). Langley AFB is located within the Hampton Roads Intrastate Air Quality Control Region (AQCR) #223. The Hampton Roads AQCR includes four counties (York, James City, Isle of Wright, and Southampton), as well as nine independent cities (Chesapeake, Hampton, Newport News, Norfolk, Poquoson, Portsmouth, Suffolk, Virginia Beach, and Williamsburg). This area includes substantial industry, several military and commercial airfields, and a large population that generates air quality emissions. Table 3-4 summarizes the baseline emissions (stationary and mobile) of criteria pollutants and precursor emissions for this AQCR. Baseline Langley AFB emissions are incorporated into the totals for the AQCR. For each criteria pollutant, Langley AFB contributes less than 1 percent of the regional emissions. The base has been issued a Synthetic Minor operating permit from the VDEQ.

Table 3-4. Baseline Emissions for Langley AFB Affected Environment

<i>Emissions</i>	<i>Pollutants (tons per year)</i>				
	CO	VOCs	NO _x	SO ₂	PM ₁₀
Hampton Roads AQCR ¹	257,325	79,750	83,560	110,220	49,860
Langley AFB	768.09	115.18	283.38	6.47	10.29
---Stationary Sources ²	7.19	10.68	42.18	0.87	2.09
---Mobile Sources ³	760.9	104.5	241.2	5.6	8.2

Sources: 1. Federal Register (629123) June 26, 1997; 2. Air Force 2003; 3. Air Force 2000

Air quality in Hampton Roads AQCR is currently designated as attainment for all criteria pollutants. For ozone and its precursor pollutants (volatile organic compounds [VOCs] and nitrogen oxides [NO_x]), the affected area is considered in "transitional attainment" or maintenance." On April 15, 2004, the USEPA designated the City of Hampton as marginal attainment for the newly established 8-hour O₃ standard effective as of June 15, 2004. The USEPA will revoke the 1-hour O₃ standard in July 2005 (USEPA 2004a). Also, monitoring data are being collected for determining compliance with the newly developed standard for particulates less than 2.5 micrometer in diameter (PM_{2.5}) (USEPA 2004b). The Commonwealth of Virginia has recommended that, based on the most recent three years of monitoring that, the entire state be designated as attainment for the PM_{2.5} standard. The USEPA intends to promulgate its official designations in December 2004 (USEPA 2004c).

The CAA Section 176(c), General Conformity, establishes certain statutory requirements for federal agencies with proposed federal activities to demonstrate conformity of the proposed activities with each state's State Implementation Plan (SIP) for attainment of national ambient air quality standards (NAAQS). In 1993, USEPA issued the final rules for determining air

quality conformity. Federal activities must not (1) cause or contribute to any new violation; (2) increase the frequency or severity of any existing violation; or (3) delay timely attainment of any standard, interim emission reductions, or milestones in conformity to a SIP's purpose of eliminating or reducing the severity and number of NAAQS violations or achieving attainment of NAAQS. General conformity applies only to non-attainment and maintenance areas. If the emissions from a federal action proposed in a non-attainment area exceed annual emission thresholds identified in the rule (*de minimis* levels) or are regionally significant (identified as equal to, or more than, 10 percent of the emissions inventory for the region), a conformity determination is required of that action. The thresholds become more restrictive as the severity of the non-attainment status of the region increases. For the newly adopted 8-hour O₃ and the PM_{2.5} standards, according to USEPA Guidance (March 2000), conformity and other planning requirements would be triggered on the effective date of the final USEPA designations.

3.7 SAFETY

Ground and flight safety involving aviation operations conducted by the 1 FW are addressed in this section. Because of the proposal to demolish facilities within portions of the airfield environment, the focus of this section is on safety-of-flight issues associated with airfield operations. Within the *ground safety* section, issues involving operations and maintenance activities that support operation of the airfield are addressed. Also considered in this section is the safety of personnel and facilities on the ground that may be placed at risk from flight operations. Within the *flight safety* section, aircraft flight risks and safety issues associated with the conduct of aviation activities at the installation are addressed.

Although ground and flight safety are addressed independently, it should be noted that, in the immediate vicinity of the runway, risks associated with safety-of-flight issues are interrelated with ground safety concerns. Any aircraft accident at the airfield would have direct impacts on the ground in the immediate vicinity of the mishap as a result of explosion, fire, and debris spread. The ROI for safety in this EA includes the airfield at Langley AFB and its immediate vicinity.

GROUND SAFETY

Day-to-day operations and maintenance activities conducted by the 1 FW and their tenants in the use and operation of the airfield are performed in accordance with applicable Air Force and ACC safety regulations, published Air Force Technical Orders, and standards prescribed by Air Force Occupational Safety and Health (AFOSH) requirements.

The Air Force has conducted several safety studies over many years assessing aircraft accidents occurring in the vicinity of airfields. These studies reveal that approximately 27 percent of the accidents occurred on, or within an area 1,000 feet on either side of the runway; approximately 29 percent occurred within an area extending 3,000 feet from the end of the runway and 1,500 feet on either side of the extended runway centerline. Extending this 3,000-foot wide region

another 5,000 feet accounted for an additional 8 percent of the accidents, and extending it another 7,000 feet accounted for an additional 5 percent (Air Force 1992).

Clear Zones and Accident Potential Zones are surface areas, described geographically on the ground. Specific dimensions, geophysical and topographic standards, and approved land uses are discussed in detail in UFC 3-260-01, *Airfield and Heliport Planning and Design*; *Air Force Instruction (AFI) 32-7063*; and *Air Force Handbook (AFH) 32-7084*. The Clear Zone is basically a square that is 3,000 feet long and 3,000 feet wide at both ends of the runway (extends 3,000 feet out from the end of the runway and 1,500 feet on either side of the runway centerline). It is 206 acres in size at each end of the runway and includes the 46 acres of the Graded Area. UFC 3-260-01 dictates that within the Clear Zone (and outside of the Graded Area), there can be no permanent facilities. Brush and trees are allowed in this area; however, they may not penetrate the approach/departure slope, or the Transitional Surface slope.

The Graded Area is an area within the Clear Zone that is 1,000 feet in length and 2,000 feet wide (extends 1,000 feet from the end of the runway and 1,000 feet on either side of the runway centerline). The Graded Area is 46 acres at each end of the runway. UFC 3-260-01 dictates that the Graded Area must be clear of all aboveground obstacles (including roadbeds) and vegetation (except grass [herbaceous]). It must also have no abrupt surface irregularities, such as ditches or ponds. The maximum allowable slope of the Graded Area is +/- 2 percent.

UFC 3-260-01 is a manual incorporating all DoD airfield and heliport requirements and provides standardized airfield, heliport, and airspace criteria for the geometric layout, design and construction of runways, helipads, taxiways, aprons, and related permanent facilities to meet sustained [aviation] operations (UFC 2001). The area of frangibility is defined as the surface that extends 250 feet on either side of the runway centerline to the installation boundary, or to the end of the Airfield Clear Zone. A clearance distance, which extends 200 feet from the taxiway centerline, is required.

FLIGHT SAFETY

As with ground safety, day-to-day flying operations are conducted by highly trained and qualified flight crews in accordance with detailed operational procedures. Since takeoff and landing operations constitute the most critical phases of flight, there are numerous requirements applicable to the airspace through which an aircraft flies during these operations. These requirements focus on the configuration of the airspace which extends from the end of the runway and is best described as a plane which rises on given gradients forming a floor, or an imaginary surface for the airspace used during these operations.

UFC 3-260-01 defines and describes these imaginary surfaces. The imaginary surfaces of concern in this assessment are referred to as the Approach/Departure Slope and the Transitional Surface Slope. The Approach/Departure Slope rises at a rate of 40:1, starting 200' from the end of the runway. The Transitional Surface is an imaginary surface that extends outward and upward at right angles to the runway centerline and extended runway centerline

at a slope ratio of 7:1 (for every 7 feet horizontally there can be a 1 foot increase vertically). The Transitional Surface connects the primary and the approach/departure clearance surfaces to the inner horizontal, the conical and the outer horizontal surfaces as shown in Figures 3-3 and 3-4. UFC 3-260-01 dictates that the vertical height of vegetation and other fixed or mobile obstacles (such as construction equipment) will not penetrate the Transitional Surface.

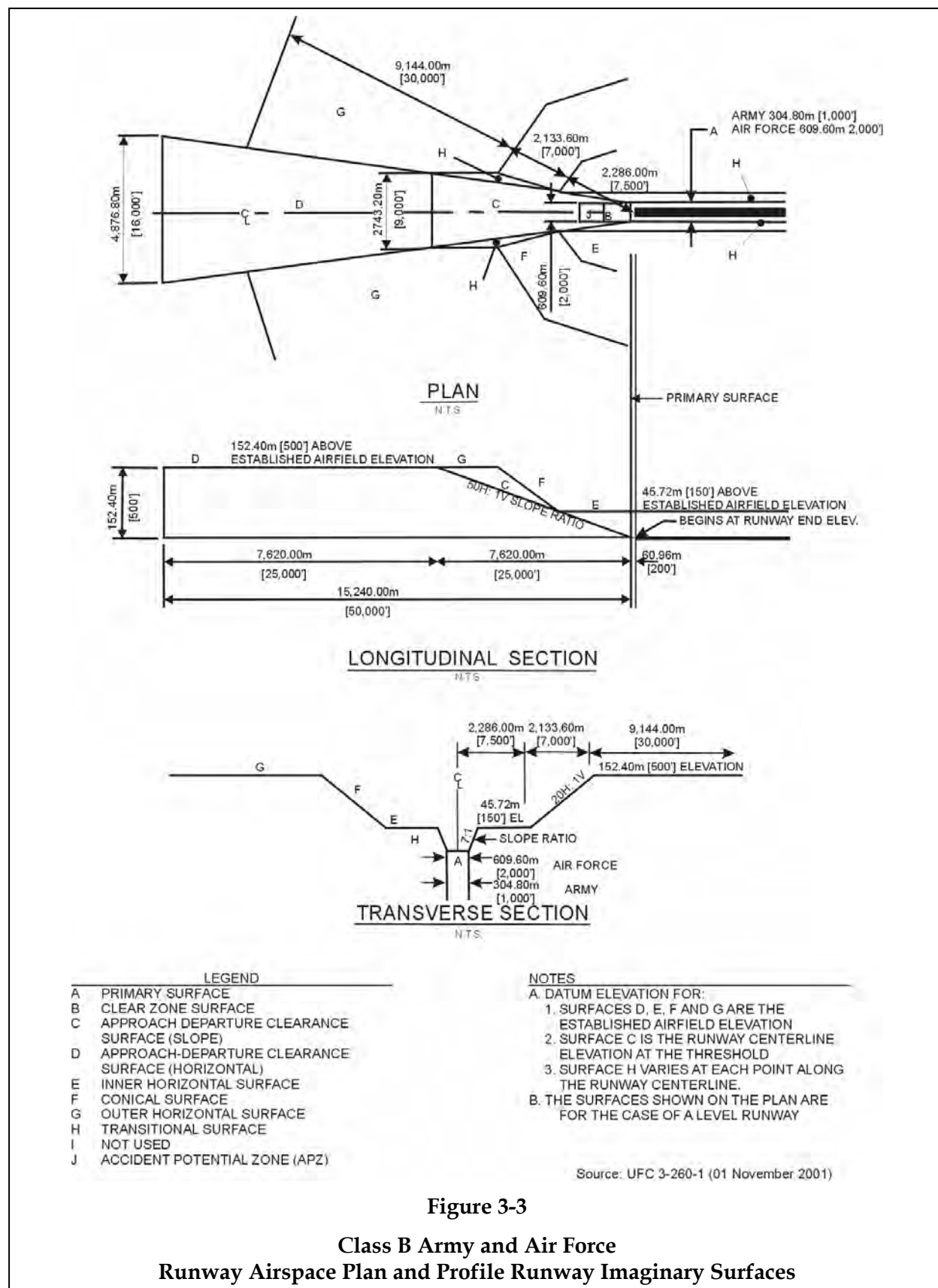
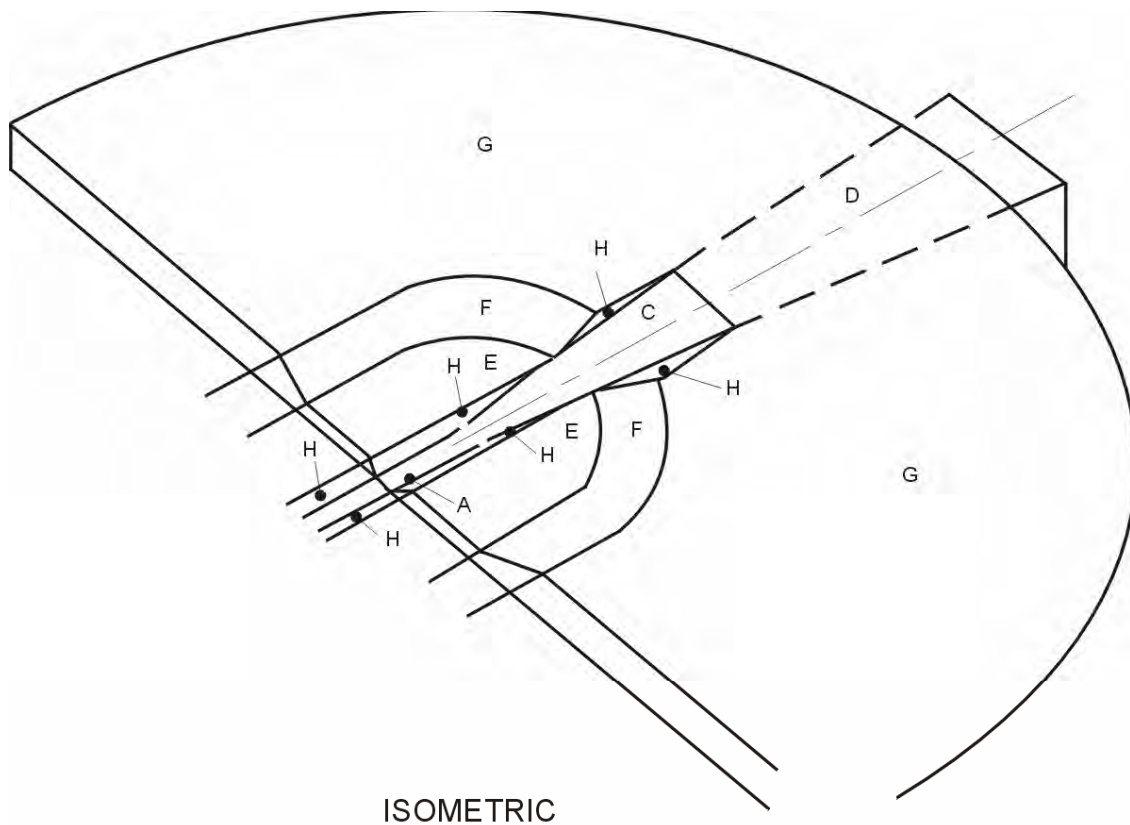


Figure 3-3
Class B Army and Air Force
Runway Airspace Plan and Profile Runway Imaginary Surfaces



LEGEND

- A PRIMARY SURFACE
- B CLEAR ZONE SURFACE (NOT SHOWN)
- C APPROACH DEPARTURE CLEARANCE SURFACE (50:1 SLOPE RATIO)
- D APPROACH-DEPARTURE CLEARANCE SURFACE (HORIZONTAL)
- E INNER HORIZONTAL SURFACE (45.72m [150'] ELEVATION)
- F CONICAL SURFACE (20:1 SLOPE RATIO)
- G OUTER HORIZONTAL SURFACE (152.40m [500'] ELEVATION)
- H TRANSITIONAL SURFACE (7:1 SLOPE RATIO)
- I NOT USED
- J ACCIDENT POTENTIAL ZONE (APZ) (NOT SHOWN)

Source: UFC 3-260-1 (01 November 2001)

Figure 3-4

**Class B Army and Air Force and Navy
Runway Airspace Imaginary Surfaces**

4.0 ENVIRONMENTAL CONSEQUENCES

Chapter 4.0 presents the environmental consequences of the proposed action and the no-action alternative at Langley AFB for each of the resource areas discussed in Chapter 3.0. To define the consequences, this chapter evaluates the project elements described in Chapter 2.0 against the affected environment provided in Chapter 3.0. Cumulative effects of the proposed action with other foreseeable future actions are presented in Chapter 5.0.

4.1 LAND USE RESOURCES

4.1.1 Proposed Action

LAND USE

Implementation of the proposed action would be consistent with the Base General Plan and Communication Squadron Area Development Plan (ADP). Demolition of facilities #1001 and 1033 would eliminate structures that no longer provide useful function to Langley AFB and are deteriorated. Demolition of facilities #731, 732, and 735 would remove permanent structures that are located within the airfield clear zone. UFC prohibits permanent structures in the airfield clear zone. The areas cleared would be, in some cases, redeveloped to meet mission requirements, including open space and recreation facilities, when these functions are identified and funded. The proposed action is consistent with surrounding land uses and would be in accordance with the Enforceable Regulatory Programs of the Virginia Coastal Resources Management Program. This project would not have any component that would affect any of the following sections of the Enforceable Regulatory Program: Fisheries Management, Subaqueous Lands Management, Dunes Management, Point Source Pollution Control, Shoreline Sanitation, and Wetlands Management.

Fisheries Management. The demolition of these structures would have no effect on the conservation and enhancement of finfish and shellfish resources, or on the promotion of commercial and recreational fisheries.

Subaqueous Lands Management. The demolition of these structures would not involve encroachment into, on, or over, state-owned subaqueous lands.

Dunes Management. There are no sand-covered beaches or sand dunes in the vicinity of these structures.

Point Source Pollution Control. The demolition of these structures would not introduce any pollutant to an existing or new point source.

Shoreline Sanitation. This project would not include interconnections to the base sanitary sewer system. No septic systems, regulated by this program, would be proposed.

Wetlands Management. This project would have no significant adverse effect on any identified wetlands present on Langley AFB.

TRANSPORTATION

With the implementation of the proposed action, vehicular circulation would not be altered. Truck traffic associated with the demolition would be directed through the West Gate as possible to avoid base housing areas. It is possible that truck traffic may lead to some degradation of base road surfaces and occasional congestion at the West Gate. Under the proposed action, on base roads may experience lane closures temporarily during demolition activities. In all cases, the contractor would provide signage and detours to maintain access to this area for base personnel. These adverse effects would be short-term and not significant.

VISUAL RESOURCES

Demolition would occur in areas previously developed. Implementation of the proposed action would benefit the visual resources of the base with no negative effect to the existing visual and natural character of the base.

4.1.2 No-Action Alternative

LAND USE

If facilities #731, 732, and 735 are not removed, Langley AFB would not meet the UFC 3-260-01 requirements. These requirements do not allow permanent structures within the Clear Zone. Without removal of facilities #1001 and 1033, redevelopment and in-fill opportunities would not be created on Langley AFB as recommended by the Base General Plan. Also Security Forces personnel would continue to operate out of a structurally unsound building.

TRANSPORTATION

No impacts to transportation resources are anticipated under the no-action alternative and all existing structures and uses would remain unchanged.

VISUAL RESOURCES

Under the no-action alternative, the dilapidated condition of the greenhouse would continue to detract from the visual character of the base and Langley Field Historic District. All existing structures would remain unchanged.

4.2 CULTURAL RESOURCES

A number of federal regulations and guidelines have been established for the management of cultural resources. Section 106 of the National Historic Preservation Act (NHPA), as amended, requires federal agencies to take into account the effects of their undertakings on historic

properties. Historic properties are cultural resources that are listed in, or eligible for listing in, the National Register of Historic Places (NRHP). Eligibility evaluation is the process by which resources are assessed relative to NRHP significance criteria for scientific or historic research, for the general public, and for traditional cultural groups. Under federal law, impacts to cultural resources may be considered adverse if the resources have been determined eligible for listing in the NRHP or have significance for Native American groups.

Analysis of potential impacts to cultural resources considers both direct and indirect impacts. Direct impacts may occur by physically altering, damaging, or destroying all or part of a resource; altering characteristics of the surrounding environment that contribute to the resource's significance; introducing visual or audible elements that are out of character with the property or alter its setting; or neglecting the resource to the extent that it deteriorates or is destroyed. Direct impacts are assessed by identifying the types and locations of proposed activity and determining the exact location of cultural resources that could be affected. Indirect impacts result primarily from the effects of project-induced population increases.

4.2.1 Proposed Action

Adverse impacts to a historic property proposed for demolition could occur under the proposed action. The Greenhouse (Building #1001) is a contributing member of the Langley Field Historic District, and other facilities proposed for demolition are located within the historic district landscape (USACE 2004). Consultation with the Virginia State Historic Preservation Office (SHPO), in compliance with Section 106 of the National Historic Preservation Act (NHPA) (16 U.S.C. §470 et seq.) with its implementing regulations (36 C.F.R. Parts 60, 63, and 800) has been completed for the proposed action. Consultation letters are contained in Appendix B. SHPO consultation for any non-historic units in the Langley Field Historic District would take place as part of the Willoughby Point trail project (Personal communication, Baie 2004).

No impacts to archaeological or traditional resources are likely under the Proposed Action. A 2004 archaeological survey identified some archeological resources in the vicinity, although not at the immediate project location (Personal communication, Baie 2004). The closest identified archaeological resources is south of Weyland Road, well removed from buildings associated with the present project. If archaeological resources are inadvertently discovered during demolition, all work would halt at that location; the base CRM would be notified; and proper procedures for the discovery of unanticipated resources would be completed prior to work resuming. No traditional resources have been identified within the project areas. There are no federally recognized Indian lands or resources at Langley AFB, and no issues have been identified by federally recognized or other Indian groups in Virginia.

4.2.2 No-Action Alternative

Under the No-Action alternative, the five facilities would not be demolished. No impacts to cultural resources would be expected. Resources would continue to be managed in compliance with federal law and Air Force regulation.

4.3 PHYSICAL RESOURCES

4.3.1 Proposed Action

BIOLOGICAL RESOURCES

Terrestrial Communities. Under the proposed action, demolition would disturb areas that have been previously developed, currently experiencing high levels of continual human activity, lacks native terrestrial habitat, and exhibits a low level of biodiversity. The only plant or animal species likely to be displaced from this marginal habitat are individuals of common and locally abundant species. The overall ecological effect would therefore be insignificant.

Wetland and Freshwater Aquatic Communities. There would be no impacts to wetlands from the implementation of the proposed action and the proposed action would not conflict with the wetlands management program associated with the Virginia Coastal Zone Management Program. Soil erosion and sediment control measures consistent with the DCR Virginia Erosion and Sediment Control Handbook would be applied during demolition, thereby avoiding secondary effects to any wetlands or freshwater aquatic. With the implementation of these practices during demolition, no significant adverse environmental consequences are anticipated.

Threatened, Endangered, and Special Status Species/Communities. Species listed, proposed for listing, or candidates for listing as threatened and endangered in accordance with the ESA of 1973 (87 Stat. 884, as amended; 16 USC 1531 *et seq.*) are not anticipated to be adversely affected by the proposed action (see Appendix B). State-protected species would also not be adversely affected by the proposed action because their habitat would not be altered and because changes in base activities are not expected to be biologically significant. No special species or sensitive habitats are expected to be impacted.

WATER RESOURCES

There would be no significant impacts to water resources from point source or non-point sources with implementation of the proposed action, and the proposed action would not conflict with point source or non-point source pollution control objectives associated with the Virginia Erosion and Sediment Control Law and Regulations (VESCL&R) and the Virginia Coastal Zone Management Program. Prior to the start of demolition, silt fences, storm drain inlet and outlet protection, and other appropriate standard demolition practices would be instituted in accordance with DCR's Virginia Erosion and Sediment Control Handbook.

Because soil disturbance at each project site would exceed 2,500 square feet, Langley AFB would have erosion and sediment control and storm water management plans developed and implemented by the demolition contractor for the project to ensure compliance with state law.

Demolition of the five facilities would be within the 100-year floodplain of the Back River. With much of Langley AFB within the 100-year floodplain there is no practicable alternative to not implementing the proposed action within a floodplain.

4.3.2 No-Action Alternative

Under the no-action alternative, demolition of the five facilities would not occur. There would be no environmental consequences to this resource.

4.4 HAZARDOUS MATERIALS AND WASTE MANAGEMENT

4.4.1 Proposed Action

HAZARDOUS MATERIALS

Demolition of the five facilities may require the use of hazardous materials by contractor personnel. In accordance with the base's HAZMART procedure, copies of Material Safety Data Sheets must be provided to the 1 CES/CEV and maintained on the demolition site. Demolition contractors would comply with federal, state, and local environmental laws and would employ affirmative procurement practices when economically and technically feasible.

All hazardous materials would be handled, stored and disposed of in accordance with federal state and local regulations and laws. Permits for handling and disposal of hazardous material are the responsibility of the contractor. Hazardous materials would not be stored on base. All hazardous materials used at the demolition site including, but not limited to, paint, paint thinners, gasoline, diesel, oil and lubricants would be removed daily. Only quantities of hazardous materials required to carry out the work for the day would be permitted on site.

HAZARDOUS WASTE

Contractor personnel may generate hazardous waste during demolition including wastes removed from the oil-water separator associated with facility 735. Storage and disposal of these wastes would be the responsibility of the site contractor and managed as directed in the Base's *Hazardous Waste Management Plan*. Generations of appreciable amounts of hazardous wastes are not anticipated and no significant adverse environmental consequences are expected. Any soil suspected of contamination, as discovered during the demolition process, would be tested and either replaced back into the excavation or disposed of in accordance with proper VDEQ regulations.

If asbestos-containing materials (ACM) or lead-based paint (LBP) are found in or near the demolition areas, then the following Federal and State regulations must be followed.

-
-
- *Asbestos Removal and Disposal.* Upon classification as friable or non-friable, all waste ACM should be disposed of in accordance with the Virginia Solid Waste Management Regulations (9 VAC 20-80-640), and transported in accordance with the Virginia regulations governing Transportation of Hazardous Materials (9 VAC 20-110-10 *et seq.*).
 - *Lead-Based Paint Removal and Disposal.* The proposed project should comply with the U.S. Department of Labor, Occupational Safety and Health Administration (OSHA) regulations, and with the Virginia Lead-Based Paint Activities Rules and Regulations (9 VAC 20-60-261).

In the event of fuel spillage during demolition, the contractor would be responsible for its containment, clean up and related disposal costs. The contractor would have sufficient spill supplies readily available on the pumping vehicle and/or at the site to contain any spillage. In the event of a contractor related release, the contractor would immediately notify the 1 FW Civil Engineering/Environmental Management Office and take appropriate actions to correct its cause and prevent future occurrences.

ENVIRONMENTAL RESTORATION PROGRAM

Demolition of three of the five facilities (731, 732, and 735) would occur on or near ERP Sites WP-02 (soils), and OT-64 (groundwater beneath WP-02). The base ERP office, 1 CES/CEVR, would request an ACC waiver for each demolition project. All soils and groundwater managed as part of the demolition of facilities 731, 732, and 735 must be managed, tested and disposed of off base and in accordance with proper VDEQ regulations. Disposal of contaminated soil would be funded by the demolition project. No significant adverse environmental effects would result from the implementation of the proposed action.

SOLID WASTE

Demolition of the five facilities would generate solid wastes consisting concrete, brick, wood, structural steel, glass, and miscellaneous metal building components. These materials would be generated during a three-year period from FY 05 through FY 07. The total amount of demolition waste generated is estimated to be approximately 4,300 cubic yards, with approximately half that amount being generated in FY 07 with the demolition of the two LOX Storage Buildings and the Small Gas Engine Repair Shop (Facilities #731, 732, and 735). Demolition contractors would be directed to recycle materials to the maximum extent possible, thereby reducing the amount of demolition debris disposed in landfills. Materials not suitable for recycling would be taken to a landfill permitted to handle construction debris wastes, such as the Bethel Landfill in Hampton. That landfill has capacity to operate for 55 years (VDEQ 2004) and the waste generated by the proposed action would not have a significant impact to the operating life of the landfill.

4.4.2 No-Action Alternative

Under the no-action alternative, demolition of the five facilities would not occur. No significant adverse environmental consequences are expected.

4.5 NOISE

Noise impact analyses typically evaluate potential changes to existing noise environments that would result from implementation of a proposal. Potential changes in the noise environment can be (1) beneficial (i.e., if they reduce the number of sensitive receptors exposed to unacceptable noise levels); (2) negligible (i.e., if the total area exposed to unacceptable noise levels is essentially unchanged); or (3) adverse (i.e., if they result in increased exposure to unacceptable levels).

4.5.1 Proposed Action

Implementation of the proposed action would have minor, temporary increases in localized noise levels in the vicinity of the project areas during demolition. The base is an active military facility that typically experiences high noise levels from daily flight operations. Use of demolition equipment for site preparation and demolition would generate noise. However, noise would be similar to typical demolition noise, last only the duration of the specific demolition activities, and could be reduced by the use of equipment sound mufflers and restricting demolition activity to normal working hours (i.e., between 7:00 a.m. and 5:00 p.m.).

Compared with aircraft noise, noise produced by demolition would be relatively lower in magnitude, and spread out during the business day. Noise from truck traffic hauling demolition waste from facilities locations would not affect base residents because the West Gate would provide demolition access. The noise disruptions would be temporary and would be limited to daytime hours; therefore, impacts are considered insignificant.

4.5.2 No-Action Alternative

Under the no-action alternative, demolition of the five facilities would not occur. Noise levels would remain the same as they are currently.

4.6 AIR QUALITY

4.6.1 Proposed Action

The air quality analysis included an assessment of direct and indirect emissions from the known activities associated with the proposed action at Langley AFB that would affect the regional air quality. Emissions from the proposed action are either “presumed to conform” (based on emissions levels that are considered insignificant in the context of overall regional emissions) or they must demonstrate conformity with approved State Implementation Plan (SIP) provisions.

Emissions for the project period were quantified to determine the potential impacts on regional air quality. These emissions were compared to federal conformity *de minimis* thresholds for O₃ precursors (VOCs and NO_x). Emissions of VOC, NO_x, CO, SO_x, and PM₁₀ from demolition activities were calculated using emission factors from the *Air Emissions Inventory Guidance Document for Mobile Sources at Air Force Installations* (USAF/IERA, 2004c) and the *California Environmental Quality Act Air Quality Handbook* (South Coast Air Quality Management District 1993), both of which are compilations of USEPA emission factors. The emission factors included contributions from engine exhaust emissions (i.e., on-site demolition equipment, material handling, and workers' travel) and fugitive dust emissions (e.g., from grading and trenching activities). Each demolition project was estimated to span a 5-day period, including demolition and material hauling, with grading and landscaping to follow. Emissions from trucks hauling excavated material from and fill material to the facility were calculated using emission factors for heavy-duty diesel vehicles from *Calculation Methods for Criteria Pollutant Air Pollutant Emission Inventories* (Jagelski and O'Brien 1994). The emissions, in tons from the proposed action are presented in Table 4-1. These emission estimates are conservatively high in that they include all of the demolition projects in the proposed action. These projects would actually be distributed over a three-year period (FY 05 – FY 07). Therefore, the annual emissions would actually be less than shown in Table 4-1.

Table 4-1. Project Emissions – Proposed Action

<i>Criteria Pollutants</i>	<i>Langley AFB Baseline Emissions (tons per year)</i>	<i>Hampton Roads AQCR (tons per year)</i>	<i>Temporary Emissions (tons)</i>
CO	768.09	257,325	2.6
VOCs	115.18	79,750	0.5
NO _x	283.38	83,560	2.9
SO ₂	6.47	110,220	0.1
PM ₁₀	10.29	49,860	0.6

Total project emissions generated on base and within the Hampton Roads AQCR are less than one percent when compared to regional emissions and are below the 100 tons per year *de minimis* federal conformity thresholds for NO_x and VOCs. Emissions generated by demolition projects are temporary in nature and would end when project is complete. The emissions from fugitive dust (PM₁₀) would be significantly less due to the implementation of control measures in accordance with standard demolition practices. For instance, frequent spraying of water on exposed soil during ground disturbance and demolition activities and prompt replacement of ground cover or pavement are standard landscaping procedures that could be used to minimize the amount of dust generated during demolition. Using efficient grading practices and avoiding long periods where engines are running at idle may reduce combustion emissions

from demolition equipment. Frequent street sweeping in the project vicinity would be implemented by Langley AFB.

No direct operational emissions are expected to occur after the proposed project is completed, as the facilities would no longer exist. One of the facilities to be demolished (Facility 1001) includes a small natural gas-fired boiler, which has not operated since prior to 1999. This boiler and any emissions that it could create would be removed along with the building. No new stationary sources or additional personnel would be added to the Base as a result of the proposed project. No changes to the Synthetic Minor Operating permit issued by VDEQ are anticipated, other than removal of the small boiler in Facility 1001 from the inventory of emission sources.

General conformity regulations set forth in 40 Code of Federal Regulations (CFR) 51 Subpart W, and adopted in the Virginia Administrative Code (9 VAC 5 Chapter 160), outline *de minimis* levels of emissions, below which it is presumed that the action conforms to the SIP. The *de minimis* levels for O₃ precursors in a maintenance area outside of an O₃ transport region (i.e., Hampton Roads AQCR) are 100 tons per year of VOCs emissions and 100 tons per year of NO_x. In addition, the proposed action's emissions (both direct and indirect) must be compared to the regional inventory to determine if the emissions are "regionally significant." Emission increases of O₃ precursors (NO_x and VOCs) are well below the threshold thus demonstrating compliance with Clean Air Act conformity requirements. In addition, the proposed action emissions are well below the regional significance threshold defined by 10 percent of the regional emissions (i.e., 836 tons per year of NO_x and 797 tons per year of VOCs).

4.6.3 No-Action Alternative

Under the No-Action Alternative, the facilities would not be demolished. There would be no environmental consequences to this resource.

4.7 SAFETY

4.7.1 Proposed Action

GROUND SAFETY

Implementation of this action would result in a short-term increase in the risks as demolition activities would take place; however, no significant adverse environmental consequences are anticipated. Standard prescribed industrial safety practices and OSHA regulations would be followed.

FLIGHT SAFETY

In order to demolish facilities #731, 732, and 735, the demolition contractor would obtain a temporary airfield operations waiver from I FW/ CEC from the requirements defined in UFC 3-260-01 *Airfield and Heliport Planning and Design Standards*. Several violations of airfield criteria

outlined in UFC 3-260-01 would occur with the presence of demolition equipment within specific safety zones established at Langley AFB. No significant adverse environmental consequences are anticipated with the demolition activities and the removal of these facilities from the airfield clear zone would be beneficial for flight safety at Langley AFB.

4.7.2 No-Action Alternative

Under the no-action alternative, no facility demolition would occur and three facilities 731, 732 and 735 would remain in the airfield clear zone in violation of UFC 3-260-1 adversely affecting flight safety.

5.0 CUMULATIVE EFFECTS AND IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

5.1 CUMULATIVE EFFECTS

This section provides (1) a definition of cumulative effects, (2) a description of past, present, and reasonably foreseeable actions relevant to cumulative effects, and (3) an evaluation of cumulative effects potentially resulting from these interactions.

5.1.1 Definition of Cumulative Effects

CEQ regulations stipulate that the cumulative effects analysis within an EA should consider the potential environmental impacts resulting from “the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions” (40 CFR 1508.7). Recent CEQ guidance in *Considering Cumulative Effects* affirms this requirement, stating that the first steps in assessing cumulative effects involve defining the scope of the other actions and their interrelationship with the proposed action. The scope must consider geographic and temporal overlaps among the proposed action and other actions. It must also evaluate the nature of interactions among these actions.

Cumulative effects are most likely to arise when a relationship or synergism exists between a proposed action and other actions expected to occur in a similar location or during a similar time period. Actions overlapping with, or in close proximity to, the proposed action would be expected to have more potential for a relationship than actions that may be geographically separated. Similarly, actions that coincide, even partially, in time would tend to offer a higher potential for cumulative effects.

To identify cumulative effects, this EA addresses three questions:

1. Does a relationship exist such that elements of the proposed action might interact with elements of past, present, or reasonably foreseeable actions?
2. If one or more of the elements of the proposed action and another action could be expected to interact, would the proposed action affect or be affected by impacts of the other action?
3. If such a relationship exists, does an assessment reveal any potentially significant impacts not identified when the proposed action is considered alone?

In this EA, an effort has been made to identify all actions that are being considered and that are in the planning phase at this time. To the extent that details regarding such actions exist and

the actions have a potential to interact with the proposed action and the no-action alternative in this EA, these actions are included in this cumulative analysis. This approach enables decisionmakers to have the most current information available so that they can evaluate the environmental consequences of the proposed action and the no-action alternative.

5.1.2 Past, Present, and Reasonably Foreseeable Actions

This EA applies a stepped approach to provide decisionmakers with not only the cumulative effects of the proposed action and the no-action alternative, but also the incremental contribution of past, present, and reasonably foreseeable actions.

PAST AND PRESENT ACTIONS RELEVANT TO THE PROPOSED ACTION AND NO-ACTION ALTERNATIVE

Langley AFB is an active military installation that undergoes continuous change in mission and in training requirements. This process of change is consistent with the U.S. defense policy that the Air Force must be ready to respond to threats to American interests throughout the world. In 1998, the Air Force implemented a force structure change that added 12 F-15C aircraft and 134 personnel to Langley AFB, increasing the total number of F-15C aircraft to 66. In 2001 Langley AFB was chosen as the beddown location of the Initial Operational Wing for 72 of the new F/A-22 aircraft. To support this beddown various projects including demolition and construction of three hangers, a new simulator building and other support buildings have been constructed or are under construction. Approximately 16 acres of the base along the flightline are under development to support the beddown.

The base, like any other major installation, also requires occasional new construction, facility improvements, and infrastructure upgrades. The base has been in operation since 1917 and many facilities have outlived their useful life and require extensive renovation or demolition. Demolition within the historic district in 2003 included of the Langley Tow Tank (720) and water tower (620). Another water tower (616) in the historic district was demolished in 2004. Langley AFB is currently upgrading portions of its water, storm water drainage system and electrical system and renovating the old Shopette (442). Also under construction or completed within 2004 is a new operations support center, housing management office, dormitory complex, reconstruction of the King Street and West Gates, and a new outdoor running track.

REASONABLY FORESEEABLE FUTURE ACTIONS

During the FY 05 to FY 08 timeframe, Langley AFB has proposed a number of actions that are independent of the proposed action and would be implemented irrespective of a decision on the demolition of these five facilities (731, 732, 735, 1001, and 1033). In order to redevelop portions of the base and to eliminate facilities that are obsolete, the base is considering demolition of various buildings within the historic district. These buildings include the Dock (610), LTA single-family housing units (868, 869, 948, 949), and buildings 615 and 633. Outside the historic

district the AAFES gas station (258) and Class VI store (272) are being considered for demolition.

Planned community support construction includes a new youth center, expansion of the hospital and construction of a new AAFES mini-mall, redevelopment of the marina, reconstruction of the LaSalle and West gates, including widening of a portion of Sweeney Boulevard. The base is also planning a series of infrastructure improvements that include an expansion to the alert area, construction of a new visitors quarters, replacement of the existing 2 MGD potable water storage tank, relocation of the government gas station, relocation of the Explosive Ordnance Disposal (EOD) training range, expansion of the Distributed Common Ground System (DCGS) facilities, and construction of a Combined Arms Training Range.

5.1.3 Analysis of Cumulative Impacts

The following analysis examines how the impacts of these other actions might be affected by the proposed action at Langley AFB and whether such a relationship would result in potentially significant impacts not identified when the proposed action and the no-action alternative are considered alone.

Demolition of the Greenhouse (Facility 1001) would result in the removal of a structure that has been determined to be a contributing resource within the National Register-eligible Langley Field Historic District. The physical structure would be removed but the history of the structure would be preserved through recordation.

This demolition is part of a potential cumulative effect within the Historic District. Construction at Langley AFB would impact the architectural and visual aspects of the Langley Historic District with the demolition of three aircraft hangers. The beddown of the Initial Operational Wing of F/A-22 aircraft has been analyzed in an Environmental Impact Statement (Air Force 2001b). The base also evaluated in a separate EAs the demolition of the Tow Tank Facility, the demolition of the Seaplane Hanger, and four houses in the Lighter-than-Air section of the base. All of these facilities are or were contributing resources to the Langley Field Historic District.

NASA's Langley Research Center (LaRC), with facilities at Langley AFB, is currently preparing an EA for the proposed demolition of two National Historic Landmarks (NHLs) that lie within the Langley Field Historic District: the 8-Foot High Speed Tunnel (Building 641), and the Full Scale Tunnel (Building 643). Demolition is also proposed for the 8-Foot Transonic Tunnel (Building 640), which is eligible for the NRHP as a contributing member of the Historic District. The 8-Foot High Speed Tunnel was a landmark in wind tunnel design when it was completed in 1936. It was deactivated in 1956, when a new 8-foot pressure tunnel was built near it. The Full Scale Tunnel was the world's first full-scale wind tunnel, completed in 1931. The tunnel is housed in a large building that comprises a major visual component of the Langley Field Historic District. The 8-Foot Transonic Tunnel was constructed in 1953 on the site of the Propeller Research Tunnel (1927), which was demolished in 1950.

Ongoing demolitions of historic buildings within the Langley Field Historic District have the potential to result in cumulative impacts to the Historic District as buildings that contribute to the NRHP eligibility of the district are progressively demolished. As was the case with the Tow Tank Facility, the flightline hangers and the Greenhouse, prior to demolition, documentation and recordation of the affected resources has been completed in compliance with Section 106 of the National Historic Preservation Act and in accordance with agreements between the Air Force, the state Historic Preservation office /VDHR and the ACHP.

All actions affect very specific, circumscribed areas, and the magnitude of the actions is minimal. Given that the proposed action and the no-action alternative would likewise have a minimal effect within the base, the combined impacts of these actions would remain well below the threshold of significance for any resource category.

5.2 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

NEPA requires that environmental analysis include identification of “. . . any irreversible and irretrievable commitments of resources which would be involved in the proposed action and no-action alternative should it be implemented.” Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and the effects that the uses of these resources have on future generations. Irreversible effects primarily result from the use or destruction of a specific resource (e.g., energy and minerals) that cannot be replaced within a reasonable time frame. Irretrievable resource commitments involve the loss in value of an affected resource that cannot be restored as a result of the action (e.g., extinction of a threatened or endangered species or the demolition of a historic building).

The proposed action would demolish five facilities on Langley AFB. Demolition of these facilities is irreversible. Demolition of all facilities would include removal of all equipment and metal components for recycling. Facility 1001 has been identified as a contributing resource to the National Register-eligible Langley Field Historic District. Although demolition of the facility is an adverse effect, this impact is being offset through the consultation efforts between Langley AFB and the Virginia Department of Historic Resources. The proposed action would require the use of fossil fuel in construction vehicles; this non renewable resources would be irretrievably lost however the effect is minor and not significant.

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Persons and Agencies Contacted

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APPENDIX A - PHOTOGRAPHS



A-1 Building #731 - Liquid Oxygen (LOX) Storage Facility



A-2 Building #732 - LOX Maintenance Facility



A-3 Building #735 - Small Gas Engine Repair Shop



A-4 Building #1001 - Greenhouse



A-5 Building #1033 - Security Police Operations

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APPENDIX B – CONSULTATION LETTERS



Science Applications International Corporation
An Employee-Owned Company

18 June 2003

Dear Sirs:

The U.S. Air Force is preparing an Environmental Assessment (EA) to evaluate potential environmental impacts associated with the demolition of facilities at Langley Air Force Base. In addition to evaluating the demolition of facilities, the EA will include an analysis of the no-action alternative.

All demolition will be located within the main portion of the base, in areas that have been previously disturbed as shown on the attached figure (Attachment 1).

Facilities to be demolished include: #80 – Steam Plant; #610 – Concrete/Wood Pier; #731 – LOX Storage Facility; #732 – LOX Storage Facility; #735 – Small Gas Engine Repair Shop; #943 – Storage Facility; #1001 – Greenhouse; and #1033 – Security Police Operations.

Pursuant to the Endangered Species Act and the National Environmental Policy Act we must consider potential impacts of the proposed action to federal and state listed threatened, endangered, candidate and proposed to be listed species that occur or may occur in the potentially affected area. We have received species information from various federal and state offices recently and would like to confirm these lists (see Attachment 2) with your office. Please provide your response to: SAIC, New Electric Service EA-Sherwood, 22 Enterprise Parkway, Suite 200, Hampton VA 23666. Until the extent of the potential impact to listed species is determined, we will make no decision regarding the need for a section 7 consultation.

Sincerely,

Science Applications International Corporation

A handwritten signature in black ink, appearing to read "David Dischner", is written over the printed name.

David Dischner
Project Manager

Attachments:

1. Project Location
2. Threatened and Endangered Species List
3. Distribution List

22 Enterprise Parkway, Suite 200, Hampton, Virginia 23666 • (757) 825-6334 • Fax: (757) 825-9104

Other SAIC Offices: Albuquerque, Colorado Springs, Dayton, Falls Church, Huntsville, Las Vegas, Los Altos, Los Angeles, McLean, Oak Ridge, Orlando, San Diego, Seattle, Tucson



COMMONWEALTH of VIRGINIA

Mark R. Warner
Governor

Department of Game and Inland Fisheries

W. Tayloe Murphy, Jr.
Secretary of Natural Resources

William L. Woodfin, Jr.
Director

July 5, 2003

David Dischner
SAIC
22 Enterprise Parkway, Suite 200
Hampton, VA 23666

RE: ESSLOG #18881, Langley Air Force Demolition Sites

Dear Mr. Dischner:

This letter is in response to your request for information related to the presence of threatened or endangered species in the vicinity of the above referenced project.

A 2 mile search radius around the project site at latitude 37,04,36 longitude 76, 21,08 was performed.

The federal species of concern, northern diamond-backed terrapin (*Malaclemys terrapin terrapin*) and state endangered canebrake rattlesnake (*Crotalus horridus*), has been documented within 2 miles of the project area. The applicant should coordinate with this Department and with the U.S. Fish and Wildlife Service to evaluate potential impacts on this species.

A block survey of an area encompassing the project site documented the following species during the breeding season: state species of concern great egret, (*Ardea alba egretta*), state species of concern Forster's tern, (*Sterna forsteri*), state species of concern least tern, (*Sterna antillarum*), state species of concern northern harrier, (*Circus cyaneus*), state species of concern glossy ibis, (*Plegadis falcinellus*), state species of concern yellow-crowned night heron, (*Nyctanassa violacea violacea*), and state species of concern Caspian tern, (*Sterna caspia*). These species may occur at the project site if appropriate habitat exists, but no coordination is necessary at this time for these particular species.

This project is located near Back River which has been designated a confirmed anadromous fish use area. The following anadromous and semi-anadromous species have been documented: American shad. The applicant should coordinate with this Department regarding potential impacts to this resource.

There is a processing charge of \$25.00 for our response. Please remit a check, made payable to TREASURER OF VIRGINIA, within 30 days to MaryBeth Murr at the address listed on the first page. Include a copy of this letter with your payment to ensure that your account is properly credited.

David Dischner
ESSLog #18881
07/05/03
Page 2

Information about fish and wildlife species was generated from our agency's computerized Fish and Wildlife Information System, which describes animals that are known or may occur in a particular geographic area. Field surveys may be necessary to determine the presence or absence of some of these species on or near the proposed area. Also, additional sensitive animal species may be present, but their presence has not been documented in our information system.

Endangered plants and insects are under the jurisdiction of the Virginia Department of Agriculture and Consumer Services, Bureau of Plant Protection. Questions concerning sensitive plant and insect species occurring at the project site should be directed to Keith Tignor at (804) 786-3515.

This letter summarizes the likelihood of the occurrence of endangered or threatened animal species at the project site. If you have additional questions in this regard, please contact me at kreay@dgif.state.va.us. Please note that this response does not address any other environmental concerns; these issues are analyzed by our Environmental Services Section, in conjunction with interagency review of applications for state and federal permits. If you have any questions in this regard, please contact Brian Moyer at (804) 367-6913.

Please note that the data used to develop this response are continually updated. Therefore, if significant changes are made to your project or if the project has not begun within 6 months of receiving this letter, then the applicant should request a new review of our data.

The Fish and Wildlife Information Service, the system of databases used to provide the information in this letter, can now be accessed via the Internet! The Service currently provides access to current and comprehensive information about all of Virginia's fish and wildlife resources, including those listed as threatened, endangered, or special concern; colonial birds; waterfowl; trout streams; and all wildlife. Users can choose a geographic location and generate a report of species known or likely to occur around that point. From our main web page, at www.dgif.state.va.us, choose the hyperlink to "Wildlife Information Online". For more information, please contact Amy Martin, Online Service Coordinator, at (804) 367-2211.

Thank you for your interest in the wildlife resources of Virginia.

Sincerely,



Karen Reay
Natural Resource Specialist, III

cc: R.T. Fernald, VDGIF



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
6669 Short Lane
Gloucester, VA 23061



July 18, 2003

Mr. David Dischner
Science Applications International Corporation
22 Enterprise Parkway, Suite 200
Hampton, Virginia 23666

Re: Project #2985

Greetings:

The U.S. Fish and Wildlife Service (Service) has received your request to review the attached project for potential impacts to federally listed or proposed endangered and threatened species and designated critical habitat in Virginia pursuant to the Endangered Species Act (ESA) of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*). Attached is a list of species with Federal status and species of concern that have been documented or may occur in the county where your project is located. This list was prepared by this office and is based on information obtained from previous surveys for rare and endangered species.

In order to ensure coordination with the State agencies, we consistently recommend that individuals contact the Virginia Department of Conservation and Recreation, Division of Natural Heritage **and** the Virginia Department of Game and Inland Fisheries, since each agency maintains a different database and has differing expertise and/or regulatory responsibility. You can contact these agencies at the following addresses:

Virginia Department of Game and Inland Fisheries
Environmental Services Section
P.O. Box 11104
Richmond, VA 23230
(804) 367-1000

Virginia Department of Conservation and Recreation
Division of Natural Heritage
217 Governor Street, 2nd Floor
Richmond, VA 23219
(804) 786-7951

Mr. David Dischner

If either of these agencies determines that your project may impact a federally listed, proposed, or candidate species OR federally designated critical habitat, please contact this office and provide a copy of the response letter from each agency and the above referenced project number; otherwise, further contact with this office is not necessary.

If you have any questions or need further assistance, please contact Ms. Jolie Harrison at (804) 693-6694, extension 208.

Sincerely,

A handwritten signature in cursive script that reads "Karen L. Mayne".

Karen L. Mayne
Supervisor
Virginia Field Office

Enclosures

KEY

LE - federally listed endangered.

LT - federally listed threatened.

PE - federally proposed endangered.

PT - federally proposed threatened.

EX - believed to be extirpated in Virginia.

LE(S/A) - federally listed endangered due to similarity of appearance to a federally listed species.

LT(S/A) - federally listed threatened due to similarity of appearance to a federally listed species.

C - candidate species; the U.S. Fish and Wildlife Service has enough information to list the species as threatened or endangered, but this action is precluded by other listing activities.

SOC - species of concern; those species that have been identified as potentially imperiled or vulnerable throughout their range or a portion of their range. These species are not protected under the Endangered Species Act.

G - global rank; the species rarity throughout its total range.

G1 - extremely rare and critically imperiled with 5 or fewer occurrences or very few remaining individuals; or because of some factor(s) making it especially vulnerable to extinction.

G2 - very rare and imperiled with 6 to 20 occurrences or few remaining individuals; or because of some factor(s) making it vulnerable to extinction.

G3 - either very rare and local throughout its range or found locally (abundantly at some of its locations) in a restricted range; or vulnerable to extinction because of other factors. Usually fewer than 100 occurrences are documented.

G_T_ - signifies the rank of a subspecies or variety. For example, a G3T1 would apply to a subspecies of a species that is very rare and local throughout its range or found locally in a restricted range (G3) but the subspecies warrants a rank of T1, critically imperiled.

G_Q - The taxon has a questionable taxonomic assignment.

CITY OF HAMPTON, VIRGINIA
Federally Listed, Proposed, and Candidate Species

<u>SCIENTIFIC NAME</u>	<u>COMMON NAME</u>	<u>STATUS</u>
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BIRDS

Charadrius melodus	Piping plover	LT
Haliaeetus leucocephalus	Bald eagle	LT

INVERTEBRATES

Cicindela dorsalis dorsalis	Northeastern beach tiger beetle	LT
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Species of Concern

VASCULAR PLANTS

Trillium pusillum var. virginianum	Virginia least trillium	G3T2
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May 29, 2001

Prepared by U.S. Fish and Wildlife Service, Virginia Field Office

Bald Eagle

Haliaeetus leucocephalus



Description - The bald eagle occurs throughout the United States. It is a large bird-of-prey with dark brown plumage, a white head and tail, and a yellow bill, feet, and eyes. Juvenile eagles generally have a dark brown body, sometimes with white patches on the tail, belly, and underwings. The head and tail become completely white when full adult plumage is reached at four to five years of age.

Life History - The majority of Virginia's eagle population is found on the coastal plain. The bald eagle breeding season begins in mid-November when large nests are built (or the previous year's nest is repaired) usually in loblolly pine trees that are in close proximity to water. Eagles lay one to three eggs between mid-January and late March. In March, most eggs hatch and by June or July most young have fledged. However, the young will continue to use the nest for several weeks. In Virginia, during the summer and winter months, juvenile and nonbreeding adult eagles congregate along large rivers in areas with abundant food and little human

disturbance. During the day, these eagles feed and perch along the river shoreline. In late afternoon, they move inland to roost either singly or communally. Roosts are typically located away from human disturbance and near water and a food source. Bald eagles feed primarily on fish, but will also eat carrion, waterfowl, small mammals, snakes, and turtles.

Conservation - The bald eagle was federally listed as an endangered species in the Chesapeake Bay Region on March 11, 1967. On July 12, 1995, the bald eagle was reclassified to threatened throughout the 48 lower states because the population had increased due to the banning persistent pesticides, habitat protection, and other recovery activities. On July 6, 1999, the bald eagle was proposed for removal from the list of endangered and threatened wildlife in the lower 48 states. This action was proposed because the available data indicated that this species has recovered. The recovery is due in part to habitat protection and management actions initiated under the Endangered Species Act. It is also due to reduction in levels of persistent pesticides occurring in the environment. If and when the eagle is no longer protected by the Endangered Species Act, it will still be protected by the Bald and Golden Eagle Protection Act, Migratory Bird Treaty Act, and state laws. Until the eagle is officially delisted, it will continue to receive protection pursuant to the Endangered Species Act. Bald eagles in the Chesapeake Bay are increasing. However, habitat destruction through urban and residential development and human disturbance in nesting, roosting, and

foraging habitats continue to be a threat.

What You Can Do To Help - If you know of a bald eagle nest on or near property proposed for clearing, development, or logging please contact one of the following agencies for assistance:

Virginia Department of Game and Inland Fisheries
P.O. Box 11104
Richmond, Virginia 23230
(804) 367-1000

U. S. Fish and Wildlife Service
6669 Short Lane
Gloucester, Virginia 23061
(804) 693-6694

References

U.S. Fish and Wildlife Service.
1990. Chesapeake Bay Region bald eagle recovery plan: first revision. Newton Corner, Massachusetts.

U.S. Fish and Wildlife Service.
1999. Proposed rule to remove the bald eagle in the lower 48 states from the list of endangered and threatened wildlife. Federal Register 64(128): 36453-36464.

Watts, B.D., K.W. Cline, and M.A. Byrd. 1994. The bald eagle in Virginia: An information booklet for land planners. The Center for Conservation Biology, College of William and Mary, Williamsburg, Virginia.



U.S. Fish and Wildlife Service
Virginia Field Office
6669 Short Lane
Gloucester, Virginia 23061
(804) 693-6694
<http://www.fws.gov>
August 1999

Piping Plover

Charadrius melodus



© J. Zickefoose

Description - Piping plovers occur in three disjunct populations in North America: Northern Great Plains, Great Lakes, and Atlantic Coast. The piping plover is a 5 ½ inch long pale grayish-brown shorebird with a white breast. During the breeding season, it has a black breast band which is sometimes incomplete and a black bar between its eyes. The bill is dull orange with a black tip and the legs and feet are orange.

Life History - The piping plover nesting season is from late April to late July with one brood raised per year. If there is a disturbance or the nest is lost, the birds may renest. Plovers nest on beaches, dunes, and washover areas. They also nest on areas where suitable dredged material is deposited. The nest is a shallow scrape in the sand dug by the adults and is usually lined with broken seashells and small pebbles. The female usually lays four eggs. The chicks are mobile and able to feed themselves within hours of hatching. Piping plovers feed on small invertebrates in intertidal surf

zones, mud flats, tidal pool edges, barrier flats, and sand flats and along the ocean and barrier bays. Plovers migrate to breeding grounds from February through early April, and to wintering grounds from late July through September.

Conservation - The piping plover was federally listed as a threatened species along the Atlantic Coast on January 10, 1986. In the Northern Great Plains, it is federally listed threatened and in the Great Lakes, endangered. Destruction and degradation of habitat and disturbance during the nesting season by humans and pets are threats to this species. Piping plovers are extremely sensitive to disturbance during the nesting season. Predation by red foxes, skunks, raccoons, feral cats, herring gulls, fish crows, grackles, and ghost crabs is an additional threat to the eggs and young.

What You Can Do To Help -

Respect all signed or fenced shorebird nesting areas; stay as far away from these areas as possible. The birds and their eggs blend in with the sand and are difficult to see. Young birds are particularly vulnerable before they can fly and can be killed by vehicles or trapped in vehicle tracks. Watch for signs of adult birds calling, displaying a feigned broken wing, or flying or running ahead of you. Keep pets leashed or indoors during the nesting season; both dogs and cats are known to prey on eggs and chicks. Take care not to discard trash or food scraps on beaches used by nesting birds, as they attract predators that may prey on eggs and/or chicks.

To find out more about the piping plover contact:

Virginia Department of Game and Inland Fisheries
P.O. Box 11104
Richmond, Virginia 23230
(804) 367-1000

References

Cross, R.C. 1991. Piping plover. Pages 501-502 in K. Terwilliger, ed. Virginia's Endangered Species, Proceedings of a Symposium. McDonald and Woodward Publishing Company, Blacksburg, Virginia.

U.S. Fish and Wildlife Service. 1985. Endangered and Threatened Wildlife and Plants: Determination of endangered and threatened status for the piping plover; final rule. Federal Register 50(238):50726-59734.

U.S. Fish and Wildlife Service, Region 5. 1994. You can help protect the piping plover. Newton Corner, Massachusetts.

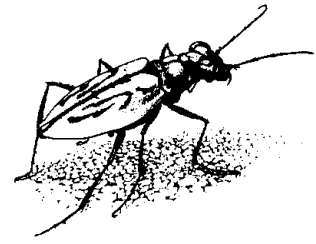
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U.S. Fish and Wildlife Service
Virginia Field Office
6669 Short Lane
Gloucester, Virginia 23061
(804) 693-6694
<http://www.fws.gov>
August 1999

Northeastern Beach Tiger Beetle

Cicindela dorsalis dorsalis



© K. Brown-Wing

Description - Historically, the northeastern beach tiger beetle was common on coastal beaches from Massachusetts to central New Jersey, and along the Chesapeake Bay in Maryland and Virginia. Currently, the only populations known to exist along the Atlantic Coast are in New Jersey and southeastern Massachusetts. The majority of populations occur in the Chesapeake Bay. This insect measures 0.5 inches in length. It has white to light tan wing covers, often with several fine grayish-green lines, and a bronze-green head and body.

Life History - Adult and larval tiger beetles are found on long, wide, dynamic beaches that have little human and vehicular activity, fine sand-particle size, and a high degree of exposure to tidal action. Adult beetles are present from June through August and are active on warm, sunny days where they can be seen feeding, mating, or basking along the water's edge. Adults are

active predators that forage on small invertebrates or scavenge on dead fish, crabs, and amphipods. Larvae are sedentary predators that live in well-formed burrows from which they extend to capture passing prey. During the summer, adult tiger beetles lay eggs on the beach. After hatching, the larvae pass through three developmental stages and emerge from their burrows as adults two years following egg-laying.

Conservation - The northeastern beach tiger beetle was federally listed as a threatened species on August 7, 1990. Few northeastern beach tiger beetle sites are protected and many are threatened by human activities. Loss of this beetle from most of its range has been attributed primarily to destruction and disturbance of natural beach habitat from shoreline development, beach stabilization, and high levels of recreational use. Additional threats include pollution, pesticides, oil slicks, and off-road vehicle traffic. Natural limiting factors include winter storms, beach erosion, flood tides, hurricanes, parasites, and predators. Recovery for the tiger beetle depends to a large extent on re-establishing the subspecies across its former range along the Atlantic Coast and protecting it within the Chesapeake Bay.

What You Can Do To Help - If you plan to stabilize a tidal beach along the Chesapeake Bay or its tributaries, please contact the U.S. Fish and Wildlife Service.

Such activity may require a federal permit, for more information contact:

U.S. Army Corps of Engineers
Norfolk District
803 Front Street
Norfolk, Virginia 23510-1096
(757) 441-7652

References

Knisley, C.B. 1991. Northeastern beach tiger beetle. Pages 233-234 in K. Terwilliger, ed. Virginia's Endangered Species, Proceedings of a Symposium. McDonald and Woodward Publishing Company, Blacksburg, Virginia.

Knisley, C.B., J.I. Luebke, and D.R. Beatty. 1987. Natural history and population decline of the coastal tiger beetle, *Cicindela dorsalis dorsalis* Say (Coleoptera: Cicindelidae). Virginia Journal of Science 38: 293-303.

U.S. Fish and Wildlife Service. 1994. Northeastern beach tiger beetle (*Cicindela dorsalis dorsalis* Say) recovery plan. Hadley, Massachusetts.



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Gloucester, Virginia 23061
(804) 693-6694
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August 1999

1 CES/CC
37 Sweeney Boulevard
Langley AFB VA 23665

Ms. Susan Smead
Architectural Historian/Preservation Program Coordinator
Virginia Department of Historic Resources (VDHR)
2801 Kensington Avenue
Richmond VA 23221

RE: F. 1001, Abandoned Greenhouse – Proposed Demolition

Dear Ms. Smead

The Department of Defense, US Air Force, proposes the demolition of F. 1001, a vacant greenhouse located in the Lighter-than-Air area of Langley Air Force Base in Hampton, Virginia. This project is being brought to VDHR's attention as a Federal undertaking subject to compliance with Section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended. We wish to formally initiate consultation, as well as seek your concurrence and signature on the enclosed Memorandum of Agreement. Furthermore, since we have found that the adverse effects are unavoidable, the Air Force is concurrently notifying the Advisory Council on Historic Preservation and providing them with an opportunity to comment.

Historic Properties

The resource scheduled for demolition consists of a single structure known as F. 1001. The building, an abandoned greenhouse, has been identified as a contributing element to the Langley Field Historic District.

The historic district itself was identified as eligible for listing in the National Register of Historic Places in 1997 under Criterion A for its association with significant events and trends in military history, and under Criterion C, as an entity illustrating the evolution of construction within the Army Air Corps between 1916 and 1945. Concurrence on the National Register eligibility of the resource was received from your office in 1997. Formal listing of the Langley Field Historic District in the National Register of Historic Places will be sought within the next 18 months. Draft nomination materials, prepared by the National Park Service in June 1995, are currently on file with VDHR.

The structure affected by this undertaking was constructed in 1934, as part of the development of the Lighter-than-Air area of the installation. Completely abandoned since 2001, Facility 1001 is in poor condition, with many deteriorated and missing elements and drainage problems effecting structural conditions. The original glass for the facility, long since removed, was replaced with corrugated fiberglass panels sometime in the 1980s. No practicable adaptive reuse for this facility exists. Historic and modern-day photos of F. 1001 are attached.

Other contributing structures found in the vicinity of F. 1001 include F. 1004, a Generator Gas Plant constructed in 1917, F. 1007 a Compressor Gas building also constructed in 1917, and F. 1018 a building whose original purpose is unknown, which was constructed in 1940. 1004 and 1007 are among the oldest remaining structures on Langley AFB.

Project Justification

The physical condition, safety concerns and lack of practicable alternatives for reuse associated with the existing facility necessitate its disposal. In addition, the demolition of the facility is associated with a plan to redevelop this underutilized area of the installation. The plan, the 1st Communications Squadron Area Development Plan (attached), puts in place a plan to maintain F. 1004 and 1007. Contingent on Air Force determination that the proposal is both economically prudent, and that a plan for adaptive reuse will satisfy mission requirements, the currently abandoned 1004 and 1007 will be stabilized and rehabilitated for adaptive reuse as unconditioned storage facilities and administrative facilities, respectively.

Project Effects

The removal and replacement of this structure located within the National Register-eligible Langley Field Historic District has been assessed as an adverse effect for the purposes of Section 106 of the National Historic Preservation Act of 1966, as amended. Langley Air Force Base proposes recordation of the structure to mitigate the effects of the demolition upon the District.

A draft Memorandum of Agreement specifying these conditions is enclosed for your consideration and signature if deemed appropriate. After your agency reviews and/or signs the original copy, please return it and any comments you may have to my office at the address that heads this letter. The Virginia Department of Historic Resources and the Air Combat Command Historian's Office are proposed as final repositories of the resulting documentation, which will be forwarded as a complete package after we receive the signed MOA.

Thank you in advance for your consideration. Should you have any questions regarding this project, please feel free to contact either Ms. Laura Baie at (757) 764-1391, laura.baie@langley.af.mil or Suzanne Allan, Base Cultural Resources Manager, at (757) 764-2696, suzanne.allan@langley.af.mil.

MR. BRUCE W. MACDONALD, GM-14
Deputy Base Civil Engineer

3 Attachments:

1. Proposed Memorandum of Agreement
2. Photos—Facility 1001
3. 1 CS Area Development Site Plan

1 CES/CECP
37 Sweeney Boulevard
Langley AFB VA 23665

Ms. Margaret Peters
Virginia Department of Historic Resources (VDHR)
2801 Kensington Ave
Richmond VA 23221

RE: Facility 1001 Demolition
VDHR Project No. 2003-1045

Dear Ms. Peters

The enclosed materials (Atch 1) are being resubmitted as part of the condition for an Adverse Effect resulting from the demolition of Facility 1001, a contributing structure located within the Langley Field Historic District at Langley AFB, as addressed in a Memorandum of Agreement (MOA) with your organization signed 2 Mar 04. Langley AFB originally submitted the materials in Jul 04 (Atch 2). In a 3 Aug letter from your organization, additional questions were asked regarding the history of the greenhouse. This letter is intended to address those questions.

As noted in the first comment on the 3 Aug 04 letter, it is true that on the Data Sharing System form, we incorrectly noted that the building is open to the public. While this may have been partially true (at least for base personnel or persons on guided tours of the base), this is no longer the case after Hurricane Isabel. The building was in fact heavily damaged during the hurricane, and entry into the greenhouse would be hazardous for visitors.

An additional description of the greenhouse is included here, as requested. While additional original drawings showing the components of the greenhouse are unavailable, CECP personnel visited the greenhouse with both an architect and arborist, who helped to identify some of the features of the building. The building was indeed constructed with a ridge vent that could be opened and closed. The base architect has provided a rough sketch showing how the vent operated on the top of the building. It appears that there were two methods to open the ridge vent in both parts of the greenhouse. In the larger main greenhouse (see additional description below), there appears to have been a crank system for opening the ridge vent, which is no longer operational. The system, which consisted of a total of four gears operated by a hand crank, opened the ridge vent in the main greenhouse. The crank, if not the entire greenhouse, appears to have been designed by The Metropolitan Greenhouse Manufacturing Corp, Brooklyn NY, which in a quick internet search, appears to be defunct. The crank is visible in Photo 2. The smaller room in the greenhouse, believed to have been a "head house" by our arborist, appeared to have a simpler operation for opening the ridge vent. The only remnants of any type of system in this

smaller room is a pulley and chain system hanging from the roof of the greenhouse. It appears that pulling the chains operates a pulley, which opens the ridge vent. The system does not appear operational, and attempting operation in this area of the greenhouse, where there appeared to be some roof failure, seemed unwise. The chains are visible in Photo 1. The greenhouse indeed has a smoke stack on the back end of the building, which apparently served a radiant heating system on the walls of the greenhouse (visible in Photo 2). The original stove system is obviously missing from the greenhouse, and has been replaced by a modern boiler which is approximately 5' x 5' in size situated on the 8' x 10' concrete pad visible in the original floor plan. One can assume that the original boiler was also located in this vicinity.

As seen in the attached historic photograph, the original cladding of the building likely consisted of glass panes. The translucent fiberglass panel on the sides of the building, as well as the fiberglass roof, were a much later addition. Other than the ridge vent, the only remnants of another type of ventilation system is the electric fan unit on both ends of the building, which would have likely allowed for natural cross ventilation. According to the Langley AFB architect, the metal trusses visible in the photographs simply support the roof, and are not the remains of any type of ventilation or sprinkler system. The installation arborist speculates that there likely was a sprinkler system of some kind in the "head house" portion of the building, but never in the main greenhouse, where plants would have been watered by hand. He believes that the white poles in the main greenhouse, shown in Photo 2, were actually the remains of a Bench Planting System. The poles would have held an additional layer of planting boxes, with sun-loving plants planted on the top layer, and shade loving plants planted on the lower level.

Three approximately 50' long x 7' wide x 2' high concrete planters, two raised 25' x 5' wood planters approximately 4' in height, and another 25' x 5' x 3' high planters are located in the main greenhouse (see attached sketch of greenhouse floor plan). In the "hot house" portion of the greenhouse, there are two 20' x 8' x 4' high concrete planter beds, two 20' x 5' x 4' wood planters on the walls, and in the front of the room, a sink, plant washing area, and two approximately 4' high work tables.

As mentioned above, the partition wall separating the two areas of the greenhouse appear to divide what Langley's arborist referred to as a "head house" from the main greenhouse. It is a possibility that this separate room (which appears to be original to the building) was used to keep warmer climate plants in a warmer environment than the rest of the greenhouse. For example, this area of the greenhouse might have been used to ripen fruits. It was obviously also used for the main personnel working area, as work tables, a sink, and what appears to be a plant washing area of some kind, are located here. This area may also have had a sprinkler system of some kind, whereas the larger of the two rooms appears to be more rudimentary in set up. The larger of the two rooms, referred to as the main greenhouse, may have been used for less sensitive plants. This larger area has longer and shorter concrete planting beds. The installation arborist believes that in this area of the greenhouse plants were planted by seed, and then transplanted into pots. Numerous pots are still located around the sides of the greenhouse under the wood planting beds. As mentioned above, this area most likely had a bench system of planting, with shade and sun-loving plants planted in tiers. The larger of the two rooms includes the boiler mentioned above. A site plan illustrating the interior features is attached.

Also attached is a site plan showing the greenhouse in context with its immediate surroundings. The greenhouse is surrounded by an approximately 100' x 134' fenced yard. The fence is approximately 7' in height and is obviously a more modern addition. To the south west of the greenhouse are two 75' x 5' x 2' high concrete planting beds. The beds include mainly weeds, but some obviously intentionally planted specimens still exist. Natural plants growing in the yard include dog fennel and various other weeds, mulberry, wild cherry, wild roses, and various invasive species such as honeysuckle. However, remaining along the fence line are grape vines, and located in the planting beds is a mature passion fruit vine. There are no remaining hard-scaped walkways, and the only other features remaining in the yard are concrete barriers and miscellaneous construction materials that have been dumped in the yard. The site plan shows the greenhouse's relationship to surrounding buildings in this industrial area of the Lighter-than-Air area of the installation. Also included are several aerial photos showing surrounding buildings in the area from various dates of history.

To clarify, Langley Air Force Base has determined that the Langley Field Historic District is "determined to be eligible" for listing in the National Register of Historic Places. A draft copy of the nomination is being reviewed at the HQ level and said draft will be provided to the Virginia SHPO in the very near future.

The Lighter-than-Air area was first developed in the late 1910s, and served as the location of the Army's Airship School. A small area on the northern boundary of the historic district was the historic location of lighter-than-air operations. The Lighter-than-Air area first developed almost as an entire separate entity from the main base (now the Heavier-than-Air area), with separate housing, a club facility, and industrial operations. By the late 1930s, most LTA activities had been curtailed, and at that time a large number of brick duplexes were constructed to house enlisted men. They are located on arc-shaped streets north and south of Clarke Avenue, the main route through the LTA Area. Additional housing has been constructed since the 1960s. There are also a number of contemporary recreational facilities located in the LTA Area (swimming pools, tennis court, ball fields, etc.).

The only remaining buildings associated with original LTA operations are also two of Langley's oldest buildings, the hydrogen plant (No. 1004) and the compressor plant (No. 1007), constructed in 1919 (Photo No. 35), both seen on the attached site plan. They are now surrounded by later historic and non-historic development. A huge airship/balloon hangar (420 feet long by 125 feet wide by 116 feet high) was located here from 1919 until 1947, when it was dismantled. Substantial development of the LTA Area first occurred in the early 1920s. Construction associated with LTA activities included: a helium plant (1922, demolished), two houses for noncommissioned officers (1920-1921, No. 948 and No. 949, SHPO consultation pending), bachelor NCO quarters (demolished), 14 "temporary" NCO houses (demolished), six houses for officers of the Airship School (1922-1923, No. 868 and No. 869, also with a SHPO consultation pending [Photo No. 321], four others demolished), and bachelor officers' quarters (Mabry Hall, demolished). The 19th century Lamington Plantation (demolished) was also located in the LTA Area. It housed most Langley Field commanders until the 1930s.

Historic construction in the LTA Area is now concentrated in two adjacent sections of housing for enlisted men and their families, located north and south of Clarke Avenue. All of

these buildings were built in the 1930s and are variations of two different house types. One type has Spanish Colonial Revival features; the second type is Classical Revival in style. All housing in these sections are constructed of brick and are identical in scale and height. In 1931, 29 duplexes were constructed on the arc-shaped tier of streets facing the landing field, south of Clarke Avenue (Photo No. 33). Nine more were built in 1932. Three different variations of the two-story house type with Spanish Colonial Revival features were utilized for this group of buildings. Although very similar, some houses have gabled roofs (i.e., No. 805), some have hipped roofs with a single hipped roof end pavilion (i.e., No. 809), and a number have hipped roofs with hipped roof pavilions on both end sections (i.e., No. 804). The NCO Club was completed in 1932 (No. 926, Photo No. 31) on the waterfront, just east of this residential section. Large new additions have been added to almost all of the building's original facades, including enclosure or removal of the porch on the waterfront side. The original interior appears to have been gutted. As a result, this building has lost its historic integrity. It is the only historic building in the Langley Field Historic District's LTA Area designated as a noncontributing resource. On the north side of Clarke Avenue is a horseshoe-shaped tier of streets with another group of similar duplexes. In 1932, eight of a new house type in the Classical Revival style and a large barracks for enlisted men (No. 801) were completed. Fifteen more of the Classical Revival houses were finished in 1934. Twenty-one brick garages were built in 1933-1934, and two stucco garages in 1940 (No. 858 and No. 870), completing the historic residential construction in the LTA Area.

The overall character of the LTA housing area is that of a neighborhood. Only one small area is industrial in nature, where the greenhouse is located, and where the old hydrogen plant still stands. In the neighborhood area, front and side yards are uniform in size, and rear service roads paralleling the main streets provide access to the garages. Many shade trees planted in the street right-of-way have matured. However, a number of the mature shade trees in the LTA Area were toppled as a result of the devastation of 2003's Hurricane Isabel. As a result, the appearance of the district has dramatically changed as recently as that storm. There is a system of sidewalks and streetlights (historic and reproductions), as also found in the HTA Area. The interior and exterior integrity and condition of these buildings are good, except for some incompatible replacement windows, which are systematically being replaced with historically compatible units. Damage to some LTA structures sustained as a result of Hurricane Isabel are being repaired in-kind. The only notable alterations, other than windows, are pitched replacement roofs on the 21 garages that formerly had flat roofs, and small, architecturally compatible additions on the rear of some units that were installed as part of the whole-house renovations.

The industrial area of the Lighter-than-Air area includes a number of more modern structures, including storage yards, and undeveloped real estate used to house contractor trailers and equipment. The hydrogen plant and compressor plant are still located in this area, as are one operating and one abandoned firing range, and a few more modern brick structures used for administrative uses. The area is mostly paved, other than the area immediately surrounding the greenhouse, and there are few plantings, other than a stand of trees that buffers the industrial area from the adjacent housing.

At the request of the Virginia SHPO, when Langley AFB sought additional information on the greenhouse, the installation found that, contrary to information provided in our original

documentation, that the greenhouse was not actually originally constructed in the current location in 1934, the date mentioned in the installation real estate records. An older greenhouse was apparently constructed in the Heavier-than-Air area behind what was then the Base Theater. To the best of our understanding, the original greenhouse was used for base beautification. Based on historic photos of the landscape, it appeared these initial efforts were only somewhat successful. Landscaping would have been typical improvements associated with the City Beautiful movement. Other characteristics of development influenced by the City Beautiful movement included park-like open space areas, rambling sidewalks, and tree lined streets, all found in Langley's earliest developed areas in abundance.

The original greenhouse location in the HTA area actually makes more sense when considering the phase of growth that occurred during the 1930's as a result of the passage of the federal programs mentioned in Langley's original Statement of Significance. The passage of federal programs like the Air Corps Act of 1926, the Army Housing Program of 1926, the Emergency Relief and Construction Act of 1932, and the 1933 National Industrial Recovery Act's Public Works Administration made it easier to obtain funding for the new construction in both the HTA and LTA areas. As permanent facilities were constructed it would have become obvious that if Kahn's installation layout was to be true to the concepts of the City Beautiful movement, that extensive landscaping would be required. George B. Ford, a nationally known architect who served as City Planning Advisor to the War Department would have likely ensured that City Beautiful planning principles were used in the development of the Army Housing Program, and his influence might have required the construction of a greenhouse. No records about this original greenhouse exist beyond the original real estate records, which are attached.

Only one reference to the relocation of the greenhouse to the LTA area has been found. A 17 Apr 1953 article in the Langley Flyer titled Greenhouse to Move wrote,

"The base greenhouse, where many of the lovely flowers and plants that are used to beautify the base, and also provide the floral decorations for the various clubs and chapels, is being moved to a new location. The greenhouse, at present, is located behind the base theater, but NACA (the National Advisory Committee on Aeronautics, now NASA) needs the space for additional parking during the reconstruction of the 14' wind tunnel, and has built a new greenhouse for the base in the LTA area near the base firing range. The new greenhouse should be ready for occupancy within the next 3 months."

While intensive speculation has occurred about whether the original greenhouse was moved to the LTA, or whether an entirely new greenhouse was constructed, the only reference to an answer is found in the article where it mentions the construction of a "new greenhouse". The dimensions and appearance of the existing LTA greenhouse and the photo and real estate records of the HTA greenhouse appear very similar, as though the original design for the HTA greenhouse was later replicated with a few upgrades for the second greenhouse. Oddly, no new real estate record for a new greenhouse constructed in 1953 was ever filed, and the new greenhouse retained the original facility number of the original building, thus causing the confusion about its history, and the initial speculation that the greenhouse may have been moved. However, the installation's best guess is that the current greenhouse was constructed in 1953, and that the original greenhouse was demolished at that time.

Only two other references to the original greenhouse have been found. A short reference in the base history in 1947 referred to "the Grounds Maintenance Section continuing routine work at the greenhouse nursery..." The mention bolsters notes made by the HQ TAC (Tactical Air Command) History Office in 1961 concerning the traffic circle at Dodd and Hammond. In 1959 this circle was named after Fred St. John, a civilian landscaper from 1946 until 1947 until his death in 1959. Mr. St. John was hired by the TAC Commander Lt General Quesada to clean up the base after the war. A 1948 base history notes that "12,000 plants have been set out on the Base to date by greenhouse and nursery employees." All of these references reinforce the idea that the original purpose of the greenhouse was indeed to beautify the installation starting in the 1930s.

The greenhouse most likely continued in its purpose until relatively recent history. The Operations Flight of the Civil Engineer Squadron continued to do landscaping in house until the late 1990s. The installation also housed a tree planting farm which still exists on base, but is not currently maintained. In the early 2000s, the greenhouse was used for storage and/or was open for use by LTA residents (there is also an outdoor garden area elsewhere on base available for the same purpose) and the building was apparently completely abandoned by 1 CES and closed in 2001. The installation currently hires contractors for all base landscaping.

The text above answers some of the other questions in the 3 Aug 04 letter. The greenhouse was apparently not the first, but was the second greenhouse constructed at Langley. It originally was constructed in the Heavier-than-Air area, but was relocated when NACA required the space occupied by the original greenhouse. The greenhouse was used to grow a variety of plants, from shrubs, flowers, and other plants used to landscape the HTA and LTA areas. It was obviously also used for the planting of some fruits, and perhaps vegetables, due to the remnants of these plants on the grounds. The building was apparently never used for any type of research, and never had a commercial use beyond producing plants for the installation itself. The greenhouse was apparently used only by installation landscaping personnel, other than when it was used for a short time by housing residents.

The design of the greenhouse indeed appears typical for greenhouses at the time, while of course it is considerably larger than the privately owned greenhouse found in an individual's backyard. The building does not appear to exhibit any exceptional technological innovation in construction or use.

No other greenhouses of the same age and construction type appear to exist on other military installations in Virginia, or within the Air Force on installations similar to the age of Langley (Lackland, Wright Patterson, March, Randolph). According to installation Cultural Resources Managers, references to a greenhouse exists at Andrews AFB, several greenhouses existed at the old Wright and Patterson AFBs, and at least one greenhouse existed in the 1930s at Randolph AFB, but there are no photos or real estate records for greenhouses at any of these installations. All of the greenhouses have since been demolished, most after World War II. Because greenhouses were known to have existed at these locations, it is highly likely that similar greenhouse operations would have occurred at other installations influenced by the City Beautiful movement in their design, particularly at bases like Wright Patterson AFB, which exhibits many of the same characteristics of Langley, and Randolph AFB in Texas. Because

there are no drawings or photos of these greenhouses available, there is no way to determine if Langley's greenhouse was typical in design for a military greenhouse, but because the greenhouses were apparently similar in age and function, one can assume that they were likely similar in design.

The requested changes to the floor plan and photographs have been made.

The additional research resulting from your letter has resulted in the submittal of additional recordation materials, including the site plan drawings. In addition, the previously submitted Statement of Significance has been updated to reflect the information discovered during the research process. A digital copy of the SOS is included on disk as part of this package. Because Langley had already submitted the record for the demolition in the Data Sharing System, the new Description and SOS will have to be added into the old record, which will require extensive editing. If Mr. Hubbard can make the changes using the information on the disk provided internally within the DSS program, please do so. Otherwise, please provide Langley AFB guidance regarding how to make changes to DSS entries that have already been submitted. Copies of all updated materials have also been submitted for curation at the Air Combat Command Historian's Office and will continue to be retained at 1 CES.

Questions regarding the completion of terms for the MOA for this Adverse Effect action should be addressed to myself at (757) 764-1486. If we receive no comments from your office 30 days from confirmed receipt of completed materials, we will assume your office approves of the documentation and will proceed with the demolition of the greenhouse.



LAURA BAIE, GS-11
Cultural Resources Program Manager

28 Sep 04

2 Attachments:

1. Recordation Materials
2. 3 Aug 04 SHPO Letter



COMMONWEALTH of VIRGINIA

Department of Historic Resources

W. Tayloe Murphy, Jr.
Secretary of Natural Resources

2801 Kensington Avenue, Richmond, Virginia 23221

Kathleen S. Kilpatrick
Director

Tel: (804) 367-2323
Fax: (804) 367-2391
TDD: (804) 367-2386
www.dhr.state.va.us

3 August 2004

Laura Baie, Community Planner
1 CES/CECP
37 Sweeney Blvd.
Langley AFB, VA 23665

Re: Facility 1001 Demolition (DHR identification no. 114-0165-0354)
Mitigation Documentation
Langley Air Force Base, Hampton, VA
VDHR project no. 2003-1045

Dear Ms. Baie,

Thank you for providing the Department of Historic Resources (DHR) with the opportunity to review and comment on the documentation prepared on Facility 1001, the Langley Air Force Base greenhouse, which is located within, and contributes to the Langley Field Historic District, which is eligible for listing in the National Register of Historic Places. This documentation was prepared and reviewed according to the *Memorandum of Agreement Between Langley Air Force Base and the Virginia Department of Historic Resources Regarding F. 1001*, executed on 2 March 2004. DHR's comments are as follows:

Description

On the Data Sharing System (DSS) form, it is noted that the building is open to the public. Is this the case, or is this an error?

Please elaborate further in the description of the building, by addressing other components such as the concrete block half walls and wood frame awning windows. Several of the photographs also seem to show that the building may have been designed with a ridge vent that could be opened and closed. If this is the case, please describe this and provide a description of how it works. Also, a smoke stack is shown on one gable end of the building – was a stove used to heat the greenhouse, or did this stack serve another purpose?

The type of roofing material as well as the glass or screens in the windows should be discussed. It appears that some of the cladding consists of corrugated panels – is this fiberglass, and is it a later application, post-dating the construction of the building?

On the interior, the photographs show components of a ventilation system and perhaps a sprinkler system. Please describe these. Also, please provide the size (height, width and length) of the raised concrete

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Winchester Region Office
107 N. Kent Street, Suite 203
Winchester, VA 22601
Tel: (540) 722-3427
Fax: (540) 722-7535

planters and the wood plant boxes on the exterior walls, in exact measurements if available, but at least in approximate measurements.

Please provide further information about the partition wall between the two interior spaces. What is it made of? Does it appear to be later than the initial date of construction? Is there a difference in physical environment between the two rooms? What might have been the purpose of dividing the space?

Please provide a site plan to illustrate the features mentioned that are exterior to the building, including the planting beds and fence, and show the building's relationship to other nearby buildings and structures (this may be done by including a map which shows the latter features, and providing a sketch plan of the site showing associated exterior features). Please describe the planting beds and give dimensions (at least approximate measurements), and note any other features such as hardscaped walkways, surviving plants, etc.

Significance

Please clarify the determination of eligibility for the Langley Field Historic District – typically language is that a historic district is “determined to be eligible” for listing in the National Register of Historic Places.

Please include a definition of the “Lighter-than-Air” portion of the district, and relate to the Heavier than Air area, so that this documentation information can be reviewed and understood apart from background information provided in the draft National Register nomination for the historic district.

While the discussion of the history of buildings 1004 and 1007 is interesting, it is unclear how it relates to the greenhouse. Was construction of the greenhouse indicative of a change in use patterns for this portion of the base? Also, please provide further explanation about why the passage of the federal programs you mention led to new construction on the base and address specifically why a greenhouse was built.

Are the “gardener-occupants” of the LTA housing you refer to gardeners by trade? Did they work in the greenhouse? Or was the greenhouse built for those base residents who wanted to garden on their own time?

Please also address the following questions: Was this the only greenhouse ever constructed at Langley? How long was it used as a greenhouse? Why was it built where it was, as opposed to being constructed elsewhere at Langley? What was grown here - vegetables, flowers, herbs? Was it used for growing vegetables for on-base consumption only? Was it a research facility? Was it commercial in any way? Was it a space anyone had access to or was it restricted to certain people only?

Please put the building technology evident in the greenhouse structure within context – it appears to be typical for greenhouses of the period; please confirm this. Or, while it does not appear to be the case from the photos, does this building exhibit some technological innovation in greenhouse construction and /or use?

Please also look beyond the boundaries of Langley Field Historic District and the Air Force Base, and consider whether greenhouses were built on other military installations in Virginia, and at other Air Force installations elsewhere in the United States. If there are other examples to compare it to, is the building at Langley typical?

Facility 1001 Demolition (DHR identification no. 114-0165-0354)
Mitigation Documentation
Langley Air Force Base, Hampton, VA
VDHR project no. 2003-1045

Accompanying documentation:

Floor plan - Please add a north arrow. Also, please provide on this plan, or on a sketch floor plan, the location of the interior partition wall, the wooden plant shelves, and the concrete planting beds.

Photographs - Please add the negative number, name of the property, name of county/city, and VDHR identification number. They should also be submitted in PrintFile brand plastic sleeves. Finally, if you do not wish to retain the negatives, please send those along, labeled and placed in PrintFile brand sleeves, for storage at DHR.

Thank you again for providing documentation on this property, and thanks in advance for addressing the remaining issues. If you have questions about preparing the photographs and negatives, please contact DHR's archivist, Quatro Hubbard, at Quatro.Hubbard@dhr.virginia.gov, or at 804-367-2323, ext. 124. If you have questions about DHR's other comments please contact me by e-mail at Susan.Smead@dhr.virginia.gov, or at (804) 367-2323 ext. 110, or

Sincerely,



Susan E. Smead
Architectural Historian/Historian and Preservationist III



COMMONWEALTH of VIRGINIA

Department of Historic Resources

W. Tayloe Murphy, Jr.
Secretary of Natural Resources

2801 Kensington Avenue, Richmond, Virginia 23221

Kathleen S. Kilpatrick
Director

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November 15, 2004

Ms. Laura Baie
Cultural Resources Program Manager
Department of the Air Force
Langley Air Force Base
1 CES/CECP
37 Sweeny Boulevard
Langley AFB, VA 23665

Re: Facility 1001 Demolition
DHR file no. 2003-1045

Dear Ms. Baie:

We have received the additional documentation materials for Facility 1001 (Greenhouse) that you submitted in response to a letter from our office dated August 3, 2004. Thank you for taking our comments into consideration and revising the materials as requested. As revised, the intensive level documentation of this structure provides a thorough description of the resource and its surroundings and does a very good job explaining the historic context of the greenhouse. We accept the submitted documentation as satisfying Stipulation A in the *Memorandum of Agreement Between Langley Air Force Base and the Virginia Department of Historic Resources* and the documentation has been sent to our Archives.

Since you provided a disk containing the revised significance statement, we can update the DSS record for this property. In the future, if you have any questions about the DSS system, please contact Quatro Hubbard in our Archives for assistance. DSS records can be moved into a user's "cdit" box if changes to the submitted form are necessary.

Thank you for providing us with an opportunity to review these materials.

Sincerely,

A handwritten signature in dark ink, appearing to read "Kristin Hill".

Kristin Hill, Architectural Historian
Office of Review and Compliance

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COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

W. Tayloe Murphy, Jr.
Secretary of Natural Resources

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Robert G. Burnley
Director

(804) 698-4000
1-800-592-5482

March 7, 2005

Captain Tiffany S. Warnke, USAF
Deputy Chief, Environmental Flight
Department of the Air Force
Headquarters, 1st Fighter Wing
1 CES/CECP, 37 Sweeney Boulevard
Langley Air Force Base, Virginia 23665

RE: Draft Environmental Assessment for Demolition of Facilities at Langley
Air Force Base, Virginia
DEQ-05-031F

Dear Captain Warnke:

The Commonwealth of Virginia has completed its review of the above Draft Environmental Assessment (Draft EA), which includes a federal consistency determination (see "Federal Consistency..." below). The Department of Environmental Quality (DEQ) is responsible for coordinating Virginia's review of federal environmental documents prepared pursuant to the National Environmental Policy Act (NEPA) and responding to appropriate federal officials on behalf of the Commonwealth. DEQ is also responsible for coordinating Virginia's review of federal consistency determinations submitted pursuant to the Coastal Zone Management Act and the Virginia Coastal Resources Management Program. The following agencies, planning district commission, and locality joined in this review:

Department of Environmental Quality
Department of Game and Inland Fisheries
Department of Conservation and Recreation
Department of Transportation
Department of Historic Resources
Hampton Roads Planning District Commission
City of Hampton

In addition, the City of Poquoson was invited to comment.

Project Description

The Air Force proposes to demolish five buildings at Langley Air Force Base:

#731, Liquid Oxygen Storage Facility, a corrugated metal facility covering 240 square feet;

#732, Liquid Oxygen Maintenance Facility, a 2,484 square foot concrete block building with two wings;

#735, Small Gas Engine Repair Shop, a cinder block and brick building covering 1,456 square feet and including an oil-water separator;

#1001, Greenhouse, a 3,360 square feet building built for horticulture and converted to civil engineering storage space; and

#1033, Security Police Operations building, a hollow tile building covering 2,520 square feet that has had prior uses for ammunition storage.

The contractor for the Air Force would remove asbestos-containing materials, lead-based paint, and the oil-water separator in Building #732. Utilities would be capped or disconnected. (Draft EA, pages 2-1 and 2-2.)

Environmental Impacts and Mitigation

1. Natural Heritage Resources. The Department of Conservation and Recreation (DCR) strives to preserve and protect the environment of the Commonwealth of Virginia and advocate the wise use of its scenic, cultural, recreational, and natural heritage resources. "Natural heritage resources" are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, significant geologic formations, and similar features of scientific interest. DCR has searched its Biotics Data System for occurrences of natural heritage resources in the project areas, and found that natural heritage resources are present in the vicinity of the proposed demolition activities. However, according to DCR, the project will not adversely affect natural heritage resources because of the distance to the resources and the scope of the project.

Under a memorandum of agreement between DCR and the Department of Agriculture and Consumer Services (VDACS), DCR represents VDACS in comments regarding potential impacts on state-listed threatened or endangered plant and insect species. The proposed demolitions will not affect such species, according to DCR.

2. Air Quality. Langley Air Force Base is in an ozone non-attainment area. Accordingly, the Air Force should take all reasonable precautions to limit emissions of volatile organic compounds and oxides of nitrogen, both of which are precursors of atmospheric ozone.

(a) *Fugitive Dust Control.* DEQ's Air Division states that during project operations, fugitive dust must be kept to a minimum by using control methods outlined in 9 VAC 5-50-60 et seq. of the Regulations for the Control and Abatement of Air Pollution. These precautions include, but are not limited to, the following:

- Use, where possible, of water or chemicals for dust control;
- Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials;
- Covering of open equipment for conveying materials; and
- Prompt removal of spilled or tracked dirt or other materials from paved streets and removal of dried sediments resulting from soil erosion.

(b) *Open Burning.* If project activities include the burning of construction or demolition material, this activity must meet the requirements of the Regulations for open burning (9 VAC 5-40-5600 et seq.), and it may require a permit (see "Regulatory and Coordination Needs," item 1, below). The Regulations provide for, but do not require, the local adoption of a model ordinance concerning open burning. The applicant should contact appropriate local officials to determine what local requirements, if any, exist. The model ordinance includes, but is not limited to, the following provisions:

- All reasonable efforts shall be made to minimize the amount of material burned, with the number and size of the debris piles;
- The material to be burned shall consist of brush, stumps and similar debris waste and clean burning demolition material;
- The burning shall be at least 500 feet from any occupied building unless the occupants have given prior permission, other than a building located on the property on which the burning is conducted;
- The burning shall be conducted at the greatest distance practicable from highways and air fields;
- The burning shall be attended at all times and conducted to ensure the best possible combustion with a minimum of smoke being produced;
- The burning shall not be allowed to smolder beyond the minimum period of time necessary for the destruction of the materials; and
- The burning shall be conducted only when the prevailing winds are away from any city, town or built-up area.

(c) *Permitting.* Operation of fuel-burning equipment may require an air pollution control permit from DEQ. See "Regulatory and Coordination Needs," item 1, below.

3. *Water Quality and Wetlands.* According to the Draft EA, much of the Air Force Base lies in the 100-year floodplain because of its proximity to the Back River and the Chesapeake Bay. The Air Force Base is susceptible to high tide surges during storms

and spring tides (page 3-10, section 3.3.2). Judging from the maps provided (see Draft EA, Figures 2-1 and 2-2, pages 2-3 and 2-4, and compare with Figure 3-1, page 3-7), it appears that Buildings 731, 732, and 735 are close to the Back River. However, the Draft EA states that the project would not give rise to significant impacts upon water resources, in part because the Air Force would implement erosion and sediment control plans and stormwater management plans (Draft EA, pages 4-4 and 4-5, section 4.3.1; see item 5, below). DEQ's Division of Water Quality made no comment on the Draft EA.

The Department of Game and Inland Fisheries indicates that no wetlands would be affected by the project, since all of the demolition activities would take place in areas that have previously been disturbed.

4. Solid and Hazardous Waste Management. According to DEQ's Waste Division, both solid and hazardous waste issues were addressed adequately in the Draft EA. The Draft EA did not include a search of waste-related data bases.

(a) Findings. DEQ's Waste Division performed a cursory review of its data files and found that Langley Air Force Base is identified under three programs:

- It is listed under the Federal Facilities Installation Restoration Program (identification number VA2800005033);
- It is a Formerly Used Defense Site (identification number VA9799F1590); and
- It is a RCRA (Resource Conservation and Recovery Act) small-quantity generator of hazardous waste (identification number VAD 988222527).

The following web sites may be helpful in finding additional information for these identification numbers. In addition, see item (b), next.

- http://www.epa.gov/echo/search_by_permit.html and
- http://www.epa.gov/enviro/html/rcris/rcris_query_java.html.

(b) Environmental Restoration Program (ERP). The Draft EA notes that the demolitions have the potential to disturb several Environmental Restoration Program sites, and states that the ERP Manager at the Air Force Base would request a waiver from Air Combat Command policy concerning demolition disturbances on such sites (page ES-2). According to DEQ's Waste Division, the Air Force Base is on the National Priorities List established by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended. Buildings 732, 732, and 735

and their surrounding property lie adjacent to the active ERP Site WP-02, near the Southwest Branch of the Back River (Site SS-63), and atop the Base-wide Groundwater Site (OT-64). Building 735 lies along the northern boundary of Site WP-02. Building 731 is located to the east of the Site boundary, next to the Southwest Branch of the Back River. Building 732 is to the south of the Site boundary. Site WP-02 contains elevated levels of chromium and diieldren in the surface and sub-surface soils; these pose a potential risk to human health. The demolition activities in this area may stir the surface soils, creating an airborne pathway for the surface soil contamination at WP-02, and may open other possible exposure pathways.

Buildings 1001 and 1033 are not on or adjacent to any active Environmental Restoration Program sites. However, both lie atop the active Base-wide Groundwater Site, OT-64. Building 1001 lies across the street (North Roma Road) from the closed ERP Site DP-09 (closed in November 1997, with no further remedial action proposed). Building 1033 does not appear to be adjacent to any closed ERP sites.

(c) Asbestos and Lead-based Paints. The structures to be demolished should be checked for the presence of asbestos-containing materials and lead-based paints, according to DEQ's Waste Division. If either of these is found, appropriate rules must be followed. See "Regulatory and Coordination Needs," item 2(a), below.

(d) Pollution Prevention. DEQ's Waste Division encourages the Air Force to implement pollution prevention principles, including reduction of waste at the source, re-use of materials, and recycling of waste materials.

5. Erosion and Sediment Control; Stormwater Management. Federal agencies and their authorized agents conducting regulated land-disturbing activities on public and private lands in the Commonwealth of Virginia must comply with the Virginia Erosion and Sediment Control Law, the Virginia Stormwater Management Law, and other applicable federal non-point source pollution control mandates such as section 313 of the Clean Water Act and the federal consistency requirements of the Coastal Zone Management Act. Clearing and grading activities, installation of staging areas, parking lots, roads, buildings, utilities, or other structures, soil/dredge spoil areas, or related land conversion activities that disturb 10,000 square feet or more (2,500 square feet or more in Chesapeake Bay Preservation Areas) are regulated by the Erosion and Sediment Control Law and its implementing regulations. Similar activities that disturb one acre or more are regulated by the Stormwater Management Law and its implementing regulations. Accordingly, the Air Force should prepare and implement Erosion and Sediment Control Plans and Stormwater Management Plans that comply with state law. The Air Force is ultimately responsible for achieving project compliance through oversight of on-site contractors, regular field inspection, prompt action against non-compliance, and/or other mechanisms consistent with Air Force policy.

The Air Force indicates its commitment to preparing and implementing Erosion and Sediment Control Plans and Stormwater Management Plans (Draft EA, page 4-5, section 4.3.1). See "Regulatory and Coordination Needs," item 3, below.

6. *Historic Structures and Archaeological Resources.* The Air Force has already consulted with the Department of Historic Resources (State Historic Preservation Office) pursuant to section 106 of the National Historic Preservation Act. The Air Force and the Department have concluded a Memorandum of Agreement (MOA) for the demolition of Building 1001, a contributing structure to the Langley Historic District.

7. *Chesapeake Bay Preservation Areas.* The Department of Conservation and Recreation's Division of Chesapeake Bay Local Assistance concurs with the Air Force's draft Finding of No Significant Impact (Draft EA, first pages) provided that the Air Force adheres to the requirements of the *Virginia Erosion and Sediment Control Handbook* and the *Virginia Stormwater Management Handbook*. (See also item 5 above and "Regulatory and Coordination Needs," item 4, below.

8. *Transportation.* The Department of Transportation anticipates no significant negative impacts on transportation from the project.

9. *Local and Regional Comments.* The Hampton Roads Planning District Commission, following its consultation with the Cities of Hampton and Poquoson, indicates that the proposed demolition project is generally consistent with regional and local plans and policies. The Commission notes its awareness of the historic nature of Building #1001, and also that satisfactory documentation of the structure has been filed with the Department of Historic Resources (item 6, above).

The City of Hampton indicates that the project does not appear to conflict with the City's Comprehensive Plan. The City states its conclusion that the proposed demolitions will not give rise to significant impacts on land use, air quality, or water resources. The City has no concerns with regard to noise or hazardous materials. The City supports the efforts of the Air Force in the preservation of Langley Field Historic District, and the commitment to recycle the demolition debris materials to the maximum extent practicable (see Draft EA, page 4-6, "Solid Waste" heading).

Federal Consistency under the Coastal Zone Management Act

Pursuant to the Coastal Zone Management Act of 1972, as amended, federal activities* located inside or outside of Virginia's designated coastal management area that can have reasonably foreseeable effects on coastal resources or coastal uses must, to the maximum extent practicable, be implemented in a manner consistent with the Virginia Coastal Resources Management Program (VCP). The VCP consists of a

network of programs administered by several agencies. The DEQ coordinates the review of federal consistency determinations with agencies administering the Enforceable and Advisory Programs of the VCP.

Based on the information submitted (in particular, Draft EA, pages 4-1 and 4-2 section 4.1.1; see also pages 4-5, 4-8, and 4-9) and the comments of reviewing agencies, we concur that the proposed activity is consistent with the Virginia Coastal Resources Management Program, provided that the Air Force and its contractors comply with all applicable requirements. In future consistency determinations, we recommend that the commitments to the remaining Enforceable Policies (non-point source pollution control, coastal lands management, and air quality management) be spelled out as part of the consistency review and that the consistency determination be labeled as a section of the document.

Regulatory and Coordination Needs

1. Air Quality Regulation. In the event open burning is contemplated, open burning permits may be required from DEQ. Similarly, permits may be required for use of fuel-burning equipment used in the project. The Air Force should consult with DEQ's Tidewater Regional Office (Jane Workman, Air Permits Manager, telephone (757) 518-2112) to determine permit applicability and requirements.

2. Solid and Hazardous Waste Management. Any soil suspected of contamination, or wastes that are generated, must be tested and disposed of in accordance with applicable federal, state, and local laws and regulations. These include, but are not limited to, the Virginia Waste Management Act (*Virginia Code* section 10.1-1400 *et seq.*), the Virginia Hazardous Waste Management Regulations (9 VAC 20-60), and the Virginia Solid Waste Management Regulations (9 VAC 20-80). (See the enclosed DEQ memo, Brockman to Ellis, dated March 1, 2005 for additional citations.)

As indicated above ("Environmental Impacts and Mitigation," item 4(c)), the buildings to be demolished should be checked for the presence of asbestos and lead-based paint. The Draft EA commits the Air Force to adherence to the rules below (pages 4-5 and 4-6, section 4.4.1).

(a) Asbestos Abatement. It is the responsibility of the owner or operator of a demolition or renovation project, prior to the commencement of the demolition or renovation, to thoroughly inspect the affected part of the facility for the presence of asbestos, including Category I and Category II non-friable asbestos-containing material (ACM). Upon classification as friable or non-friable, all waste ACM shall be disposed of in accordance with the Virginia Solid Waste Management Regulations (9 VAC 20-80-640), and transported in accordance with the Virginia regulations governing

Captain Tiffany S. Warnke, USAF
Page 8

Transportation of Hazardous Materials (9 VAC 20-110-10 et seq.). The Air Force may contact the Department of Labor and Industry (Dr. Clarence Wheeling, telephone (804) 786-0574) for additional information.

(b) *Lead-based Paint.* The proposed project must comply with the U.S. Department of Labor, Occupational Safety and Health Administration (OSHA) regulations, and with the Virginia Lead-Based Paint Activities Rules and Regulations (9 VAC 20-60-261). For additional information regarding these requirements, the Air Force may contact the Department of Professional and Occupational Regulation (Thomas Perry, telephone (804) 367-8595).

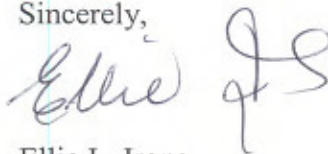
3. *Erosion and Sediment Control; Stormwater Management.* The Department of Conservation and Recreation encourages the Air Force to contact the Department's Chowan, Albemarle, and Coastal Watersheds Office (telephone (757) 925-2468) for assistance in developing and implementing the Erosion and Sediment Control Plan and the Stormwater Management Plan for this project, and to ensure that the project complies with these requirements.

4. *Historic Resources.* To ensure compliance with section 106 of the National Historic Preservation Act, the Air Force should maintain its consultations with the Department of Historic Resources (Marc Holma, telephone (804) 367-2323, extension 114).

5. *Transportation Facilities.* For any project activities with the potential to affect local roads or other transportation facilities, the Air Force should coordinate with the Virginia Department of Transportation's Williamsburg Residency (telephone (757) 253-4832).

Thank you for the opportunity to review the Draft EA and consistency determination.

Sincerely,



Ellie L. Irons
Program Manager
Office of Environmental Impact Review

Enclosures
cc: (next page)

Captain Tiffany S. Warnke, USAF
Page 9

cc: Andrew K. Zadnik, DGIF
Robert S. Munson, DCR
Allen R. Brockman, DEQ-Waste
Kotur S. Narasimhan, DEQ-Air
Catherine M. Harold, DEQ-Water
Harold J. Winer, DEQ-TRO
Alfred C. Ray, VDOT
Marc E. Holma, DHR
Alice R. T. Baird, CBLAD
John M. Carlock, Hampton Roads PDC
James Freas, City of Hampton
Charles W. Burgess, Jr., City of Poquoson

Ellis, Charles

From: Andrew Zadnik [Andrew.Zadnik@dgif.virginia.gov]
Sent: Tuesday, March 01, 2005 1:40 PM
To: Ellis, Charles
Cc: ProjectReview.Richmond_PO.DGIF@dgif.virginia.gov
Subject: 05-031F_ESSLOG 18881_Demolition of Facilities_Langley AFB

This project involves the demolition of 5 facilities at Langley AFB. All activities would be within the main portion of the base, in areas that have previously been disturbed. No wetlands will be impacted by this project.

We do not anticipate a significant adverse impact upon wildlife resources under our jurisdiction to occur due to this project. We recommend strict erosion and sediment control.

Thank you,

Andrew K. Zadnik
Environmental Services Section Biologist
Department of Game and Inland Fisheries
4010 West Broad Street
Richmond, VA 23230

(804) 367-2733
(804) 367-2427 (fax)

Please note that the Virginia Department of Game and Inland Fisheries maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters that may contain information not documented in this letter. Their database may be accessed from http://www.dgif.virginia.gov/wildlife/info_map/index.html , or contact Shirl Dressler at (804) 367-6913.

In addition, be advised that federal agencies and their authorized agents conducting regulated land disturbing activities on private and public lands in the state must comply with the Virginia Erosion and Sediment Control Law and Regulations (VESCL&R), Virginia Stormwater Management Law and Regulations (VSWML&R), and other applicable federal nonpoint source pollution mandates (e.g., Clean Water Act-Section 313, Federal Consistency under the Coastal Zone Management Act). Clearing and grading activities, installation of staging areas, parking lots, roads, buildings, utilities, or other structures, soil/dredge spoil areas, or related land conversion activities that disturb 2,500 square feet or more would be regulated by VESCL&R and those that disturb one acre or greater would be covered by VSWML&R. Accordingly, the sponsoring federal agency should prepare and implement erosion and sediment control (ESC) and stormwater management (SWM) plans to ensure compliance with state law. The sponsoring federal agency is ultimately responsible for achieving project compliance through oversight of on site contractors, regular field inspection, prompt action against non-compliant sites, and/or other mechanisms consistent with agency policy. Langley Air Force Base is highly encouraged to contact DCR's Chowan, Albemarle & Coastal Watershed Office (757.925.2468) and/or the local authorities to obtain plan development, implementation assistance and to ensure project conformance during and after active construction. [Reference: VESCL §10.1-567; VSWML §10.1-603.15]

Thank you for the opportunity to offer comments on this project.

Sincerely,



Robert S. Munson
Planning Bureau Manager

regulations contained in Title 40 of the Code of Federal Regulations; and the U.S. Department of Transportation Rules for Transportation of Hazardous materials, 49 CFR Part 107.

Also, all structures being demolished/renovated/ removed should be checked for asbestos-containing materials (ACM) and lead-based paint prior to demolition. If ACM or LBP are found, in addition to the federal waste-related regulations mentioned above, State regulations 9VAC 20-80-640 for ACM and 9VAC 20-60-261 for LBP must be followed.

Please note that DEQ encourages all construction projects and facilities to implement pollution prevention principles, including the reduction, reuse, and recycling of all solid wastes generated. All generation of hazardous wastes should be minimized and handled appropriately.

If you have any questions or need further information, please contact Allen Brockman at (804) 698-4468.

DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF AIR PROGRAM COORDINATION

ENVIRONMENTAL REVIEW COMMENTS APPLICABLE TO AIR QUALITY

TO: Charles H. Ellis III

DEQ - OEIA PROJECT NUMBER: 05 - 031F **RECEIVED**

PROJECT TYPE: ☐ STATE EA / EIR / FONSI ☒ FEDERAL EA / EIS ☐ SCC

FEB 25 2005

☐ CONSISTENCY DETERMINATION/CERTIFICATION

DEQ-Office of Environmental
Impact Review

PROJECT TITLE: DEMOLITION OF FACILITIES AT LANGLEY AIR FORCE BASE, VIRGINIA

PROJECT SPONSOR: DOD / U.S. AIR FORCE

PROJECT LOCATION: X OZONE NON ATTAINMENT AREA

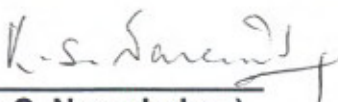
REGULATORY REQUIREMENTS MAY BE APPLICABLE TO: ☒ DEMOLITION
☐ OPERATION

STATE AIR POLLUTION CONTROL BOARD REGULATIONS THAT MAY APPLY:

1. ☐ 9 VAC 5-40-5200 C & 9 VAC 5-40-5220 E - STAGE I
2. ☐ 9 VAC 5-40-5200 C & 9 VAC 5-40-5220 F - STAGE II Vapor Recovery
3. ☐ 9 VAC 5-40-5490 et seq. - Asphalt Paving operations
4. ☒ 9 VAC 5-40-5600 et seq. - Open Burning
5. ☒ 9 VAC 5-50-60 et seq. Fugitive Dust Emissions
6. ☐ 9 VAC 5-50-130 et seq. - Odorous Emissions; Applicable to _____
7. ☐ 9 VAC 5-50-160 et seq. - Standards of Performance for Toxic Pollutants
8. ☐ 9 VAC 5-50-400 Subpart _____, Standards of Performance for New Stationary Sources, designates standards of performance for the _____
9. ☐ 9 VAC 5-80-10 et seq. of the regulations - Permits for Stationary Sources
10. ☐ 9 VAC 5-80-1700 et seq. Of the regulations - Major or Modified Sources located in PSD areas. This rule may be applicable to the _____
11. ☐ 9 VAC 5-80-2000 et seq. of the regulations - New and modified sources located in non-attainment areas
12. ☐ 9 VAC 5-80-800 et seq. Of the regulations - Operating Permits and exemptions. This rule may be applicable to _____

COMMENTS SPECIFIC TO THE PROJECT:

Being in an area of ozone non-attainment, all precautions are necessary to restrict the emissions of volatile organic compounds (VOC) and oxides of nitrogen (NOx) during demolition.


(Kotur S. Narasimhan)
Office of Air Data Analysis

DATE: February 25, 2005

**COMMONWEALTH of VIRGINIA**

DEPARTMENT OF TRANSPORTATION
1401 EAST BROAD STREET
RICHMOND, 23219-2000

PHILIP A. SHUCET
COMMISSIONER

EARL T. ROBB
STATE ENVIRONMENTAL ADMINISTRATOR

March 4, 2005

Mr. Charles H. Ellis
Department of Environmental Quality
Office of Environmental Impact Review
629 East Main St., Sixth Floor
Richmond VA 23219

Re: Project #05-031F, Demolition of Facilities, Langley Air Force Base

Dear Mr. Ellis:

The Virginia Department of Transportation previously reviewed the information provided for the referenced project. This review covers impacts to existing and proposed transportation facilities.

Based on the information provided we anticipate no significant or long-term negative transportation impacts from the project. All work associated with this project with the potential to effect roadways or other transportation facilities should be coordinated with VDOT's Williamsburg Residency (757) 253-4832.

Thank you for the opportunity to comment on this project.

Sincerely,

A handwritten signature in cursive script, appearing to read "A. C. Ray".

A. C. Ray
Environmental Specialist
VDOT
1401 East Broad St.
Richmond, VA 23219
804-371-6823 - O
804-786-7401 - FAX

FSPR-USAF-01-05

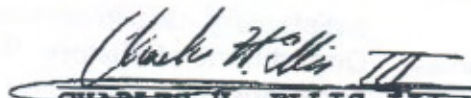
If you cannot meet the deadline, please notify CHARLIE ELLIS at 804/698-4488 prior to the date given. Arrangements will be made to extend the date for your review if possible. An agency will not be considered to have reviewed a document if no comments are received (or contact is made) within the period specified.

REVIEW INSTRUCTIONS:

- A. Please review the document carefully. If the proposal has been reviewed earlier (i.e. if the document is a federal Final EIS or a state supplement), please consider whether your earlier comments have been adequately addressed.
- B. Prepare your agency's comments in a form which would be acceptable for responding directly to a project proponent agency.
- C. Use your agency stationery or the space below for your comments. IF YOU USE THE SPACE BELOW, THE FORM MUST BE SIGNED AND DATED.

Please return your comments to:

MR. CHARLES H. ELLIS III
DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF ENVIRONMENTAL IMPACT REVIEW
629 EAST MAIN STREET, SIXTH FLOOR
RICHMOND, VA 23219
FAX #804/698-4319


CHARLES H. ELLIS III
ENVIRONMENTAL PROGRAM PLANNER

COMMENTS

Provided the USAF adheres to the requirements of the Virginia Erosion and Sediment Handbook and the VA Stormwater Management Handbook, we concur with the finding of No Significant Impact

(signed) Alie R.T. Baird (date) 3-4-05
(title) Chesapeake Bay Spread Projects Planner
(agency) DCR-DCBLA



City of Hampton

RECEIVED

FEB 17 2005

DEQ-Office of Environmental
Impact Review

FEBRUARY 14, 2005

Charles H. Ellis III
Department of Environmental Quality
Office of Environmental Impact Review
629 East Main Street, Sixth Floor
Richmond, VA 23219

**Re: Comment on draft Environmental Assessment -
Demolition of Facilities @ Langley Air Force Base, Virginia
Project number - 05-031F**

Dear Mr. Ellis:

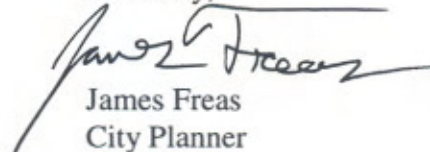
Planning staff has received and reviewed the draft Environmental Assessment (EA) for the demolition of facilities at Langley Air Force Base (LAFB), Virginia. The project entails demolishing five buildings in order to comply with Clear Zone regulations and to eliminate buildings in poor structural condition to make way for future possible redevelopment.

The project scope does not appear to impact the site significantly with respect to land use resources, water resources, air quality, noise, or hazardous materials. In addition, the project does not appear to be in conflict with the City's Comprehensive Plan.

The City supports the commitment by LAFB to recycle the demolition debris materials from the project to the maximum extent possible. In addition, the City supports the continued efforts by LAFB in the preservation and enhancement of the Langley Field Historic District.

Please let me know if I can be of further assistance regarding this project (728.5233 or jfreas@hampton.gov).

Sincerely,



James Freas
City Planner

**The Department of the Air Force Invites Public Comments
On the Draft Environmental Assessment for the Demolition of Facilities
at Langley Air Force Base (AFB)**

Langley AFB has prepared a Draft Environmental Assessment (EA) to analyze the potential impacts of the demolition of five facilities at Langley AFB: Facility 731 - LOX Storage, Facility 732 - LOX Maintenance, Facility 735 - Small Gas Engine Repair Shop, Facility 1001 - Greenhouse, and Facility 1033 - Security Police Operations.. The analysis assesses the potential impacts to Langley Field Historic District with the demolition of the Greenhouse, a contributing element, and the effect of the demolitions on local landfill capacity. The analysis also assesses the potential implications if no action were to be taken.

The Draft EA and a Draft Finding of No Significant Impact/Finding of No Practicable Alternative will be available for review beginning February 4, 2005 at the locations below. Comments should be submitted by March 6, 2005.

Poquoson Public Library	500 City Hall Avenue
Hampton Public Library	4207 Victoria Blvd
York County Public Library	100 Long Green Blvd
Bateman Library	42 Ash Avenue Langley AFB

To acquire more information or request a copy of the document, please contact Matt Goss. Written comments should be mailed to:

**1 CES/CEVQA
37 Sweeney Boulevard
Langley AFB, VA 23665-2107
ATTN: Matt Goss**

Public Notice Draft EA

**Department of the Air Force
Notice of Availability of Finding of No Significant Impact/ Finding of No
Practicable Alternative and Final Environmental Assessments for the
Demolition of Facilities and Lighter Than Air Buildings 868, 869, 948, 949
and at Langley AFB, VA**

Langley Air Force Base (AFB) announces that a Finding of No Significant Impact (FONSI)/Finding of No Practicable Alternative (FONPA) was signed on May 2, 2005 for an EA that analyzed the potential impacts of the demolition of five facilities at Langley AFB: Facility 731 - LOX Storage, Facility 732 - LOX Storage, Building 735 - Small Gas Engine Repair Shop, Building 1001 - Greenhouse, and Building 1033 - Security Police Operations. The analysis assessed the potential impacts to Langley Field Historic District with the demolition of the Greenhouse, a contributing element, and the effect of the demolitions on local landfill capacity. The action would not result in significant impacts to any resource area analyzed.

Langley AFB also announces that an FONSI/FONPA was signed on May 6, 2005 for an Environmental Assessment (EA) that analyzed potential impacts of the demolition of Buildings 868 869, 948, 949. The analysis assessed the potential impacts to Langley Field Historic District with the demolition of these houses which are contributing elements to the Historic District and the effect on local landfill capacity. The analysis also assessed the rehabilitation of the houses for residential or administrative use, the relocation of the houses off base and the No Action alternative. The action would not result in significant impacts to any resource area analyzed.

Copies of the documents are available for review, beginning May 20, 2005, at the locations listed below.

Poquoson Public Library	500 City Hall Ave.
Hampton Public Librar	4207 Victoria Blvd.
York County Public Library	100 Long Green Blvd.
Bateman Library	42 Ash Ave Langley AFB

To request further information please contact Matt Goss at the address below.

**1 CES/CEVP
37 Sweeney Boulevard
Langley AFB, VA 23665
ATTN: Matt Goss**

Notice of Availability

Final EA for Demolition of Facilities at Langley AFB
