U.S. Food and Drug Administration Headquarters Consolidation Master Plan Update

Volume I: Draft Supplemental Environmental Impact Statement

Prepared by:

The U.S. General Services Administration

In cooperation with:

The U.S. Food and Drug Administration

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accommodating growth

protecting resources

Draft

Supplemental Environmental Impact Statement

Responsible Agency:

U.S. General Services Administration

National Capital Region

301 7th Street, SW

Washington, DC 20407

In cooperation with the

U.S. Food and Drug Administration

U.S. Food and Drug Administration Headquarters Consolidation Master Plan Update

The U.S. General Services Administration (GSA) is studying the impacts resulting from revisions to the U.S. Food and Drug Administration (FDA) Master Plan for the consolidation of the FDA's headquarters facilities at the Federal Research Center at White Oak (FRC) in Silver Spring, Montgomery County, Maryland. The No-Action Alternative and two action alternatives are studied in detail in the Draft Supplemental Environmental Impact Statement.

Questions or comments on the Draft Supplemental Environmental Impact Statement should be addressed to:

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Executive Summary

The Draft Supplemental Environmental Impact Statement (EIS) has been prepared pursuant to:

- The National Environmental Policy Act of 1969 (NEPA)
- Council on Environmental Quality (CEQ) regulations to implement NEPA contained in 40 Code of Federal Regulations (CFR) Parts 1500 to 1508
- GSA Order ADM 1095.1F (Environmental Considerations in Decision-making), dated October 19, 1999
- PBS (Public Buildings Service) National Environmental Policy Act – NEPA Desk Guide (GSA, October 1999)

ES.1 Proposed Action

The General Services Administration (GSA) is currently consolidating the new U.S. Food and Drug Administration (FDA) headquarters facilities at the Federal Research Center at White Oak (FRC) in Silver Spring, Maryland. Since the preparation of the 1997 Final EIS and the 2005 Final Supplemental EIS, congressional mandates have resulted in expansions to FDA's programs resulting in some revisions to the Master Plan for the FDA Headquarters.

The proposed action assessed in this document is the implementation of the following changes over those proposed in the 2006 Master Plan:

- Construction of facilities to accommodate the increase of FDA employees from 7,719 to 8,889;
- Change in placement of a 21,000-square foot Child Care Center from the rear (southeast quadrant) of the FDA Campus to the south side;
- Construction of a 10,000-square foot fitness center on the south side of the campus;
- Relocation of the 25,000-square foot Broadcast Studio to the southeast side of the campus;

- Construction of a 50,000-square foot expansion of the Central Utility Plant (CUP) and a thermal water storage tank;
- Construction of a 300,000 gallon elevated water storage tank for potable water on the southeast campus near the Broadcast Studio;
- Increase visitor parking from 500 to 1,000 parking spaces for a total of 6,926 parking spaces on the campus.

This proposed action is needed to update the 2006 FDA Master Plan to support the FDA's evolving mission by consolidating new and expanded FDA programs at the FDA Campus. Because of recent legislation expanding FDA's mission and programs, FDA is projecting that there will need to be an increase in personnel at the FDA Campus from 7,719 to 8,889. The increase in population is needed to conduct the complex and comprehensive reviews necessary for new drugs and medical devices. GSA will make a decision whether or not to expand the FDA Campus to accommodate 8,889 employees. GSA will base its decision upon comments received on the Draft and Final Supplemental EISs and through consultations with Federal, State, and County Agencies. This decision will be documented in a Record of Determination (ROD). The ROD will outline the selected alternative for the Master Plan Update and describe measures the government will take to reduce impacts from construction and operation of the FDA Headquarters at the FRC.

Environmental issues were identified through the initial scoping efforts for this Supplemental EIS and through interdisciplinary team process. These issues include impacts to transportation, viewsheds, and the historic buffer zone; partnering with the community; stormwater management; and preservation of trees and other natural features. These issues are addressed throughout the Supplemental EIS.

ES.2 Alternatives

The alternative development process resulted in the following alternatives being studied in detail in the Draft Supplemental EIS.

- **No-Action**—The FDA consolidation on the FRC would continue as designed under the 2006 Master Plan and the number of employees at the FDA Campus remain at 7,719.

- **Dispersed Density Action Alternative** – Building heights would follow existing building heights, thereby keeping uniformity across the campus. This would allow for more dispersed density across the campus. This alternative would add a northwest parking garage; a fitness center on the southern portion of the campus, and the Central Utility Plant (CUP) would be expanded to the northwest of the existing CUP. A thermal water storage tank would be placed in the vicinity of the CUP expansion and 300,000 gallon potable water storage tank would be located in the southeast quadrant. The Child Care Center would be relocated to the south side of the FDA Campus next to the proposed fitness center and the Broadcast Studio would be relocated from the southwestern portion of the campus to the southeastern side. Employees at the FDA Campus would increase to 8,889.
- **Southeast Quadrant Density Action Alternative** – Building heights would be greater than currently seen at the FDA Campus, with most of the density in the southeastern portion of the campus. This alternative would add a fitness center on the southern portion of the campus and the CUP would be expanded to the northwest of the existing CUP. A thermal water storage tank would be placed in the vicinity of the CUP expansion and 300,000 gallon potable water storage tank would be located in the southeast quadrant. The Child Care Center would be relocated to the south side of the FDA Campus next to the proposed fitness center and the Broadcast Studio would be relocated from the southwestern portion of the campus to the southeaster side. Employees at the FDA Campus would increase to 8,889.

ES.3 Impacts

GSA analyzed potential direct, indirect, short-term, long-term and cumulative impacts associated with each of the alternatives under consideration. The conclusions of this analysis are summarized below.

Impacts on Soils

- The No-Action Alternative would result in moderate, long-term, direct, adverse impacts due to clearing, grading and construction that would affect soils. The

total impervious surface would be increased by 10 acres from when the Navy occupied the site to a total of 51 acres.

- The Action Alternatives would have moderate, long-term, direct, adverse impacts from the clearing, grading, and construction activities that would affect soils. The total impervious surface under Alternatives 2 and 3 would be increased by 5.6 and 2.9 acres, respectively over the No-Action Alternative.

Impacts to Surface Water

- Under the No-Action Alternative the following impacts would occur:
  - No direct impacts would occur.
  - Minor, long-term, indirect, adverse impacts to Tributaries 187, 188, 189, and A from stormwater runoff due to an increase in impervious surfaces.
  - Minor, short-term, indirect adverse impacts to Tributaries 187, 188, 189, and A during construction from soil erosion would occur.
- Under the Action Alternatives the following impacts would occur.
  - No direct impacts would occur.
  - Minor, long-term, indirect, adverse impacts to Tributaries 187, 188, 189, and A due to stormwater runoff from an increase in impervious surfaces would occur.
  - Minor, short-term, indirect adverse impacts to Tributaries 187, 188, 189, and A during construction from soil erosion.

Impacts to Wetlands

- Under the No-Action Alternative the following impacts would occur:
  - The increase in impervious surfaces would result in minor, long-term, indirect adverse impacts to wetlands from runoff and erosion and sedimentation.
- Under the Action Alternatives the following impacts would occur.
  - The two locations for the Broadcast Studio and the location of the Child Care and Fitness Centers would have minor, long-term, indirect adverse impacts to wetlands and their associated buffers.

Impacts to Groundwater Hydrology and Quality

- Under the No-Action Alternative the following impacts would occur:
  - Groundwater will not be withdrawn for any purpose other than monitoring and will not be used for potable or industrial uses.
  - Negligible, long-term, indirect, adverse impacts to groundwater recharge would also occur.
  - Construction activities would create a minor, short-term, direct, adverse impact to groundwater quality.
- Under the Action Alternatives the following impacts would occur.
  - Groundwater will not be withdrawn for any purpose other than monitoring and will not be used for potable or industrial uses.
  - Minor, long-term, indirect, adverse impacts to groundwater recharge would also occur.
  - Construction activities would create a minor, short-term, direct, adverse impact to groundwater quality.

Impacts to Stormwater Management

- Under the No-Action Alternative the following impacts would occur:
  - Minor, long-term, indirect, adverse impacts to Tributaries 187, 188, 189, and A from stormwater runoff due to an increase in impervious surfaces. This would also add to stormwater management requirements.
- Under the Action Alternatives the following impacts would occur.
  - Minor, long-term, indirect, adverse impacts to Tributaries 187, 188, 189, and A due to stormwater runoff from an increase in impervious surfaces would occur. This would also add to stormwater management requirements under Alternatives 2 and 3 creating a negligible to minor, long-term, indirect adverse impact.

Impacts on Vegetation

- Under the No-Action Alternative the following impacts would occur:
  - Removal of additional forest land would result in a moderate, long-term, direct, adverse impact to vegetation.
  - Construction activities would create minor, short-term, direct, adverse impacts from the removal of vegetation.
  - Development around the site would increase the amount of airborne pollutants that are harmful to vegetation resulting in a minor, long-term, indirect, adverse effect on vegetation.
- Under the Action Alternatives the following impacts would occur:
  - Minimal additional vegetation would be removed, resulting in negligible, long-term, direct, adverse impacts to vegetation.
  - Construction activities would continue to create minor, short-term, direct, adverse impacts from the removal of vegetation.
  - Development around the site would increase the amount of airborne pollutants that are harmful to vegetation resulting in a minor, long-term, indirect, adverse effect on vegetation.

Impacts to Air Quality

- Under the No-Action Alternative the following impacts would occur:
  - Negligible impacts to ambient air quality would occur from stationary or mobile sources.
  - Fugitive dust and emissions from construction equipment would have minor to moderate, short-term, direct, adverse impacts to air quality during construction.
- Under the Action Alternatives the following impacts would occur:
  - Additional traffic and the CUP expansion would result in minor, long-term, direct adverse impacts to air quality. The action alternatives conform to the State Implementation Plan.

- Fugitive dust and emissions from construction equipment would have minor to moderate, short-term, direct, adverse impacts to air quality during construction.

Impacts on Noise

- Under the No-Action Alternative the following impacts would occur:
  - CUP expansions planned under the 2006 Master Plan would generate new noise impacts creating minor, long-term, adverse impacts to noise levels.
  - No additional traffic would be generated that would increase noise levels.
  - Construction activities would continue to produce minor, short-term, direct, adverse impacts to noise levels.
- Under the Action Alternatives the following impacts would occur:
  - Additional traffic increases would be much smaller than a doubling of traffic volumes, which would result in negligible , long-term, direct, adverse impacts.
  - The CUP expansion would have moderate, long-term, direct, adverse impacts to noise levels.
  - Construction activities would continue to produce minor, short-term, direct, adverse impacts to noise levels.

Impacts on Environmental Contamination

- Under the No-Action Alternative, all cleanup sites within the western portion of the FRC where the FDA Campus is located have previously been remediated and pose no threat. Because there are no users of groundwater in the area, there are no current environmental risks to human health.
- Under the Action Alternatives, all cleanup sites within the western portion of the FRC where the FDA Campus is located have previously been remediated and pose no threat. Because there are no users of groundwater in the area, there are no current environmental risks to human health.

Impacts on Land Use Planning and Zoning

- Under the No-Action and Action Alternatives, the development is consistent with local and regional land use plans.
- Under the No-Action and Action Alternatives, FDA facilities would have a minor, long-term, indirect, adverse impact on regional and local land use as FDA employees would place demand on local commercial establishments.

Impacts to Economy and Employment

- Under the No-Action Alternative the following impacts would occur:
  - Construction would have a minor, short-term, direct, beneficial impact from the employment of construction workers and expenditures for construction materials.
  - Minor, long-term, indirect, beneficial impacts would occur from new retail services and employment in the area to support the FDA Campus.
  - Negligible, long-term, direct, beneficial impacts to Montgomery County's overall permanent employment would occur as the majority of the FDA Headquarters consolidation would involve employees already living in Montgomery County.
- Under the Action Alternatives the following impacts would occur:
  - Construction would have a minor, short-term, direct, beneficial impact from the employment of construction workers and expenditures for construction materials.
  - Minor, long-term, indirect, beneficial impacts would occur from new retail services and employment in the area to support the FDA Campus.
  - Employees hired to support the increase in FDA employees could come from all areas of the United States, which would beneficially impact Montgomery and Prince George's Counties. The impact would be minor, long-term, and direct.

Impacts on Visual Quality

- Under the No-Action Alternative, construction would have minor to moderate, long-term, direct, adverse impacts to views to and from the FDA Campus.
- In addition to the impacts under the No-Action Alternative, with Alternative 2, Building 25 and the Northwest parking garage would be visible from New Hampshire Avenue. These changes, along with the CUP expansion, lighting at the parking garages, and potable water storage tank would have moderate, long-term, direct, adverse impacts on views to/from the campus.
- In addition to the impacts under the No-Action Alternative, with Alternative 3, Buildings 71 and 75 would be visible from New Hampshire Avenue. These changes, along with the CUP expansion, lighting at the parking garages, and potable water storage tank would have moderate, long-term, direct, adverse impacts on views to/from the campus.

Impacts on Security

- Under the No-Action and Action Alternatives, no additional security measures other than those already designed would be put in place. Therefore, there would be no new impacts on security. Overall, the security measures put in place would create moderate, long-term, beneficial impacts.

Impacts to Public Health and Safety

- Under the No-Action and Action Alternatives, no changes to public health and safety other than those identified in the 1997 Final EIS and 2005 Final Supplemental EIS. With proposed mitigation, impacts would continue to be minor, long-term, indirect, and adverse.

Impacts on Cultural Resources

- Under the No-Action Alternative, no known or potential historic properties or cultural resources would be affected.
- Under the Action Alternatives, the CUP expansion would alter the visual setting of Building 100 resulting in moderate, long-term, direct, adverse impacts to cultural resources. No additional impacts to the historic landscape would occur, other than those described under the No-Action Alternative.

Impacts to Traffic and Transportation

- Under the No-Action Alternative, the FDA Headquarters consolidation would continue to have a moderate, long-term direct, adverse impact on traffic levels. Other new developments have resulted in traffic on local roadways.
- Under the Action Alternatives, the FDA Headquarters consolidation would continue to have a moderate, long-term direct, adverse impact on traffic levels. Improvements to several intersections would be needed. No changes to Metrorail or MARC are anticipated. Increases in the frequency of bus stops could occur. Bicycle and pedestrian access would not be affected.

Impacts on Utilities

- Under the No-Action Alternative the following impacts would occur:
  - Operation of the FDA Headquarters would have minor, long-term, direct, adverse impacts to water and wastewater.
  - Operation of the CUP would provide electricity, heating, and cooling to the entire FDA Campus, which would result in moderate, long-term, beneficial impacts to overall energy supplies.
  - Utilization of the CUP would continue to require natural gas from Washington Gas creating a minor, long-term, direct, adverse impact.
  - PEPCO would continue to supply back-up power, as needed, to the campus. This impact would be negligible, long-term, direct, and adverse.
- Under the Action Alternatives, the following impacts would occur:
  - Operation of the FDA Headquarters would have minor, long-term, direct, adverse impacts to water and wastewater.
  - Operation of the CUP would result in a minor, long-term, direct adverse impact to natural gas supplies.
  - The use of the CUP to provide electricity, heating, and cooling to the entire FDA Campus, would result in moderate, long-term, beneficial impacts to overall energy supplies.
  - PEPCO would continue to supply back-up power, as needed, to the

campus, as necessary. This impact would be negligible, long-term, direct, and adverse.

Impacts to Waste Management

- Under the No-Action Alternative, the generation of waste would have minor, long-term, direct, adverse impacts on waste handled at waste receiving facilities. Construction activities would result in minor, short-term, direct, adverse impacts.
- Under the Action Alternatives, impacts would be the same as those described under the No-Action Alternative as waste management practices would not change. More waste would be generated under the action alternatives, but the overall impact would continue to be minor.

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Table of Contents

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List of Acronyms

ACHP	Advisory Council on Historic Preservation
AM	Ante Meridiem
APE	Area of Potential Effect
ARPA	Archaeological Resources Protection Act
AVO	Average Vehicle Occupancy
BMPs	Best Management Practices
BPCA	Best Pharmaceuticals for Children Act
BRAC	Base Realignment and Closure Act
BSCs	Biological Safety Cabinets
CAA	Clean Air Act
CBER	Center for Biologics Evaluation and Research
CDER	Center for Drug Evaluation and Research
CDRH	Center for Devices and Radiological Health
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
CLV	Critical Lane Volume
CO	Carbon Monoxide
CUP	Central Utility Plant
CVM	Center for Veterinary Medicine
CWA	Clean Water Act
DC	District of Columbia
DOT	Department of Transportation
EIS	Environmental Impact Statement
EO	Executive Orders

EPA	Environmental Protection Agency
EPT	Ephemeroptera, Plecoptera, and Trichoptera
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FRC	Federal Research Center
gpm	gallons per minute
GSA	U.S. General Services Administration
gsf	gross square footage
HABS	Historic American Buildings Survey
HAER	Historic American Engineering Record
HVAC	Heat, Ventilation, Air Conditioning
ICC	Intercounty Connector
LEED	Leadership in Energy and Environmental Design
LOA	Letter of Authorization
LOS	Level of Service
MARC	Maryland Rail Commuter Service
MDE	Maryland Department of Environment
MDNR	Maryland Department of Natural Resources
MDUFMA	Medical Device User Fee and Modernization Act
MHT	Maryland Historical Trust
M-NCPPC	Maryland National Capitol Park and Planning Commission
MOA	Memorandum of Agreement
mph	miles per hour
MSAT	Mobile Source Air Toxics
MWCOG	Metropolitan Washington Council of Governments
NAAQS	National Ambient Air Quality Standards

NCPC	National Capital Planning Commission
NCR	National Capital Region
NEPA	National Environmental Policy Act
NOI	Notice of Intent
NOL	Naval Ordnance Laboratory
NO_X	Nitrogen Oxide
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRPH	National Register of Historic Places
NSWC	Naval Surface Warfare Center
NWI	National Wetland Inventory
O_3	Ozone
OC	Office of the Commissioner
ORA	Office of Regulatory Affairs
Pb	Lead
PDUFA	Prescription Drug User Fee Act
PEM	Palustrine Emergent Wetland
PEPCO	Potomac Electric Power Company
PFO	Palustrine Forested Wetland
$PM_{2.5}$	Fine Particulate Matter (particles with a diameter 2.5 micrometers and smaller)
PM_{10}	Particulate Matter (particles with a diameter of 10 micrometers or less)
POW	Palustrine Open Water Wetland
PREA	Pediatric Research Equity Act
RCRA	Resource Conservation and Recovery Act
SHA	State Highway Administration
SWM	Storm Water Management

TMP	Transportation Management Plan
USACE	United States Army Corps of Engineers
USAF	United States Air Force
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VOC	Volatile Organic Compound
WMATA	Washington Metropolitan Area Transit Authority
WSSC	Washington Suburban Sanitary Commission

1.0 Introduction

This Supplemental Environmental Impact Statement (EIS) has been prepared by the U.S. General Services Administration (GSA) to assess and report potential impacts resulting from revisions to the U.S. Food and Drug Administration (FDA) Master Plan for the consolidation of FDA's headquarters facilities at the Federal Research Center at White Oak (FRC).

The National Environmental Policy Act (NEPA) requires federal agencies to prepare an EIS for actions that may significantly affect the quality of the human environment – in other words, the world in which we live. GSA has prepared this report to explain to the public the impacts of updating the 2006 Master Plan on the environment, including natural resources, such as air and water quality, social resources such as community services and facilities, and cultural resources such as historic resources.

In addition, this Supplemental EIS provides information on impacts to historic resources as required by Section 106 of the National Historic Preservation Act (NHPA). GSA is using this Supplemental EIS to provide information on historic resources affected by the proposed Master Plan Update, including resources outside of the FRC that could be affected by views of the new buildings, noise, or traffic. More information on the laws and regulations with which GSA must comply is located at the end of this chapter.

The public is encouraged to review this document and attend GSA's public hearing to learn more about the Master Plan Update and its potential impacts. The public is also encouraged to provide comments on the Supplemental EIS and the update to the 2006 Master Plan.

FDA Master Plan Update
EIS Public Hearing
Thursday, April 30, 2009
CHI Center – Multipurpose Room
10501 New Hampshire Avenue
Silver Spring, Maryland 20903

Written comments on the Supplemental Draft EIS may be sent to:
Ms. Suzanne Hill
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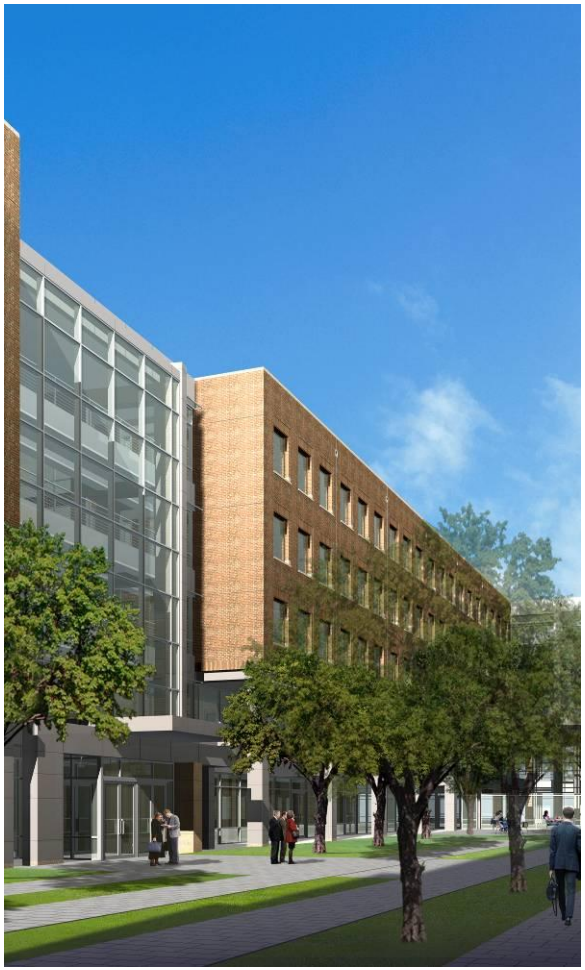
301 7th Street, SW, Room 7600
Washington, D.C. 20407

Comments on the Supplemental Draft EIS must be postmarked by May 11, 2009



Artist Rendering of Buildings 31 and 32 From the West.

Artist Rendering of Buildings 31 and 32 From the South.

1.1 What is GSA Proposing?

GSA is the development manager for federal facilities. In this role GSA acts as the landlord for federal facilities and maintains the upkeep of facilities under its purview. As the development manager for federal facilities, GSA is developing the FDA Headquarters at the FRC at White Oak. Due to Congressional mandates, GSA is proposing to update the approved 2006 Master Plan to accommodate an increase of 1,170 FDA employees. The project will involve the development of 1,254,922 additional gross square feet of office and laboratory space, construction of a fitness center, and expansion of the Central Utility Plant to serve the FDA Campus. In addition, GSA plans to relocate the Child Care Center and the Broadcast Studio from the locations proposed in the 2006 FDA Headquarters Master Plan. GSA is updating the FDA Headquarters Master Plan to determine how best to accommodate the additional growth on the 130-acre FDA Campus. FDA is a cooperating agency for this project. A cooperating agency is a federal agency other than the lead agency (GSA) which has jurisdiction by law or special expertise with respect to any environmental impact involved in a project (or a reasonable alternative)(40 CFR 1508.5). FDA will occupy the FDA Headquarters Campus at White Oak as a tenant to GSA. FDA is also responsible for implementing the FDA Headquarters Transportation Management Plan (TMP) and making sure that transportation management strategies outlined in the TMP are carried out.

1.2 Where is the Federal Research Center at White Oak Located?

The FRC is located at 10903 New Hampshire Avenue, Silver Spring, Maryland. The FRC is located east of New Hampshire Avenue (MD 650) and west of Cherry Hill Road in Montgomery and Prince George's Counties. The site is bounded to the north by commercial and residential properties, the Paint Branch Stream Valley Park, and the Percontee Quarry. To the south of the FRC lie the U.S. Army's Adelphi Laboratory, residential properties, and the Powder Mill Community Park. Figure 1 shows the location of the FRC.

Figure 1. Site Location

Artist Rendering of Building 1 and Redesigned Flagpole.

1.3 What is the Purpose of the FDA Headquarters Master Plan Update?

The purpose of the proposed action is to update the Master Plan for the FDA Campus at the FRC to accommodate employee growth from 7,719 to 8,889 within the 130 acres appropriated by Congress for the FDA Headquarters. The update to the FDA Headquarters Master Plan will guide the development of office and laboratory space for the consolidation of FDA Headquarters. The Master Plan will steer the planning, design, and construction of new buildings; improvements to roadways, utilities, and other infrastructure; and the protection of natural areas.

The FDA Headquarters Master Plan is based on a concept of grouping buildings for six of the FDA's research and administrative functions around pedestrian scaled courtyards. These six functions are the Center for Veterinary Medicine (CVM), Center for Drug Evaluation and Research (CDER), Center for Devices and Radiological Health (CDRH), Center for Biologics Evaluation and Research (CBER), Office of the Commissioner (OC), and Office of Regulatory Affairs (ORA). The buildings are distributed around a central campus commons that serves to unite the functions and link the campus with the mature woodlands to the east. Building 1 is an historic building from the former Naval Surface Warfare Center (NSWC), and is a part of the Naval Ordnance Laboratory (NOL) Historic District. This building was retained, renovated, and integrated into the FDA Campus.

1.4 Why Does the Master Plan Need to be Updated?

The need for an update to the FDA Master Plan is to support the FDA's evolving mission by consolidating new and expanded FDA programs at the FDA Campus. Since the preparation of the 2006 Master Plan Update, President Bush signed the Food and Drug Administration Amendments Act of 2007 into law. This new law reauthorizes and expands both the Prescription Drug User Fee Act (PDUFA) and the Medical Device User Fee and Modernization Act (MDUFMA). These programs will ensure that FDA staff have the additional resources needed to conduct the complex and comprehensive reviews necessary to new drugs and devices. Additionally, two more laws were reauthorized: the Best Pharmaceuticals for Children Act (BPCA) and the Pediatric Research Equity Act (PREA). Both of these are designed to encourage more research into, and development of, treatments for children. Based upon this new legislation, FDA is projecting that there will need to be an increase in personnel at the FDA Campus from 7,719 to 8,889. The increase in population is

needed to conduct the complex and comprehensive reviews necessary for new drugs and medical devices. To accommodate this increase in personnel, GSA is studying ways to expand office and lab space on the campus. Expansion would occur through increasing the number of buildings on the campus and/or increasing the size of buildings that were included in the 2006 Master Plan but that have not yet been designed or constructed. In addition, infrastructure improvements would be needed to serve the increase in lab and office space. GSA has prepared this Supplemental EIS to ensure environmental issues associated with these improvements are identified and potential impacts are assessed. This Supplemental EIS is an update and supplement to the analyses presented in the *U.S. Food and Drug Administration Consolidation, Montgomery County, Final Environmental Impact Statement*, April 1997 (GSA, 1997) and the *U.S. Food and Drug Administration Headquarters Consolidation, Final Supplemental Environmental Impact Statement*, March 2005 (GSA, 2005). The analyses presented in the two previous EISs will be incorporated by reference in this Supplemental EIS.

Title 40 Code of Federal Regulations (CFR) Part 1500.1(b) states, "NEPA procedures must insure that environmental information is available to public officials and citizens before decisions are made and before actions are taken."

1.5 Project Background and History

1.5.1 How Does This Document Relate to Other EISs That Have Been Developed for This Project?

The format of this Draft Supplemental EIS is intended to be reader-friendly and, therefore, is different than the standard format prescribed in the Council on Environmental Quality (CEQ) Regulations (40 CFR 1500), used in previous EIS studies prepared for the FDA consolidation. However, all the elements of an EIS, as required by CEQ Regulations (40 CFR 1500), are included in this Supplemental EIS. Table 1 provides a comparison of the required EIS components, as set forth by CEQ Regulations, and indicates the section where each of these required elements are addressed in this Supplemental EIS.

CEQ regulations state "Environmental impact statements shall be written in plain language and may use appropriate graphics so that decision makers and the public can readily understand them" (40CFR 1502.8), and "Agencies shall use a format for environmental impact statements which will encourage good analysis and clear presentation of the alternatives including the proposed action" (40 CFR Part 1502.10).

WHAT IS THE DIFFERENCE BETWEEN THE FRC AND THE FDA CAMPUS?

The FRC at White Oak is comprised of 662 acres of the former Naval Surface Warfare Center. The NSWC was transferred to GSA in 1996 and was renamed the Federal Research Center at White Oak.

The FDA Campus comprises a 130-acre parcel within the FRC that Congress mandated that FDA/GSA use to construct a new FDA Headquarters.

In this Supplemental EIS, use of the term "FRC" refers to the entire 662-acre parcel and "FDA Campus" refers to the 130 acres of the FRC being used for the FDA Headquarters.

Table 1. Comparison of Required EIS Components Versus the FDA Master Plan Supplemental EIS.

Council on Environmental Quality Regulations Required EIS Components	FDA Master Plan Update Supplemental EIS
Purpose of and Need for the Action (40 CFR 1502.13)	Chapter 1, Introduction: pages ___ - ___
Alternatives Considered and Dismissed (40 CFR 1502.14)	Chapter 2, Alternatives Development: pages ___ - ___
Alternatives Considered in Detail Including the Proposed Action (40 CFR 1502.14)	Chapter 2, Alternatives Development: pages ___ - ___
Affected Environment [Existing Conditions] (40 CFR 1502.15)	Chapter 3, Affected Environment and Impacts to the Human Environment: pages ___ - ___
Environmental Consequences [Impacts] (40 CFR 1502.16)	Chapter 3, Affected Environment and Impacts to the Human Environment: pages ___ - ___
List of Preparers (40 CFR 1502.17)	Chapter 4, List of Preparers: pages ___ - ___
Circulation of EIS (40 CFR 1502.19)	Chapter 5, Supplemental EIS Distribution List: pages ___ - ___
Index	Chapter 6, Index: pages ___ - ___
Appendices	Appendices A - ?

1.5.2 Why is GSA Redeveloping the Federal Research Center?

In 1995, Congress directed GSA to examine the recently available federal property at the White Oak NSWC for the FDA Headquarters consolidation. In 1997, GSA completed its first study of the relocating approximately 5,947 employees from various locations in the local area to the property now called the FRC at White Oak. The project included construction of approximately 2.1 million gross square feet of new, state-of-the-art laboratory and office space and supporting facilities.

GSA issued a Record of Decision (ROD) in July 1997, to document the decision to consolidate the FDA Headquarters at the White Oak site; and construction began in the Fiscal Year 2001.

In July 2002, new legislation was passed that expanded FDA's mandate to support the Prescription Drug User Fee Act (PDUFA) and the Medical Device User Fee Modernization Act (MDUFMA). This new legislation and the growth of other programs resulted in an increase of FDA employees needed at the FDA Campus to 7,719. In order to accommodate this increase in employees, an eastern access road was necessary. In 2005, GSA completed a Supplemental EIS that analyzed the potential impacts of the proposed growth and a new eastern access road. This analysis included expanding

buildings to accommodate the increase in employees and changing the location of the Child Care Center.

1.5.3 Were Other Sites Considered for the FDA Headquarters?

In 1990, Congress passed Public Law 101-635, the FDA Revitalization Act, which authorized the Secretary of the Health and Human Services and the Administrator of GSA to plan, design, and construct a consolidated facility for FDA.

In April 1991, GSA published a public notice seeking an existing building or buildings for purchase for the FDA Consolidation Project. GSA received no offers in response to this public notice. In the Fiscal Year 1992 appropriation of funding for the FDA Headquarters Consolidation, Congress further directed the construction of the new facilities to be divided between Montgomery and Prince George's Counties, Maryland. Therefore, in October 1992, GSA published two public notices seeking available laboratory space for lease in both Montgomery and Prince George's Counties.

In response to the two public notices, GSA received 16 offers from Montgomery County and 13 offers from Prince George's County. However, none of the lease offers on existing buildings could provide sufficient square footage. The build-to-suit offers did not have sufficiently sized building sites to provide the required square footage of laboratory space. Therefore, in order to meet the Congressional requirements for the FDA Headquarters Consolidation, a decision was made to build new federally-owned facilities on a government site or, if none was available, on a site to be purchased from the private sector.

Lacking any available federally-owned properties, the site selection process was enhanced with the release of a public announcement by GSA on March 21, 1994, of their intention to acquire a privately-owned site for the proposed FDA consolidation in Montgomery County, Maryland. In response to this public announcement, seven formal site offers were submitted to GSA and two additional sites were identified during public scoping. GSA determined that five sites did not meet one or more of the advertised criteria, and one site withdrew from consideration.

A Draft EIS was published on December 9, 1994, which analyzed the remaining three sites:

- King Farm Site
- Germantown Site
- Clarksburg Triangle Site

HISTORY OF FDA CONSOLIDATION

1944: White Oak property acquired by Federal Government and used by Department of Defense through 1995
1995: Naval Surface Warfare Center closed on June 22, 1995 as a result of the 1993 Base Closure and Realignment Act
1997: GSA obtained 662 acres of the former Naval Surface Warfare Center from the U.S. Navy, and site renamed the Federal Research Center at White Oak
1997: An EIS was prepared to analyze impacts from the consolidation of for 5,947 FDA employees at the FRC
2002: FDA increased total number of employees by 309
2003: FDA proposed increase in total employees to 7,719
2005: Supplemental EIS prepared to analyze impacts from the addition of new employees and other program expansions
2007: FDA proposed an increase in total employees of 1,170 in support of new legislative laws expanding previous programs
2008: GSA issued a NOI to prepare a Supplemental EIS on March 7, 2008

The Draft EIS identified the Clarksburg Triangle site as the preferred alternative. Just prior to the issuance of the Final EIS, on June 22, 1995, the Defense Base Closure and Realignment Commission formally recommended that the Naval Surface Warfare Center at White Oak be closed and its personnel, functions, and equipment be moved to another location in the Washington, D.C. metropolitan area. In 1996, the NSWC was transferred to GSA and was renamed the Federal Research Center at White Oak.

In 1996, Congress directed GSA to examine the recently available property at White Oak for the FDA consolidation. GSA prepared the 1997 EIS to examine the impact that constructing the FDA Headquarters facilities would have on this federally-owned land. In 1997, GSA prepared an EIS and issued a ROD that formally documented the intent of GSA and FDA to construct new consolidated, state-of-the-art facilities for the FDA Headquarters at the FRC. Construction of these new facilities was mandated by Congress to occur on 130 acres of the 662 acres that compromise the FRC. Construction of new FDA facilities began in Fiscal Year 2001.

1.6 Relevant Environmental Laws and Regulations

1.6.1 What is NEPA and the NEPA Process?

NEPA PUBLIC INVOLVEMENT PROCESS

Scoping	March 7, 2008 – April 7, 2008
Public Scoping Meeting	March 27, 2008
Publication of Draft SEIS	March 27, 2009
Public Review of Draft SEIS	March 27 – May 11, 2009 (45-day review)
Public Hearing	April 30, 2009
Publication of Final SEIS	Summer 2009
Record of Decision	Summer 2009

The National Environmental Policy Act of 1969, commonly referred to as NEPA, is the nation's legislative charter for protection of the environment. NEPA requires federal agencies to consider environmental impacts of their projects during federal agency planning and decision-making. NEPA requires federal agencies to prepare an EIS for actions, such as the consolidation of the FDA Headquarters that may significantly affect the quality of the human environment.

Public involvement is an important part in the NEPA process. By involving citizens, stakeholder groups, and local, state, and federal agencies, the Federal Government can make better informed decisions.

Through the NEPA process, the public has had, and will continue to have, opportunities to comment on the expansion of the FDA Headquarters at the FRC at White Oak. From March 7, 2008 through April 7, 2008, the public was given an opportunity to participate in the scoping process. "Scoping" is a tool for identifying the issues that should be addressed in the EIS and Section 106 process (see page 1-9). Scoping allows the public to help define priorities and express stakeholder and community issues to the agency through oral and written comments. A critical element of the

scoping process is the public meeting during which comments and concerns are officially documented. A public scoping meeting for the Master Plan Update for the FDA Headquarters Consolidation was held on March 27, 2008 at the CHI Center Multipurpose Room on New Hampshire Avenue Silver Spring, Maryland. GSA and FDA also met with numerous groups and government agencies to solicit input on the proposed project. GSA and FDA have continued to meet with the public, area neighborhood groups, special interest groups, and government agencies throughout the Master Plan process and preparation of this Supplemental EIS. Key issues identified during scoping and meetings with the public and agencies include:

- Impacts of traffic and access to mass transit
- Viewshed from New Hampshire Avenue
- Community partnerships
- Impacts to the historic buffer zone
- Stormwater management
- Preservation of trees and other natural features

GSA has considered impacts to these and other resources in this Draft Supplemental EIS and is now asking for public and government agencies to comment on the analysis. Impacts to resources are discussed in Chapter 3 of this Supplemental EIS. Under NEPA, individuals and agencies have 45 days to review the Draft Supplemental EIS. During this review period, GSA will hold a public hearing to allow the public to learn more about the project and its potential impacts and to document their comments and concerns about the content of the Draft Supplemental EIS. There will then be a 30-day public review period of the Final Supplemental EIS, giving the public an additional opportunity for review.

Finally, GSA will make a decision whether or not to expand the FDA Campus to accommodate 8,889 employees. GSA will base its decision upon comments received on the Draft and Final Supplemental EISs and through consultations with federal, state, and county agencies. This decision will be documented in a Record of Decision (ROD). The ROD will outline the selected alternative for the Master Plan Update and describe measures the government will take to reduce impacts from construction and operation of the FDA Headquarters at the FRC.

1.6.2 What is Section 106 of the National Historic Preservation Act?

The **National Register of Historic Places** is the nation's official list of cultural resources worthy of preservation. Properties listed in the Register include districts, sites, buildings, structures, and objects that are significant in American history, architecture, archeology, engineering, and culture.

As with NEPA, Section 106 of the National Historic Preservation Act of 1966 requires that federal agencies take into account the effects of their actions on historic resources. Under the Act, GSA must evaluate impacts to any district, site, building, structure, or object listed in or eligible for listing in the National Register of Historic Places (NRHP). The Naval Surface Warfare Center, formerly the Naval Ordnance Laboratory, was determined eligible for listing in the NRHP in 1997. **Chapter 3, Affected Environment and Impacts to the Human Environment**, describes the impacts the Master Plan Update will have on historic resources.

Section 106 review encourages preservation of historic properties; however, there are times when impacts to historic resources cannot be avoided. When the government must impact historic resources, they are required to consult with local and federal agencies responsible for historic preservation, local citizens, and groups with an interest in historic preservation. While GSA completed the Section 106 process for the FDA Consolidation in 2000 (details provided below), various aspects of the proposed alternative under the revised Master Plan may have the potential to impact historic resources and views. For this reason, GSA is required to conduct additional consultations with the Maryland Historical Trust (MHT) and other interested parties.

In 2002, GSA completed a Memorandum of Agreement (MOA) with the MHT and the Advisory Council on Historic Preservation (ACHP), which provides requirements for how historic resources were to be managed. The MOA provides for the retention of contributing resources, including Building 1, the fire station portion of Building 100, and the flagpole with a redesigned circle to be located in front of Building 1. In addition, the MOA provided for recordation requirements for historic structures throughout the FRC. Recordation requirements include the written, graphic, and photographic documentation of all contributing buildings to Historic American Buildings Survey (HABS)/Historic American Engineering Record (HAER) standards. The photographic documentation was accepted by HAER on January 31, 2001. The completed graphics and written documentation were completed and sent to the National Park Service (NPS) in October 2002.

In 2003, a separate MOA was established with MHT for demolition of structures in the 300 and 600 areas of the FRC.

In addition, opportunities for public comment on historic preservation issues were provided during scoping for the Draft Supplemental EIS. The public will also be allowed to comment on historic preservation issues during the public review period of this Supplemental EIS.

1.6.3 What Other Environmental Laws and Regulations are Relevant to This Project?

GSA must also comply with many statutes, regulations, plans, and Executive Orders (EOs) (see text box on this page and the following page) when developing a federal property such as the FDA Headquarters. GSA is incorporating compliance with these laws and regulations into their project planning and NEPA compliance.

STATUTES, REGULATIONS, PLANS, AND EXECUTIVE ORDERS (EOS)

Statutes

Clean Air Act (CAA) of 1970 as amended

Clean Water Act (CWA) of 1977 as amended

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980

Archaeological Resources Protection Act (ARPA)of 1979

Endangered Species Act of 1973

Section 5 of the National Capital Planning Act of 1952

Resource Conservation and Recovery Act (RCRA) of 1976

National Energy Conservation Policy Act

Regulations

Council on Environmental Quality (CEQ) Regulations (40 Code of Federal Regulations [CFR] Parts 1500-1508)

36 CFR Part 800 – Protection of Historic Properties

32 CFR Part 229 – Protection of Archaeological Resources: Uniform Regulations

40 CFR 6, 51, and 93 – Conformity of General Federal Actions to State or Federal Implementation Plans

33 CFR 320-330 – U.S. Army Corps of Engineers Regulations

40 CFR Parts 300 through 399 – Hazardous Substance Regulations

Secretary of the Interior Standards and Guidelines for Archeology and Historic Preservation

Plans

Comprehensive Plan for the National Capital: Federal Elements, National Capital Planning Commission (2004)

STATUTES, REGULATIONS, PLANS, AND EXECUTIVE ORDERS (EOS) (CONTINUED)

Executive Orders

Executive Order 11593 – Protection and Enhancement of the Cultural Environment

Executive Order 11988 – Floodplain Management

Executive Order 11990 – Protection of Wetlands

Executive Order 12898 – Environmental Justice

Executive Order 13287 – Preserve America

Executive Order 13327 – Federal Real Property Asset Management

Executive Order 13423 – Strengthening Federal Environmental, Energy, and Transportation Management

Environmental Impact Statements/Environmental Assessments

U.S. Food and Drug Administration Consolidation, Montgomery County, Final Environmental Impact Statement, April 1997 (GSA, 1997)

Final Environmental Assessment/Section 4(f) Evaluation MD 650 from Poser Mill Road to North of US 29, Montgomery County, Maryland (MD SHA, 2003)

Final Environmental Assessment, Demolition of Structures in the 300 and 600 Areas of the White Oak Federal Center, Montgomery County, Maryland, March 2003 (GSA, 2003a)

Final Environmental Assessment, Management of the Deer Herd at the Federal Research Center at White Oak, Silver Spring, Maryland, September 2003 (GSA, 2003b)

U.S. Food and Drug Administration Headquarters Consolidation, Final Supplemental Environmental Impact Statement, March 2005 (GSA, 2005)

Final Environmental Assessment for Resident Canada Geese Management for Federal Research Center at White Oak, Silver Spring, Maryland, May 2008 (GSA, 2008)

2.0 Alternatives Development

2.1 How Were the FDA Campus Master Plan Update Alternatives Developed?

To create alternatives for the FDA Master Plan Update, GSA used a project team of urban planners, architects, architectural historians, environmental scientists, engineers, and economists. The project team identified and studied existing resources and development constraints before developing alternatives. These included:

- The impact to Building 1 and the historic buffer zone surrounding the FDA Campus
- The viewshed from New Hampshire Avenue
- Natural resources such as stream valley buffers and wetlands
- Site constraints (e.g., keeping within the 130 acres allotted by Congress)
- Traffic impacts to local and regional roadways
- The mission requirements of FDA

The project team then considered different ways to place new buildings on the campus, to increase the amount of office and laboratory space for FDA, while avoiding impacts and reducing harm caused by the alternatives.

2.2 How Was the Public Involved?

GSA issued a Notice of Intent (NOI) to prepare a Supplemental EIS on March 7, 2008. The NOI was published in the Federal Register, as well as the *Washington Post, the Montgomery Journal,* and the *Prince George's Journal*. NOI letters were mailed to approximately 300 federal, state, and local agencies, public officials, community groups, special interest groups, and area residents. The letters included information on the public scoping and asked for the public's comments on the proposed FDA Master Plan Update.

GSA also held an Open House for the public on March 27, 2008 from approximately 6:30 to 8:30 pm. Approximately 50 people attended the meetings, including FDA employees, the Hillandale Volunteer Fire Department, Prince George's County Government, Montgomery County Department of Public

Water Treatment, Hillandale Citizens Association, Burnt Mills Hills Citizens Association, Labquest, Greater Colesville Citizen's Association, and local citizens. Poster boards were displayed showing the site plan; a history of the FDA consolidation; the Supplemental EIS process; proposed project changes; the existing and proposed Master Plan; and environmental features to be addressed in the Supplemental EIS. In addition, a continuously running narrated slide presentation was shown. The public was invited to comment on the proposed project and 16 comments were received from special interest groups, government agencies, and individuals.

GSA and FDA have also attended monthly Labquest meetings. Labquest is a community-based group that acts as a liaison for the parties involved in Consolidation of FDA at White Oak. Labquest has representatives from the community, FDA, GSA, and county and state elected officials. At these meetings, FDA provides updates on the status of the FDA consolidation at the White Oak Campus and growth that is occurring.

2.3 How Were Other Government Agencies Involved?

Consultation with federal, state, and local agencies has been conducted throughout the preparation of this Supplemental EIS. GSA and FDA have coordinated with the following agencies:

- National Capital Planning Commission (NCPC),
- U.S. Fish and Wildlife Service (USFWS),
- Maryland Department of Natural Resources (MDNR),
- Maryland Department of Environment (MDE),
- Maryland Department of Transportation (DOT),
- Maryland State Highway Administration (SHA).

County agencies with which coordination has occurred include:

- Montgomery County Department of Public Works and Transportation,
- Prince George's County Department of Public Works and Transportation,
- Montgomery County Department of Economic Development,
- Montgomery County Office of Planning, and
- Maryland-National Capital Park and Planning Commission (M-NCPPC).

Coordination has also taken place with the Washington Metropolitan Transportation Authority (WMATA) and Montgomery County Ride-On. Further, GSA attends regular quarterly meetings with the FDA Transportation Group, a group made up of Montgomery County, Prince George's County, GSA, and FDA employees working towards meeting the needs of the public, the Federal Government, and local constituents regarding traffic.

2.4 What Issues Were Raised by the Public and Other Government Agencies and How Are They Addressed in the FDA Master Plan Update?

The environmental issues identified through the initial scoping efforts for this Supplemental EIS and through interdisciplinary team process are listed below. The indicators listed under each of the impact areas (such as transportation) are measures used in the impact analysis in Chapter 3 of this Supplemental EIS to determine if there would be an impact from the alternative and the severity of the impact.

Impacts on Transportation (see Section 3.14)

Traffic surrounding the FRC is already congested. With the additional FDA employees expected at the site, the volume of cars is likely to increase.

- Indicator: Intersection functioning at or below capacity

Metrorail accessibility is limited. Ways to enhance the use of the system by FDA employees should be explored.

- Indicator: Ridership of Metrorail increases

Impacts to Viewsheds (see Section 3.10)

Views from New Hampshire Avenue are impacted by nocturnal lighting, building and parking structure height and placement, and building design.

- Indicator: Loss of viewshed

Partnering with Community (see Section 3.1.7)

GSA and FDA should explore ways to partner with the community (e.g., new Washington Adventist Hospital Center and Labquest)

- Indicator: Increase partnering relationships

Impacts to Historic Green Buffer Zone (see Section 3.10 and 3.13)

Maintain historic buffer zone that surrounds the FDA Campus from New Hampshire Avenue.

- Indicator: Loss of historic buffer

Stormwater Management (see Section 3.3.4)

Provide for sufficient capacity to handle present and future stormwater flows

- Indicator: Increase stormwater runoff
- Indicator: Increase degradation of water quality

Design of stormwater management devices should not cause thermal impact to stream system

- Indicator: Impacts to aquatic life and habitat

Preservation of Trees and Other Natural Features (see Section 3.4)

Maintain green space to the extent possible that surrounds the FDA Campus from New Hampshire Avenue.

- Indicator: Loss of vegetation

Historic Green Buffer Zone

Per the December 5, 2000, Memorandum of Agreement (MOA) the Historic Green Buffer Zone is the planted buffer (1,200 feet in depth from the center line of New Hampshire Avenue to the front of the closed building from the U.S. NOL Historic District), established in 1945 to protect the Naval Ordnance Laboratory from electronic and other incursion, and to protect the surrounding residential community from what was considered and industrial facility, is determined to be a contributing element within the historic district (See Appendix B).

2.5 Alternatives Considered

2.5.1 What is the No-Action Alternative and Why is it Considered?

The No-Action Alternative represents the implementation of the 2006 Master Plan that was approved by NCPC. NEPA requires GSA to consider the No-Action Alternative because it provides a baseline for evaluating the environmental impacts of the Master Plan Update alternatives. In other

words, it allows for comparison of each of the Master Plan Update alternatives to what would happen if GSA continues with the existing 2006 Master Plan.

2.5.2 How Would the Site Be Developed Under the No-Action Alternative (2006 Master Plan)?

Under the No-Action Alternative (2006 Master Plan), the FDA consolidation on the FRC would continue; however, the actions proposed in this Supplemental EIS would not be taken. Specifically, under the No-Action Alternative, the number of employees would not be increased to 8,889. The additional 1,170 employees would need to be located in other government-owned or leased space in the Washington, D.C. metropolitan area. Locating these employees outside the FDA Campus would not be consistent with the congressional mandate to consolidate the FDA Headquarters on 130 acres of the FRC and would result in inefficiencies in coordination of work products and in use of administrative, management, and technical support functions.

Under the 2006 Master Plan, buildings would continue to be grouped around the research and administrative functions with pedestrian scaled courtyards (see Figure 2). These quadrangles, with the west side being parallel to New Hampshire Avenue, would in turn be arranged around a grand central main commons that would provide expansive views out onto the natural areas to the east. The front of the campus would maintain the integrated approach to historic preservation that is dominated by Building 1 and a redesigned circular forecourt.

2006 Master Plan

- 7,719 total employees
- 4,735,012 gross square feet
- Child Care Center to be located on the east side of the FDA Campus
- Broadcast Studio to be located on the southwestern portion of the FDA Campus
- No fitness center included in the plan

The 2005 Supplemental EIS assessed impacts associated with constructing 4,639,612 gross square feet of lab, office, and shared use space. In 2006, the Master Plan for the FDA Consolidation was revised to show construction of 4,735,012 gross square feet of lab, office, and shared use spaces and a vivarium.

Also, under the 2006 Master Plan, the Child Care Center would be located on the east side of the 130-acre FDA Campus at the back of the campus and the Broadcast Studio would be built on the southwestern portion of the campus. The Distribution Center would be located adjacent to the Northeast parking garage. (In the approved 2006 Master Plan, a logistics center was shown as integrated into the Northeast parking garage. However, during design of the Northeast parking garage, it was determined that it would be more efficient to design the logistics building separately from the Northeast parking garage and it is now shown as separate distribution facility).


Legend
2006 Master Plan Development
Surface Parking
Parking Garage
Storm Water Management Pond
2006 Master Plan Parameters
Population 7,719
Parking Ratio 1:1.5
Employee Parking 5,141
Visitor Parking 500
Total Parking Required 5,641
Parking Provided 5,641
Antenna Farm
East Loop
Surface Parking 24
Gate
Child Care Center
Southeast Parking Garage 1,695
Building 100
Surface Parking 7
Building 66
Building 71
Southeast Loop
Northeast Loop
Surface Parking 20
Surface Parking 20
Distribution Center
Northeast Parking Garage 927
Building 64
Building 10 (Below Grade)
Building 72
Building 52
Building 62
North Parking Garage 831
Building 22
Building 51
Surface Parking 362
Surface Parking 450
Surface Parking 34
Building 32
Southwest Parking Garage 1,229
Broadcast Studio
Gate
Truck Screening Facility
Building 2
Surface Parking 32
Building 21
Building 1
Building 31
Southwest Loop
Main Entrance
Gate
Michelson Road
Mahan Road
Green Buffer Zone
Green Buffer Zone
Alternative 1 (No Action)
2006 Master Plan
0 50 100 Meters
Figure 2

2.5.3 What Action Alternatives is GSA Evaluating in This Document?

As stated in Chapter 1, the proposed action assessed in this document is the inclusion of the following changes to the 2006 Master Plan:

- Construction of facilities to accommodate the increase of FDA employees from 7,719 to 8,889.
- Change in the placement of a 21,000-square foot Child Care Center from the rear (southeast quadrant) of the FDA Campus to the south side.
- Construction of a 10,000-square foot fitness center on the south side of the campus.
- Relocation of the 25,000-square foot Broadcast Studio to the southeast side of the campus.
- The 50,000-square foot expansion of the Central Utility Plant (CUP) and a thermal water storage tank.
- Construction of a 300,000 gallon elevated water storage tank for potable water on the southeast campus near the Broadcast Studio.

Construction of Additional Facilities at FDA Headquarters – Under the proposed action the number of FDA employees at the FDA Campus would increase from 7,719 to 8,889. These increases would support the PDUFA and MDUFMA, and the predicted growth of other programs.

The proposed action would add an additional 1,254,922 gross square feet of space to support FDA's mission for a total of 5,989,934 gross square feet as outlined in Table 2. Two parking spaces would be provided for every three employees (for a ratio of 1:1.5), and visitor parking would be increased from 500 to 1,000 parking spaces. Thus, the total number of parking spaces provided on the FDA Campus would be 6,926.

GSA and its master planners have proposed two different alternatives for accommodating an additional 1,170 FDA employees on the FDA Campus. Alternatives are compared in Table 3.

Dispersed Density Action Alternative – Under this alternative, building heights would follow existing building heights, thereby keeping uniformity across the campus. This would allow for more dispersed density across the campus and allow for better interaction between FDA employees. This alternative would also add a northwest parking garage; a fitness center on the southern portion of the campus; and the CUP would be expanded to the northwest of the existing CUP. A thermal water storage tank would be placed in the vicinity of the CUP expansion, the exact location has not been determined at this time (see Figure 3).

Master Plan Update Alternatives

- 8,889 total employees
- 5,989,934 gross square feet
- Child Care Center to be located on the south side of the FDA Campus
- Broadcast Studio to be located on the southeast side of the FDA Campus
- Fitness center to be constructed on the south side of the FDA Campus
- Central Utility Plant to be expanded by 50,000 square feet and a new thermal water storage tank to be constructed behind the plant
- 300,000 gallon elevated water storage tank (potable water)on the southeast side of the FDA Campus
- Increase visitor parking from 500 to 1,000 parking spaces

Table 2. Proposed Build-Out of the FDA Headquarters

	1997 Final EIS (gross square feet)	2002 Revised Master Plan (gross square feet)	2006 Revised Master Plan (gross square feet)	2008 Master Plan Update (gross square feet)
Office	1,373,000	1,348,574	2,093,042	2,461,694
Lab	491,000	590,098	540,093	679,000
Central Shared Use*	237,050	254,658	215,884	206,000
Vivarium	--	--	75,000	75,000
Structured Parking	--	832,000	1,624,539	2,301,240
Other**	10,371	74,193	186,454	267,000
Total	2,111,421	3,099,523	4,735,012	5,989,934

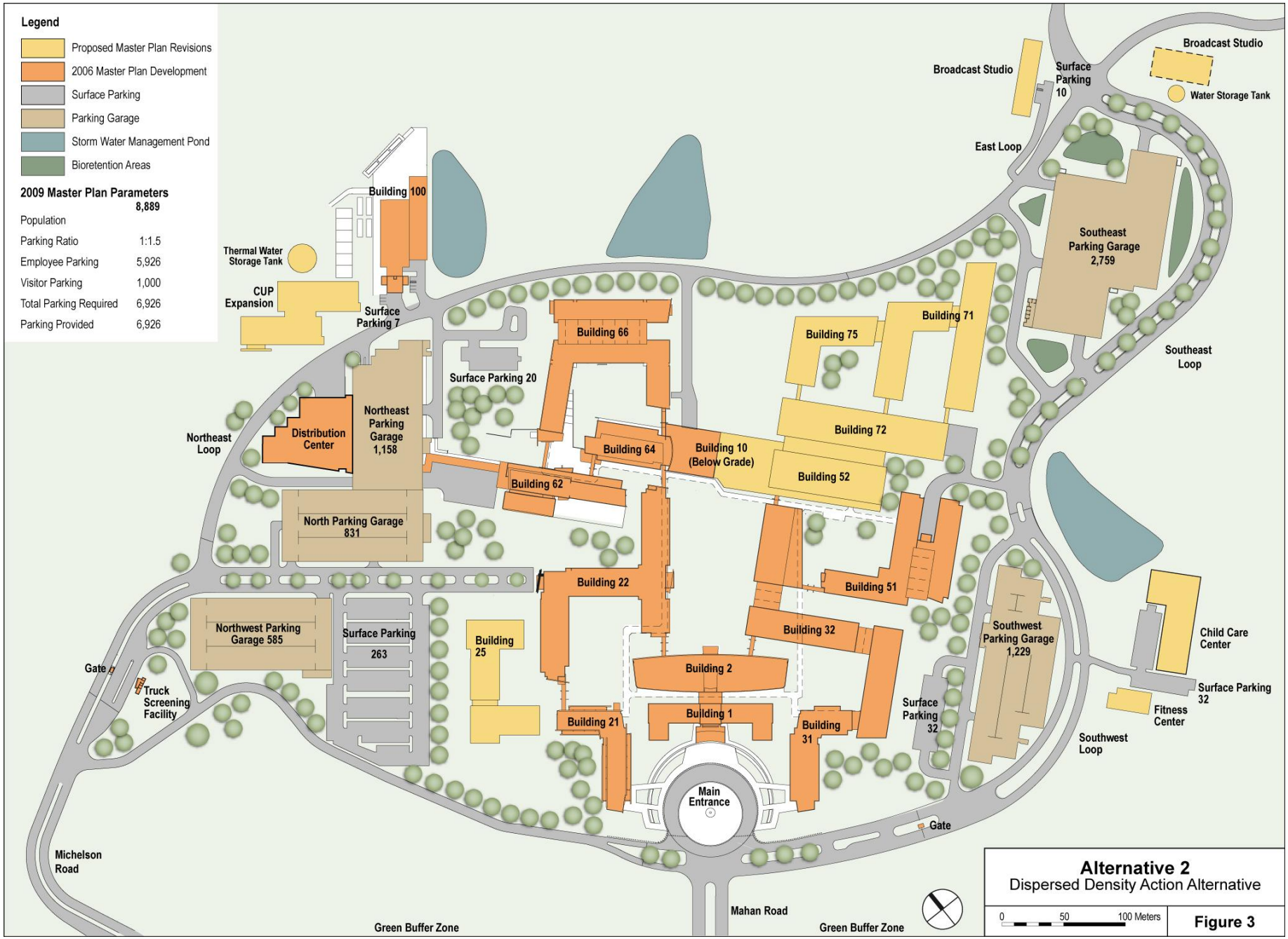
*Shared use is also integrated into other buildings on the FDA Campus.
**Other includes: Distribution Center, Broadcast Studio, Fitness Center, Child Care Center, and tunnels/bridges.

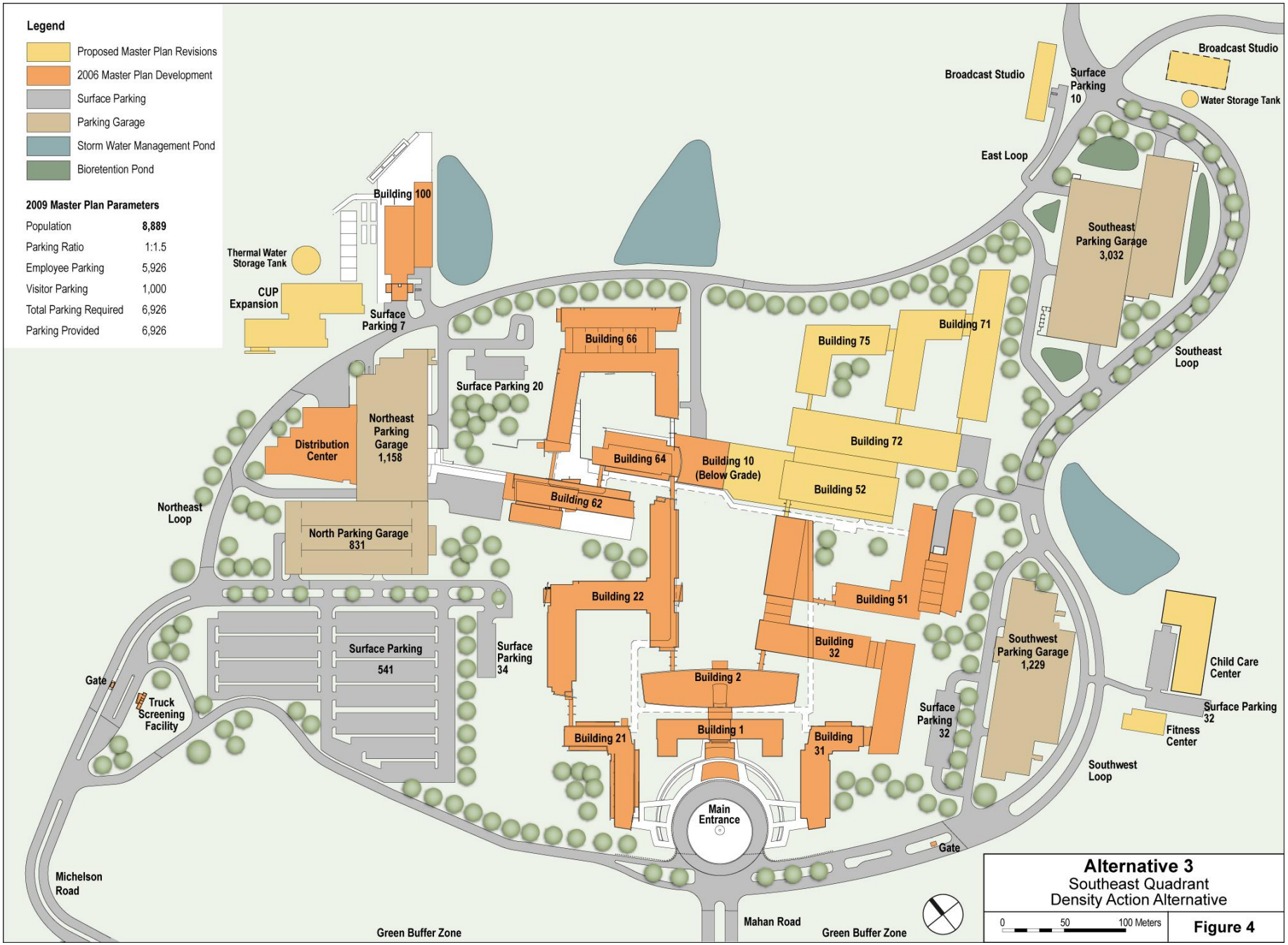
Southeast Quadrant Density Action Alternative – Under this alternative, building heights would be greater than currently seen at the FDA Campus, thereby allowing most of the density to be in the southeastern portion of the campus. This alternative would also add a fitness center on the southern portion of the campus and the CUP would be expanded northwest of the existing CUP. A thermal water storage tank would be placed in the vicinity of the CUP expansion, the exact location has not been determined at this time (see Figure 4).

Elements Common to Both Alternatives

Relocation of Child Care Center – Under either of the action alternatives proposed for the campus, the Child Care Center would be constructed on the south side of the FDA Campus next to the proposed Fitness Center (see Figures 3 and 4). The Child Care Center would be located within the 130 acres designated for the FDA Campus.

Relocation of Broadcast Studio – Under either of the alternatives proposed for the additional facilities, the 25,000-square foot Broadcast Studio would be relocated from the southwestern portion of the FDA Campus to one of the two locations on the southeastern side of the campus (see Figures 3 and 4). This Broadcast Studio would allow for live television broadcasts to FDA offices and the public; as well as full video production, taping, and editing of seminars and public meetings. The Broadcast Studio is currently located in leased space in Gaithersburg, Maryland.


Legend
Proposed Master Plan Revisions
2006 Master Plan Development
Surface Parking
Parking Garage
Storm Water Management Pond
Bioretention Areas
2009 Master Plan Parameters
8,889
Population
Parking Ratio 1:1.5
Employee Parking 5,926
Visitor Parking 1,000
Total Parking Required 6,926
Parking Provided 6,926
Broadcast Studio
Broadcast Studio
Surface Parking 10
Water Storage Tank
East Loop
Building 100
Thermal Water Storage Tank
CUP Expansion
Surface Parking 7
Southeast Parking Garage 2,759
Southeast Loop
Building 66
Building 75
Building 71
Surface Parking 20
Northeast Loop
Distribution Center
Northeast Parking Garage 1,158
Building 72
Building 64
Building 10 (Below Grade)
Building 52
Building 62
North Parking Garage 831
Building 22
Building 51
Northwest Parking Garage 585
Surface Parking 263
Building 25
Building 32
Southwest Parking Garage 1,229
Child Care Center
Gate
Truck Screening Facility
Building 2
Surface Parking 32
Fitness Center
Building 21
Building 1
Building 31
Southwest Loop
Main Entrance
Gate
Michelson Road
Mahan Road
Green Buffer Zone
Green Buffer Zone
Alternative 2
Dispersed Density Action Alternative
0 50 100 Meters
Figure 3


Legend
Proposed Master Plan Revisions
2006 Master Plan Development
Surface Parking
Parking Garage
Storm Water Management Pond
Bioretention Pond
2009 Master Plan Parameters
Population 8,889
Parking Ratio 1:1.5
Employee Parking 5,926
Visitor Parking 1,000
Total Parking Required 6,926
Parking Provided 6,926
Broadcast Studio
Broadcast Studio
Surface Parking 10
Water Storage Tank
East Loop
Building 100
Thermal Water Storage Tank
CUP Expansion
Surface Parking 7
Southeast Parking Garage 3,032
Building 66
Building 75
Building 71
Southeast Loop
Surface Parking 20
Northeast Parking Garage 1,158
Distribution Center
Building 64
Building 10 (Below Grade)
Building 72
Building 52
Building 62
Northeast Loop
North Parking Garage 831
Building 22
Building 51
Building 32
Southwest Parking Garage 1,229
Child Care Center
Surface Parking 541
Surface Parking 34
Building 2
Surface Parking 32
Surface Parking 32
Gate
Truck Screening Facility
Building 21
Building 1
Building 31
Fitness Center
Southwest Loop
Main Entrance
Gate
Michelson Road
Green Buffer Zone
Mahan Road
Green Buffer Zone
Alternative 3
Southeast Quadrant
Density Action Alternative
0 50 100 Meters
Figure 4

Expansion of the Central Utility Plant – Under either of the alternatives proposed, the CUP will be expanded. A thermal water storage tank and an additional building would be constructed to provide for utilities infrastructure needs for the increase in lab and office space. Two 15 –Megawatt (MW) generators, five 1,980-ton chillers, a 300-mbh boiler (thousands of British thermal units (BTU's)), and eight additional cooling towers would be installed. The 300-mbh boiler will not be needed if dual fuel generators are installed. In addition, at full build-out of the FDA Campus, a 6,000-kilowatt (KW) capacity steam turbine generator is anticipated to utilize waste heat.

2.6 What Other Alternatives Did GSA Consider, But Not Study in Detail?

In order to meet the purpose of the proposed project, several density options were considered for the overall FDA Master Plan. In addition, GSA looked at different alternate locations for the Child Care Center and the CUP expansion. One of the Master Plan Options, two alternate locations for the Child Care Center, and three alternate locations for the CUP expansion were dismissed from further analysis because they would not meet the purpose and need. The dismissed options and alternative locations are discussed below.

2.6.1 Master Plan Options

GSA considered placing most of the density in the southeastern portion of the FDA campus and east of the Loop Road. This alternative was dismissed due to safety concerns with employees having to cross the Loop Road to reach the Southeast parking garage. It was also not in keeping with the Master Plan objectives to create a collegial campus that promotes interaction between FDA employees – some main office/lab buildings would be isolated.

2.6.2 Alternate Locations for the Child Care Center

Two other alternate locations for the Child Care Center were considered and both of these locations were to be located at the front of the site outside the loop road. The locations considered were:

- Site of the former golf course clubhouse to the left of Mahan Road
- Front of the site near the Truck Screening Facility and Northwest parking garage

Both of these locations were dismissed from detailed study for the following reasons:

- Security issues including:
    - Location outside of the campus perimeter security fence would require additional security measures such as guard booths and gates
    - Visible profile from New Hampshire Avenue would result in increased safety risk to the Child Care Center
- Adverse effects on the historic buffer zone that was established in the 2002 MOA.
- Tree removal would adversely impact the green buffer zone and subsequently impact views into the campus from New Hampshire Avenue

2.6.3 Alternate Locations for the CUP Expansion

Three other alternate locations for the expansion of the CUP were considered:

- In the southeast quadrant near the alternate location for the Broadcast Studio
- Adjacent to the existing CUP to the south
- To the immediate east of the existing CUP

These locations were dismissed from detailed study for the following reasons:

- Southeast quadrant
    - The distance of the expansion from the existing CUP would not allow for best energy efficiency or energy conservation in co-generation purposes.
- Adjacent to the CUP to the south
    - This location would adversely impact the stormwater management pond located to the south of the CUP, creating additional stormwater impacts.
    - This location would also adversely impact the stream valley buffer located to the south of the CUP.
- To the immediate east of the existing CUP
    - This location would impact the Apple Orchard Landfill that is currently capped.

2.7 How Do the Alternatives Compare With Each Other?

Table 3 compares and contrasts each of the alternatives. Table 4 presents, for comparison purposes, a concise summary of each alternative's potential impacts by resource topic, including the No-Action Alternative.

Table 3. Comparison of Master Plan Alternatives

	2006 Master Plan (No-Action)	Alternative 2: Dispersed Density Action Alternative	Alternative 3: Southeast Quadrant Density Action Alternative
Location of Buildings	Grouped around research and administrative functions	Dispersed Throughout Campus	Most Density in Southeast Quadrant
Building Heights	1 to 7 stories	1 to 7 stories	1 to 10 stories
Number of Buildings	14	16	14
Number of Parking Garages	4	5	4
Number of Surface Lots	2	1	2
Gross Square Footage	4,735,012	5,989,934	5,989,934
Acres Disturbed over Preconstruction conditions	51	56.6	53.9

Table 4. Comparison of Impacts

	2006 Master Plan (No-Action Alternative)	Alternative 2: Dispersed Density Action Alternative	Alternative 3: Southeast Quadrant Density Action Alternative
Soils	Moderate, long-term, direct, adverse impacts would occur because of clearing, grading and construction. Total impervious surfaces: 51 acres	Moderate, long-term, direct, adverse impacts would occur because of clearing, grading and construction. Total impervious surfaces: 56.6 acres	Moderate, long-term, direct, adverse impacts would occur because of clearing, grading and construction. Total impervious surfaces: 53.9 acres
Surface Water Resources	No direct impacts would occur. Minor, long-term, indirect, adverse impacts to Tributaries 187, 188, 189, A from stormwater runoff from increase in impervious surfaces. Minor, short-term, direct, adverse impacts to Tributaries 187, 188, 189, A during construction from soil erosion.	No direct impacts would occur. Minor, long-term, indirect, adverse impacts to Tributaries 187, 188, 189, A from stormwater runoff from increase in impervious surfaces. Minor, short-term, indirect, adverse impacts to Tributaries 187, 188, 189, A during construction from soil erosion.	No direct impacts would occur. Minor, long-term, indirect, adverse impacts to Tributaries 187, 188, 189, A from stormwater runoff from increase in impervious surfaces. Minor, short-term, direct, adverse impacts to Tributaries 187, 188, 189, A during construction from soil erosion.
Wetlands	The increase in impervious surfaces could increase runoff and erosion and sedimentation which could result in minor, long-term, indirect, adverse impacts to wetlands.	The two locations proposed for the Broadcast Studio and Child Care and Fitness Centers would have minor, long-term, indirect, adverse impacts to wetlands and their associated buffers	The two locations proposed for the Broadcast Studio and Child Care and Fitness Centers would have minor, long-term, indirect, adverse impacts to wetlands and their associated buffers
Groundwater Hydrology and Quality	Groundwater will not be withdrawn for any purpose other than monitoring and will not be used for potable or industrial uses. Negligible, long-term, indirect, adverse impacts to groundwater recharge from increase in impervious surfaces. Minor, short-term, direct, adverse impacts to groundwater quality from construction activities.	Groundwater will not be withdrawn for any purpose other than monitoring and will not be used for potable or industrial uses. Minor, long-term, indirect, adverse impacts to groundwater recharge from increase in impervious surfaces. Minor, short-term, direct, adverse impacts to groundwater quality from construction activities.	Groundwater will not be withdrawn for any purpose other than monitoring and will not be used for potable or industrial uses. Minor, long-term, indirect, adverse impacts to groundwater recharge from increase in impervious surfaces. Minor, short-term, direct, adverse impacts to groundwater quality from construction activities.
Stormwater Management	Increase in impervious surfaces by 7 acres (over 2002 Master Plan) would add to stormwater management requirements creating a minor, long-term, indirect, adverse impact.	Increase in impervious surfaces by 5.6 acres (over 2006 Master Plan) would add to stormwater management requirements creating an additional minor, long-term, indirect, adverse impact.	Increase in impervious surfaces by 2.9 acres (over 2006 Master Plan) would add to stormwater management requirements creating an additional negligible, long-term, indirect, adverse impact.

Table 4. Comparison of Impacts

	2006 Master Plan (No-Action Alternative)	Alternative 2: Dispersed Density Action Alternative	Alternative 3: Southeast Quadrant Density Action Alternative
Vegetation	Removal of one additional acre of forest (over 2002 Master Plan) would result in a moderate, long-term, direct, adverse impact. Construction activities have created and would continue to create minor, short-term, direct, adverse impacts from the removal of vegetation. Airborne pollutants would create minor, long-term, indirect, adverse impacts to vegetation.	Minimal additional vegetation would be removed (over the 2006 Master Plan) would result in negligible additional, long-term, direct, adverse impacts. Construction activities would continue to create minor, short-term, direct, adverse impacts from the removal of vegetation. Airborne pollutants would create minor, long-term, indirect, adverse impacts to vegetation.	Minimal additional vegetation would be removed (over the 2006 Master Plan) would result in negligible additional, long-term, direct, adverse impacts. Construction activities would continue to create minor, short-term, direct, adverse impacts from the removal of vegetation. Airborne pollutants would create minor, long-term, indirect, adverse impacts to vegetation.
Air Quality	Negligible impacts to ambient air quality would occur from stationary or mobile sources. Fugitive dust and emissions from construction equipment would have minor to moderate, short-term, direct, adverse impacts to air quality during construction.	Additional traffic and the CUP expansion would result in minor, long-term, direct, adverse impacts to air quality. Alternative conforms to the State Implementation Plan. Fugitive dust and emissions from construction equipment would have minor to moderate, short-term, direct, adverse impacts to air quality during construction.	Additional traffic and the CUP expansion would result in minor, long-term, direct, adverse impacts to air quality. Alternative conforms to the State Implementation Plan. Fugitive dust and emissions from construction equipment would have minor to moderate, short-term, direct, adverse impacts to air quality during construction.
Noise	CUP expansions planned under the 1006 Master Plan would generate new noise impacts creating minor, long-term, adverse impacts to noise levels. No additional traffic would be generated that would increase noise levels. Construction activities would continue to produce minor, short-term, direct, adverse impacts to noise levels.	Additional traffic would result in negligible impacts over those analyzed in the 2005 Final Supplemental EIS. The CUP expansion would have moderate, long-term, direct, adverse impacts to noise. Construction activities would continue to produce minor, short-term, direct, adverse impacts to noise levels.	Additional traffic would result in negligible impacts over those analyzed in the 2005 Final Supplemental EIS. The CUP expansion would have moderate, long-term, direct, adverse impacts to noise. Construction activities would continue to produce minor, short-term, direct, adverse impacts to noise levels.
Environmental Contamination	All cleanup sites within the western portion of the FRC where the FDA Campus is located have previously been remediated and pose no threat. Because there are no users of groundwater in the area, there are no current environmental risks to human health.	All cleanup sites within the western portion of the FRC where the FDA Campus is located have previously been remediated and pose no threat. Because there are no users of groundwater in the area, there are no current environmental risks to human health.	All cleanup sites within the western portion of the FRC where the FDA Campus is located have previously been remediated and pose no threat. Because there are no users of groundwater in the area, there are no current environmental risks to human health.

Table 4. Comparison of Impacts

	2006 Master Plan (No-Action Alternative)	Alternative 2: Dispersed Density Action Alternative	Alternative 3: Southeast Quadrant Density Action Alternative
Land Use Planning & Zoning	The development is consistent with local and regional land use plans. FDA facilities would have a minor, long-term, indirect, adverse impact on regional and local land use as FDA employees would place demand on local commercial establishments.	The development is consistent with local and regional land use plans. FDA facilities would have a minor, long-term, indirect, adverse impact on regional and local land use as FDA employees would place demand on local commercial establishments.	The development is consistent with local and regional land use plans. FDA facilities would have a minor, long-term, indirect, adverse impact on regional and local land use as FDA employees would place demand on local commercial establishments.
Economy & Employment	Construction would have a minor, short-term, direct, beneficial impact from employment of construction workers and expenditures for construction materials. Minor, long-term, indirect, beneficial impacts would occur from new retail services and employment in the area to support FDA. Negligible, long-term, direct beneficial impacts to Montgomery County's overall permanent employment would occur as a majority of the FDA Headquarters consolidation involves employees already living in Montgomery County.	Construction would have a minor, short-term, direct, beneficial impact from the employment of construction workers and expenditures for construction materials. Minor, long-term, indirect, beneficial impacts would occur from new retail services and employment in the area to support the FDA Campus. Employees hired to support the increase in FDA employees could come from all areas of the United States, which would beneficially impact Montgomery and Prince George's Counties. The impact would be minor, long-term, and direct.	Construction would have a minor, short-term, direct, beneficial impact from the employment of construction workers and expenditures for construction materials. Minor, long-term, indirect, beneficial impacts would occur from new retail services and employment in the area to support the FDA Campus. Employees hired to support the increase in FDA employees could come from all areas of the United States, which would beneficially impact Montgomery and Prince George's Counties. The impact would be minor, long-term, and direct.
Visual Quality	Construction would have minor to moderate, long-term, direct, adverse impacts to views to and from the FDA Campus.	In addition to the impacts under the 2006 Master Plan, Building 25 and the Northwest parking garage would be visible from New Hampshire Avenue. These changes, along with the CUP expansion, lighting at the parking garages, and potable water storage tank would have moderate, long-term, direct, adverse impacts on views of the campus.	In addition to the impacts under the 2006 Master Plan, Buildings 71 and 75 would be visible from New Hampshire Avenue. These changes, along with the CUP expansion, lighting at the parking garages, and potable water storage tank would have moderate, long-term, direct, adverse impacts on views of the campus.
Security	No additional security measures other than those already designed would be put in place. Therefore, there would be no new impacts on security. Overall, the security measures put in place would create moderate, long-term, beneficial impacts.	No additional security measures other than those already designed would be put in place. Therefore, there would be no new impacts on security. Overall, the security measures put in place would create moderate, long-term, beneficial impacts.	No additional security measures other than those already designed would be put in place. Therefore, there would be no new impacts on security. Overall, the security measures put in place would create moderate, long-term, beneficial impacts.
Public Health & Safety	No changes to public health and safety would occur from the 1997 and 2005 Final EISs. With proposed mitigation, there would be minor, long-term, indirect, adverse impacts.		

Table 4. Comparison of Impacts

	2006 Master Plan (No-Action Alternative)	Alternative 2: Dispersed Density Action Alternative	Alternative 3: Southeast Quadrant Density Action Alternative
Cultural Resources	No known potential historic properties or cultural resources would be impacted.	The CUP expansion would alter the visual setting of Building 100 resulting in moderate, long-term, direct, adverse impacts to cultural resources. No additional impacts to the historic landscape would occur.	The CUP expansion would alter the visual setting of Building 100 resulting in moderate, long-term, direct, adverse impacts to cultural resources. No additional impacts to the historic landscape would occur.
Traffic & Transportation	No additional impacts to traffic conditions would occur over those assessed in the 2005 Final EIS. Other new developments have resulted in an increase in traffic on local roadways.	FDA Headquarters consolidation would continue to have a moderate, long-term, direct, adverse impact on traffic levels. Improvements to several intersections would be needed. No changes to Metrorail or MARC are anticipated. Increases in the frequency of bus stops could occur. Bicycle and pedestrian access would not be affected.	
Utilities	Operation of the FDA Headquarters would have minor, long-term, direct, adverse impacts to water and wastewater. Operation of the CUP would provide electricity, heating, and cooling to the entire FDA Campus, which would result in moderate, long-term, beneficial impacts to overall energy supplies. Utilization of the CUP would continue to require natural gas from Washington Gas creating a minor, long-term, direct, adverse impact. PEPCO would continue to supply back-up power to the campus. This impact would be negligible, long-term, direct, and adverse.	The remaining sewer pipe adjacent to Paint Branch would need to be replaced with a larger pipe. Operation of the FDA Headquarters would have minor, long-term, direct, adverse impacts to water and wastewater. Operation of the CUP would result in a minor, long-term, direct adverse impact to natural gas supplies. The use of the CUP to provide electricity, heating, and cooling to the entire FDA Campus, would result in moderate, long-term, beneficial impacts to overall energy supplies. PEPCO would continue to supply back-up power to the campus, as necessary. This impact would be negligible, long-term, direct, and adverse.	
Waste Management	Generation of waste would have minor, long-term, direct, adverse impact. Construction activities would result in minor, short-term, direct, adverse impacts.	Generation of waste would have minor, long-term, direct, adverse impact. Construction activities would result in minor, short-term, direct, adverse impacts.	Generation of waste would have minor, long-term, direct, adverse impact. Construction activities would result in minor, short-term, direct, adverse impacts.

2.7.1 What Mitigation Measures Would be Implemented Under Each Alternative?

Mitigation includes:

(a) Avoiding the impact altogether by not taking a certain action or parts of an action.
(b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
(c) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.
(d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
(e) Compensating for the impact by replacing or providing substitute resources or environments.
(40 CFR 1508.20)

The following mitigation measures would be implemented under this Supplemental EIS.

Soils

- Implement sediment and erosion control plans
- Apply grass seed to exposed areas
- Implement BMPs such as silt fencing and proper construction sequencing

Streams

- Maintain construction buffers around streams
- Create additional vegetated buffers

Wetlands

- Continue with design of mitigation plan for Tributary 189
- Obtain permits for impacts to waters of the U.S.
- Remove and control invasive species
- Plant native species in wetlands and upland buffers

Groundwater

- Prepare sediment and erosion control plans in accordance with the Maryland Stormwater Design Manual to include applying grass seed to exposed areas; implementing BMPS such as silt fencing and proper construction sequencing; and use of infiltration devices to capture stormwater runoff and divert to subsurface.
- Submit sediment and erosion control plans to MDE for approval

Stormwater Management

- Construct stormwater management devices including:
  - Stormwater management ponds
  - Bioretention areas such as infiltration trenches
  - Underground sand filters

- Filter strips
- Vegetated buffers
- Dry wells
- Grassed swales
- Green roofs

Vegetation

- Impact only areas to be cleared for construction
- Restrict parking of vehicles and equipment in vegetated areas
- Develop a Forest Management/Tree Conservation Plan
- Remove and control invasive species
- Plant native species in landscaped areas and areas to be revegetated

Air Quality

- Encourage employees to use public transportation, carpools, vanpools, and bicycle to work
- Use alternative clean fuels and non-polluting sources of energy
- Encourage use of green building materials, construction methods, and building designs
- Use Selective Catalytic Reduction, as required, on new stationary sources associated with the CUP expansion
- Maintain construction equipment to reduce emissions
- Cover or wet exposed soils during construction

Noise

Permanent Measures

- Comply with the Montgomery County Noise Ordinance (Montgomery County Code, Chapter 31B)
  - Include acoustic blocks in the CUP expansion
  - Include variable frequency drives on cooling tower fans
  - Use different blade configuration on new fans
  - Sound attenuation wall shall be constructed, as required, to meet local noise ordinance

Temporary (Construction) Measures

- Comply with the Montgomery County Noise Ordinance (Montgomery County Code, Chapter 31B)
    - Maintain mufflers on construction equipment with internal combustion engines
    - Ensure air compressors meet current US EPA noise emission standards
    - Use newer model construction equipment as much as possible
    - Minimize nighttime construction activities
    - Use portable noise barriers within the equipment area and around stationary noise sources

Environmental Contamination

- No additional mitigation necessary

Land Use and Zoning

- No mitigation required.

Economy and Employment

- No mitigation required.

Visual Quality

- Restore Tributary 189 within the green buffer zone
- Place Building 25 back from the road to limit impacts to the redesigned flagpole
- Design additions to Building 100 to step façade away from the historic building; place smaller functions of the CUP to the west; and place large equipment behind the building expansion

Public Health and Safety

Continue to utilize the following measures to ensure safe handling, use, containment, and disposal of etiologic agents, radioactive materials, and hazardous chemicals:

- Appropriate facility design

- Adequate containment equipment
- Safe laboratory practices and procedures

Cultural Resources

- Place Building 25 back from the road to limit impacts to the redesigned flagpole and Building 1
- Design additions to Building 100 to step façade away from the historic building; place smaller functions of the CUP to the west; and place large equipment behind the building expansion
- Adhere to Secretary of the Interior Standards for the Treatment of Historic Properties

Traffic and Transportation

- Work with Montgomery County and the State of Maryland to implement roadway improvements
- Implement TMP

Utilities

- Install faucet aerators and low-flow toilets and shower heads
- Design landscape plans for minimum water use (e.g., plant native, drought tolerant species)
- Minimize use of lawns because of their high water consumption, energy consumption, and air emissions from mowers
- Incorporate energy conservation measures into new facility design, including recommendations of the Montgomery County Building Energy Efficiency Design Guidelines
- Seek LEED® Certifications for campus buildings. For some buildings, a Silver Rating will be achieved
- Install occupancy and daylight sensors

Waste Management

- Recycle white office paper, newspapers, corrugated cardboard, aluminum and bi-metal cans, glass bottles and jars, plastic containers (PETG and HDPE) and yard/landscaping waste.
- Use recycled building materials and finishes
- Use recycled or recyclable products during operation of the facility.

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3.0 Affected Environment and Impacts to the Human Environment

This chapter of the Supplemental EIS describes the existing conditions of the human environment in the western portion of the FRC, which encompasses the FDA Campus and presents the impacts that may occur if the proposed updates to the FDA Master Plan were implemented. Pursuant to NEPA, impacts from the 2006 Master Plan (no-action alternative) are also considered. Each of the alternatives described in Chapter 2 would have varying impacts to natural resources, the social and economic environment, historic resources, and infrastructure (the transportation network and utilities).

Impacts can occur from construction as well as operation of the FDA Campus once it is complete. Impacts can also occur both directly on the FDA Campus as well as off the campus (for instance, employees coming to the FDA Campus would affect traffic on roads outside the campus). Cumulative impacts from these updates to the FDA Master Plan, when added to other past and future projects, are described at the end of this chapter.

Potential impacts are described in terms of:

- Intensity – are the effects negligible, minor, moderate, or major;
- Type – are the effects beneficial or adverse;
- Duration - are the effects short-term, lasting through construction or less than one year, or long-term, lasting more than one year; and
- Context – are the effects site-specific, local, or even regional.

The thresholds of change for the intensity of impacts are defined as follows:

- *Negligible*, when the impact is localized and not measurable at the lowest level of detection;
- *Minor*, when the impact is localized and slight, but detectable;
- *Moderate*, when the impact is readily apparent and appreciable; or
- *Major*, when the impact is severely adverse, significant, and highly noticeable.

Impacts include:

Direct impacts, which are caused by the action and occur at the same time and place.

Indirect impacts, which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.

Cumulative impacts, which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

(40 CFR 1508.7 and 1508.8)

The effects on the human environment were assessed using best available scientific studies, guidance documents, and information. Resources used to analyze the impacts were obtained from federal, state, and local agencies. These include, but are not limited to, the following:

- EPA analyses and reports
- USGS Soil Surveys
- FEMA Floodplain Maps
- Hazardous materials studies
- MDE soil erosion and stormwater design manuals
- FWS threatened and endangered species lists
- MDNR threatened and endangered species lists
- MWCOG reports
- Montgomery County and Prince George's County guidelines
- USACE wetland manuals
- FHWA traffic guidance

A complete list of references is included at the end of this Supplemental EIS. For those resources that required more rigorous analysis, methodologies are summarized later in Chapter 3 and detailed in the Appendices.

3.1 What Topics Have Been Eliminated From Further Analysis?

As with any environmental analysis, there are topics that are dismissed from further analysis because the proposed action would cause a negligible or no impact. Negligible impacts are effects that are localized and immeasurable at the lowest level of detection. Therefore, these topics are briefly discussed and then dismissed from further consideration or analysis.

3.1.1 Coastal Zone Management

The FDA Headquarters is within Maryland's Coastal Zone. Construction of additional FDA facilities and relocation of the Child Care Center and Broadcast Studio would be consistent with the State of Maryland's Coastal Zone Program. The FDA Campus would not directly affect coastal waters, and stormwater management would minimize impacts to tributaries to coastal waters. The FDA development would comply with all applicable federal, state, and county laws and regulations that

affect the Coastal Zone. This resource was not studied in detail in the 1997 EIS and was dismissed from further study in the 2005 Supplemental EIS and does not warrant further analysis because there has been no change. Therefore, Coastal Zone Management was not studied in detail.

3.1.2 Threatened, Endangered, and Sensitive Species

In accordance with the Endangered Species Act of 1973, coordination was conducted with USFWS and the MDNR to obtain information on federally or state-listed endangered or threatened species or other sensitive species or habitat that may occur at the FRC.

According to a letter response on June 12, 2008 from the USFWS, there are no federally proposed or listed endangered or threatened species within the FRC (USFWS, 2008). Similarly, on July 8, 2008, MDNR stated that their records show that no known rare, threatened, or endangered plant or animal species are located within the FRC (MDNR, 2008).

According to the MDNR, "Powder Mill Bog," supports several plant species listed as rare or endangered at the state level. The bog is located off of the FRC to the southeast. Construction and operation of the FDA Headquarters would not affect the bog. This resource was also studied in detail in the 1997 EIS and dismissed from further study in the 2005 Supplemental EIS and does not warrant further analysis because there has been no change. Therefore, impacts to Threatened and Endangered Species were not studied in detail.

3.1.3 Wildlife

The large wooded land areas on the FRC support numerous wildlife species such as white-tailed deer (Odocoileus virginianus), raccoon, gray fox, red fox, eastern cottontail, woodchuck, Virginia opossum, striped skunk, gray squirrel, American robin, Blue heron, pileated woodpecker, English sparrow, Morning dove, Canada geese, eastern garter snake, box turtle, and Fowler's toad. The deer population on the site was unmanaged, preventing the reestablishment of vegetation on site. In 2003, GSA implemented a deer management program involving culling and immunocontraception. The program is ongoing, but a substantial reduction in the deer population is evident. GSA also implemented a Canada goose management program that involves the implementation of a combination of lethal and non-lethal methods to control and manage the resident Canada goose population at the FRC. The program is ongoing, but a reduction in the Canada geese population is evident.

What are Benthic Macroinvertebrates and how are they indicators of good water quality?

Freshwater benthic macroinvertebrates are aquatic invertebrates (such as aquatic insects, crustaceans, segmented worms, and mollusks) that live in the bottom of waterways (EPA, 2009; Kalff, 2002). Identifying the presence or absence of benthic macroinvertebrate taxa is one component in determining the water quality and the ecological condition of a stream. Through conducting a bioassessment of a stream, macroinvertebrates can be collected and analyzed. One common bioassessment tool is to calculate the percent EPT taxa or the number of taxa present that are mayflies, caddisflies, and stoneflies (Orders Ephemeroptera, Plecoptera, and Trichoptera, respectively). EPT taxa are more sensitive to water quality (i.e. pollutant intolerant); therefore, a high percentage of EPT taxa may be indicative of high water quality (Engel and Voshell, 2002).

The USFWS has expressed concerns regarding the protection of nesting habitat for neotropical migrant birds. The President Executive Order 13186 requires federal agencies to incorporate migratory bird conservation measures into their agency activities. MDNR guidelines call for maintaining large tracts of forest, a minimum of 300 feet in width, for neotropical migrant birds that continue to experience population declines (MDNR, 2000). Many neotropical migrant species require large areas of mature, undisturbed forest tracts to reproduce and sustain viable populations. The large and undisturbed forested areas on the FRC provide potential habitat for neotropical migrant birds.

Because wildlife in the region is well adapted to urban conditions and the area proposed for the additional FDA facilities, relocation of the Child Care Facility and Broadcast Studio, and the expansion of the CUP, is presently being developed for the FDA Headquarters and is disturbed, impacts from these activities would be negligible. This resource was also studied in detail in the 1997 EIS and the 2005 Supplemental EIS and does not warrant further analysis because there has been no change. Therefore, Wildlife was not studied in detail.

3.1.4 Aquatic Biota

The FRC is bisected by Paint Branch, a tributary to the Anacostia River. There are four streams within the western portion of the FRC. Tributary 189 runs through the western portion of the FDA Campus parallel to New Hampshire Avenue. Tributary A and Tributary 187 can be found on the eastern portion of the FDA Campus and Tributary 188 is adjacent to the FDA Campus (see Figure 5).

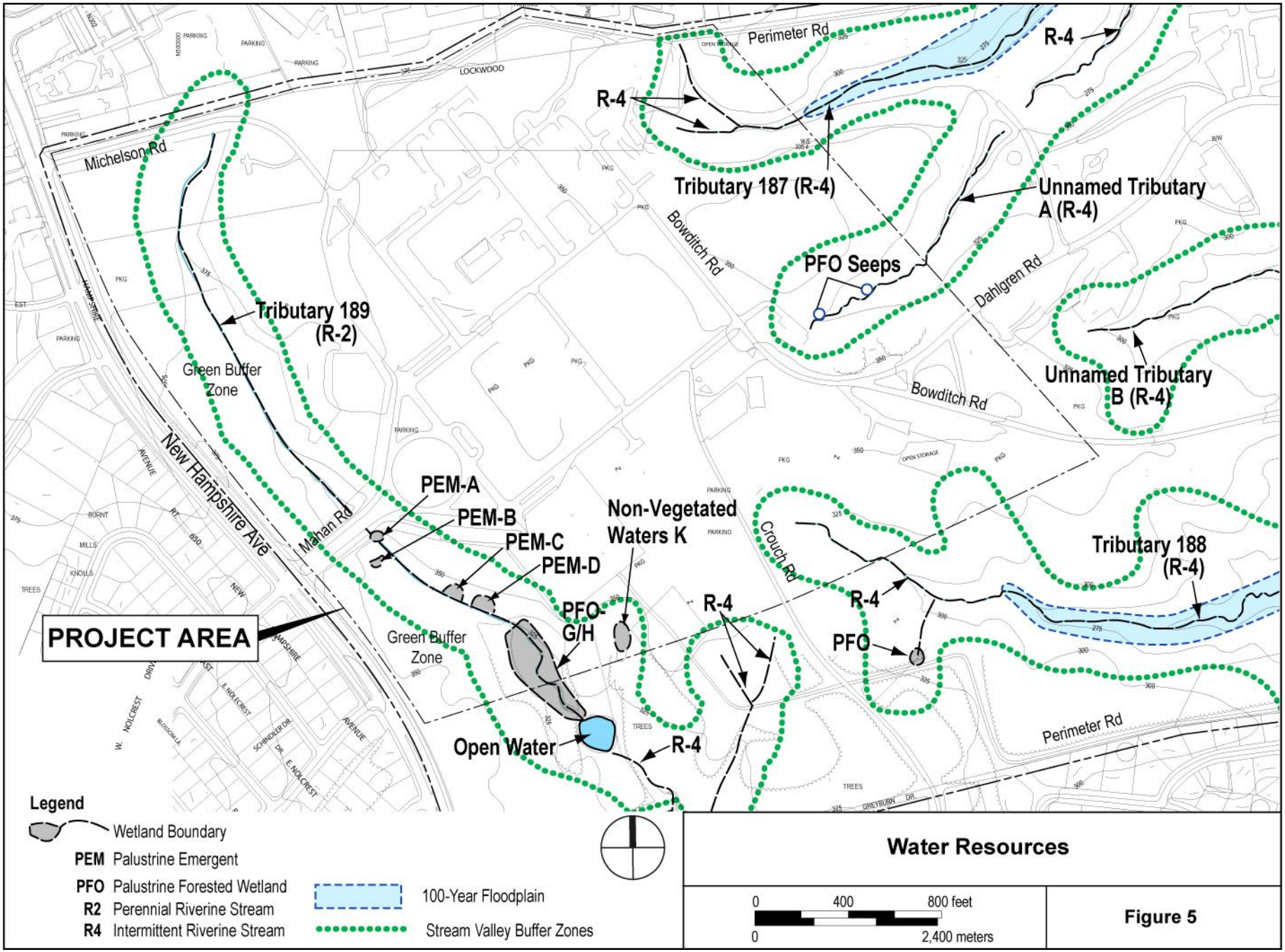
Sampling of Tributary A and Tributary 189 was conducted as part of the 1997 EIS studies by Greenhorne & O'Mara, Inc. Sample results indicated that few Ephemeroptera, Plecoptera, and Trichoptera (EPT) taxa (i.e., benthic macroinvertebrates), which are indicative of healthy streams, were present in these two tributaries (EPA, 1989a). It is likely that the low sampling numbers of benthic macroinvertebrates at these sites was due to the small size of these headwater streams and the resulting lack of available habitat. Aquatic biota would not be directly affected by the construction of additional FDA facilities, the relocation of the Child Care Center and Broadcast Studio, and the expansion to the CUP because no construction would occur in or near these tributaries. Furthermore, as result of mitigation measures underway for wetland impacts associated with the new eastern access road, Tributary 189 will be restored to the natural conditions, as many of the failed culverts that conveyed Tributary 189 for golf cart passage will be removed. Therefore, habitat for aquatic biota would be improved.

Similarly, the increase in additional impervious surfaces and increased stormwater, sedimentation, and pollutants from the proposed action would indirectly affect aquatic biota. The increase in impervious areas would result in a minor increase in the amount and temperature of runoff, which increases the peak discharges and temperatures in the receiving stream(s), thereby reducing water quality and degrading the biological integrity of the streams.

Stormwater quality management for the FDA Campus is being provided by three dry detention stormwater management basins. Stormwater quality management is being incorporated into the storm drainage system. Quality management facilities will consist of green roofs, bioretention areas, grass channels, and underground sand filter structures. For more information on stormwater management, please refer to Section 3.3.4. Because the above mentioned stormwater management practices would be installed at the FDA Headquarters in order to trap sediment- and pollutant-laden runoff, the impact to Tributaries 187, 188, 189, and A would be negligible when combined with the development that is already to occur at the FRC, which in turn would have a negligible impact on Aquatic Biota. This resource was also studied in detail in the 1997 EIS and the 2005 Supplemental EIS and does not warrant further analysis because there has been no change. Therefore, Aquatic Biota was not studied in detail.

3.1.5 Population and Housing

The FRC is surrounded by residential neighborhoods, including Burnt Mills Hills, Hillandale, and Knollwood. Some FDA employees are expected to relocate their residences because of the FDA consolidation. In an employee survey conducted as part of this Supplemental EIS, over 85 percent of FDA Campus employees responded that they would not relocate their place of residence due to their change in job location to the FDA Campus. Over time, FDA employees may elect to move closer to the FRC, but it is not possible to quantify the number of employees that would make this transition. Any impacts to population and housing will be negligible and handled by available housing in the area. There are several residential development projects approved in Montgomery County and underway; however, none of these developments were triggered by the FDA Headquarters redevelopment. Construction of additional FDA facilities, relocation of the Child Care Center and the Broadcast Studio, and expansions to the CUP are not anticipated to cause an increase or decrease in population or housing surrounding the FDA Headquarters. This resource was also studied in detail in the 1997 EIS and dismissed from further study in the 2005 Supplemental EIS


Perimeter Rd
R-4
Michelson Rd
Tributary 187 (R-4)
Unnamed Tributary A (R-4)
Bowditch Rd
PFO Seeps
Dahlgren Rd
Tributary 189 (R-2)
Green Buffer Zone
Unnamed Tributary B (R-4)
Bowditch Rd
New Hampshire Ave
Mahan Rd
PEM-A
PEM-B
PEM-C
PEM-D
Non-Vegetated Waters K
Crouch Rd
Tributary 188 (R-4)
PROJECT AREA
PFO-G/H
R-4
R-4
PFO
Green Buffer Zone
Open Water
R-4
Perimeter Rd
Legend
Wetland Boundary
PEM Palustrine Emergent
PFO Palustrine Forested Wetland
R2 Perennial Riverine Stream
R4 Intermittent Riverine Stream
100-Year Floodplain
Stream Valley Buffer Zones
Water Resources
0 400 800 feet
0 2,400 meters
Figure 5

and does not warrant further analysis because there has been no change. Therefore, Population and Housing was not studied in detail.

3.1.6 Environmental Justice in Minority and Low-Income Populations

Executive Order 12898 directs federal agencies to identify and address as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations.

While there are minority and low-income populations in the vicinity of the FDA Campus, the proposed action would not disproportionately affect these groups. For example, low-income and minority populations may be affected by increased traffic as described in Section 3.14, Transportation; however, this impact would be similar to that experienced by the overall population. Low-income and minority populations would not be affected by long-term increases in noise levels or changes in air quality. This resource was also studied in detail in the 1997 EIS and dismissed from further study in the 2005 Supplemental EIS and does not warrant further analysis because there has been no change. Therefore, Environmental Justice was not studied in detail.

3.1.7 Community Facilities and Services

The FDA Headquarters would be served by local medical, fire protection, and rescue services. Construction of additional FDA facilities, relocation of the Child Care Center and Broadcast Studio, and expansion of the CUP would not add an appreciable amount to the need for emergency services. Construction would not impact the school systems of Prince George's and Montgomery Counties because significant numbers of employees are not anticipated to relocate their place of residence. No parkland would be acquired and park operations would not be affected by the proposed action. The addition of a 300,000 gallon potable water storage tank to accommodate critical operations and for fire safety creating would create a beneficial impact to community facilities and services.

During scoping, it was identified that GSA and FDA should explore way to partner with the community. FDA has increase their partnerships with the community through signing a Memorandum of Understanding (MOU) with the Washington Adventist Hospital where FDA and the Washington Adventist Hospital will collaborate to support the shared interests that can be pursued through a variety of programs including collaborative research, public outreach, extension activities, training, and exchange of medical professionals and staff. By sharing resources and talents, the two

Environmental Justice

Executive Order (EO) 12898 directs that "…each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations…". Although GSA is not a member of the Interagency Federal Working Group (IWG) on Environmental Justice, the agency, in accordance with the Executive Order, complies with the provisions of the Order and assess Environmental Justice issues as part of its NEPA review and analysis.

organizations can open up new areas of discovery, funding, and cooperation that are critically important for keeping both organizations on the leading edge and for protecting and promoting our nation's public health.

This resource was also studied in detail in the 1997 EIS and dismissed from further study in the 2005 Supplemental EIS and does not warrant further analysis because there has been no change. Therefore, Community Facilities and Services were not studied in detail.

3.1.8 Geology and Topography

The FRC is located along the eastern edge of the fall line between the Piedmont Plateau and Coastal Plain physiographic provinces. The Piedmont Plateau is composed of hard crystalline igneous and metamorphic rocks. Bedrock consists of schist, gneiss, gabbro, and other highly metamorphosed rocks. The Coastal Plain is underlain by a wedge of unconsolidated sediments, including gravel, sand, silt, and clay that overlap the eastern Piedmont Plateau at the fall line. The FRC is underlain by bolder gneiss, a piedmont metasedimentary rock with thick-bedded to massive, pebble- and boulder-bearing characteristics, and the Potomac Group with sands, silts, and clays of coastal plain origin (Cleaves et al., 1968; U.S. Navy, 1984)

The topography of the FRC is generally rolling with elevations ranging from approximately 160 to 400 feet above mean sea level (msl). There are steep slopes (greater than 15 percent) on much of the FRC, generally along the stream valleys. In general, terrain with slopes greater than 15 percent is considered to have very severe erosion potential. Within the FDA Campus, the topography is relatively flat with slopes less than 15 percent.

Because the 130-acre FDA Campus is relatively flat and has been graded to accommodate the existing construction activities, the geology and topography would not change due to construction proposed in the Master Plan Update. This resource was also studied in detail in the 1997 EIS and the 2005 Supplemental EIS and does not warrant further analysis because there has been no change. Therefore, Geology and Topography were not studied in detail.

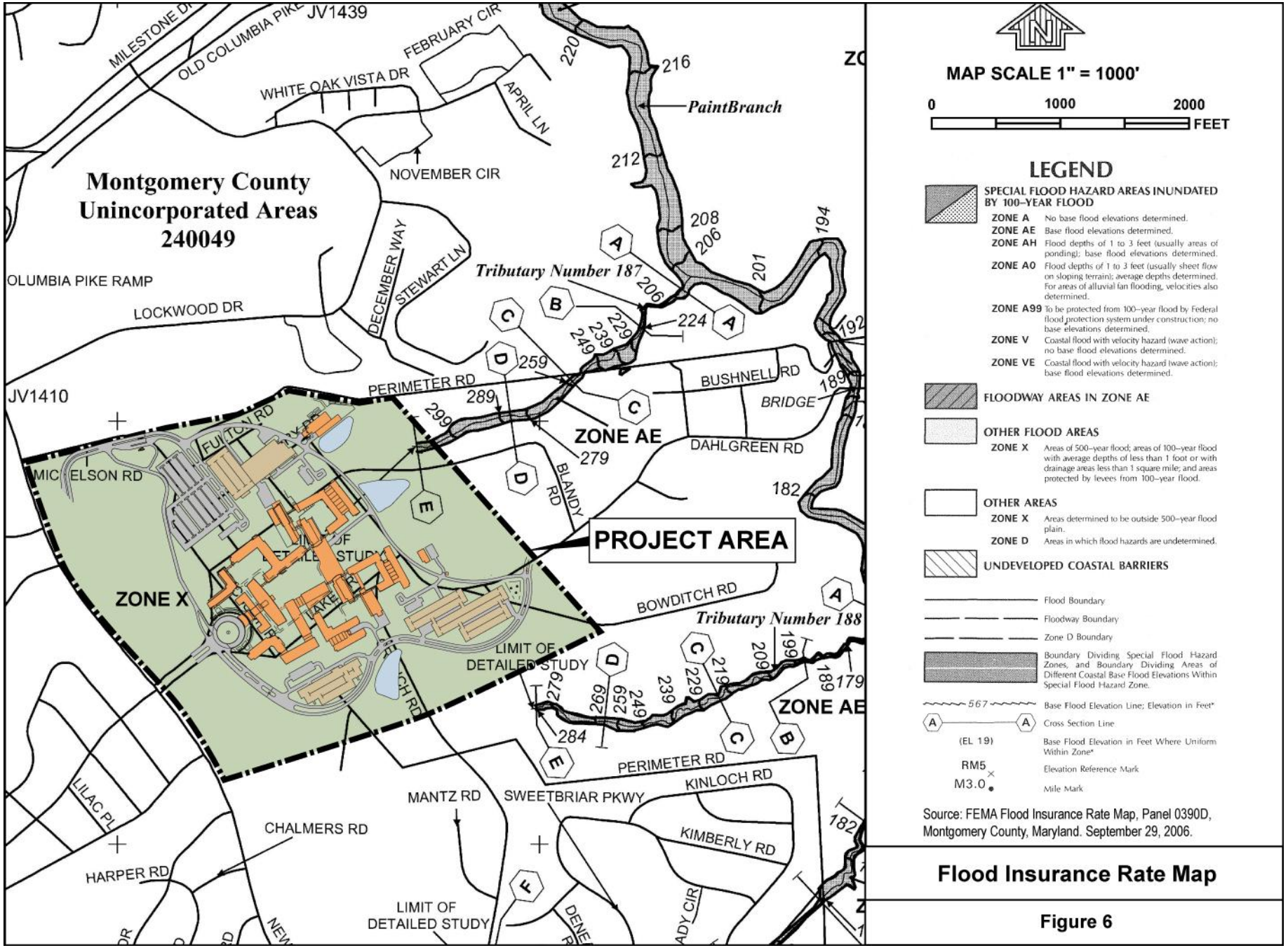
3.1.9 Floodplains

Only a portion of the floodplains of the streams in the FRC have been mapped; however, floodplains are primarily confined to the narrow channels of the streams through the FRC. Even though the FDA Campus does not contain any floodplains (see Figure 6); indirectly, floodplains on the FRC could be impacted by runoff. Stormwater management practices would be implemented that would manage

the quantity of water flowing into streams; therefore, no increase in flood levels would occur (See Section 3.3.3). This resource was also studied in detail in the 1997 EIS and the 2005 Supplemental EIS and does not warrant further analysis because there has been no change. Due to this, Floodplains were not studied in detail.

3.1.10 Archeology

There would be no impacts to archaeological resources under the 2006 Master plan. The Master Plan Update alternatives are not expected to impact unknown archaeological resources. The areas proposed for the redevelopment/construction of Buildings 10, 25, 52, 71, 72, 75, the Distribution Center, and the location of the Broadcast Studio do not possess the potential to contain archaeological resources due to disturbances from previous grading, filling, construction, and landscaping activities. The area proposed for the construction for the CUP expansion is steeply sloped. Steeply sloped areas have low potential to contain archaeological resources. Further, the areas proposed for the relocation of the Child Care Center, the Fitness Center, and the Broadcast Studio have previously been surveyed for the presence of archaeological sites (G&O, 1997; 2006). No significant archaeological resources were identified. This resource was also studied in detail in the 1997 EIS and the 2005 Supplemental EIS and does not warrant further analysis because there has been no change. Because no impacts are anticipated, Archeological Resources were not studied in detail.



Flood Insurance Rate Map

Figure 6

3.2 Soils

3.2.1 What Are the Soil Conditions in the Western Portion of the FRC?

There are three general soil map units or soil associations (see Table 5) within the FRC and seven soil map unit types within the western portion of the FRC where the FDA Campus is located (see Table 6 and Figure 7). The majority of the soil within this area is Croom gravelly loam, with 3 to 8 percent slopes (61B). The next most abundant soil type at the FRC is Urban land complex (UB). Near the southern boundary of the FDA Campus, there is a very small amount of the soil map unit type Croom gravelly loam characterized by 15 to 25 percent slopes (61D) (USDA, 1995). Soil conditions in this area of the FDA Campus may have severe erosion potential; however, no construction is going to occur in this area.

Table 5. Soil Associations Within the FRC

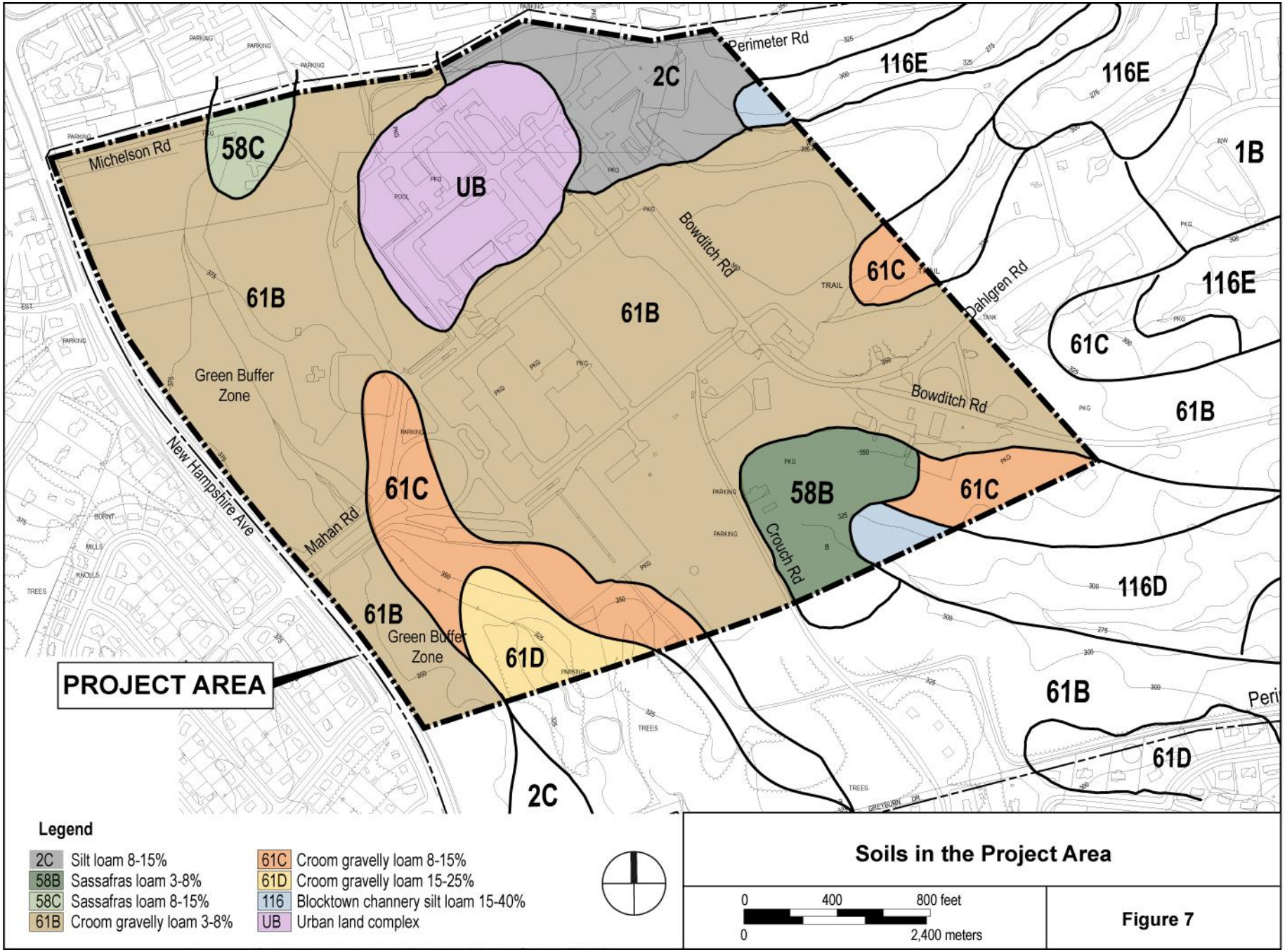
Montgomery County (USDA, 1995)
Glennelg-Gallia-Occoquan
Urban land-Wheaton-Glennelg
Chillum-Croom-Beltsville

Table 6. Soil Map Units Within the FDA Campus

Montgomery County (USDA, 1995)	
Soil Unit	**Description**
2C	Glennelg silt loam, 8 to 15 percent slopes
58B	Sassafras loam, 3 to 8 percent slopes
58C	Sassafras silt loam, 8 to 15 percent slopes
61B	Croom gravelly loam, 3 to 8 percent slopes
61C	Croom gravelly loam, 8 to 15 percent slopes
61D	Croom gravelly loam, 15 to 25 percent slopes
UB	Urban land complex
116	Blocktown channery silt loam, 15 to 40 percent slopes

Soil Types

Loam - Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.
Silt - Soil that is 80 percent or more silt and less than 12 percent clay.
Gravelly soil material - Material that is 15 to 50 percent by volume, rounded or angular rock fragments, not prominently flattened, up to 3 inches in diameter.
Urban land - An area where more than 75 percent of the surface is covered by asphalt, concrete, buildings, or other structures.


Perimeter Rd
Michelson Rd
58C
2C
UB
116E
116E
1B
Bowditch Rd
61C
TRAIL
Dahlgren Rd
116E
61B
61B
Green Buffer Zone
61C
61C
Bowditch Rd
61B
New Hampshire Ave
Mahan Rd
58B
Crouch Rd
61C
116D
61B
Green Buffer Zone
61D
PROJECT AREA
61B
61D
2C
Legend
2C Silt loam 8-15%
58B Sassafras loam 3-8%
58C Sassafras loam 8-15%
61B Croom gravelly loam 3-8%
61C Croom gravelly loam 8-15%
61D Croom gravelly loam 15-25%
116 Blocktown channery silt loam 15-40%
UB Urban land complex
Soils in the Project Area
0 400 800 feet
0 2,400 meters
Figure 7

3.2.2 How Would Soils be Affected by the Proposed Action?

2006 Master Plan (No-Action Alternative)

Under the 2006 Master Plan, a moderate, long-term, direct, adverse impact on soils from clearing, grading, and construction activities would occur. At the time when Navy facilities occupied the site, out of 130-acre campus, the total impervious area was 41 acres. Under the 2006 Master Plan, impervious surfaces would be increased by 10 acres for a total of 51 acres of impervious surface.

As discussed in Section 3.7, Environmental Contamination, contaminated soils have been excavated from the western portion of the FRC. These soils have been replaced with clean fill. Construction of the additional facilities under the 2006 Master Plan would not be affected by these soil conditions.

Erosion of soils during construction could lead to sedimentation in local streams. Because an erosion and sedimentation plan, approved by the MDE would be followed during construction, indirect, adverse impacts from soil erosion are anticipated to be minor and short-term (see Table 9: Stormwater, Erosion and Sediment Control Permits).

Master Plan Update Alternatives (Action Alternative)

Both of the Master Plan Update alternatives would add to the impact under the 2006 Master Plan from clearing, grading and construction activities because an additional 1,254,922 gross square feet of lab, office, and other spaces would be needed to accommodate the additional 1,170 FDA employees. Alternative 2 (Dispersed Density Action Alternative) would have a slightly greater square footage of building footprint (impervious surfaces would be increased by 5.6 acres for a total of 55.6 acres of impervious surface) than Alternative 3 (Southeast Quadrant Density Action Alternative). Alternative 3 would increase impervious surfaces by 2.9 acres for a total of 53.9 acres of impervious surface. Therefore, Alternative 2 would have a slightly higher impact on soils as compared to Alternative 3, but both action alternatives would overall have a moderate, long-term, direct, adverse impact to soils.

As discussed in Section 3.7, contaminated soils have been excavated from the western portion of the FRC. These soils have been replaced with clean fill. Construction of the additional facilities under the Master Plan Update alternatives would not be affected by these soil conditions.

Best Management Practices

Best Management Practices or BMPs are state-of-the-art methods for reducing the amount of rainfall that runs overland into streams and rivers. BMPs help slow runoff, filter out contaminants and improve water quality, and help rainfall filter into the ground. Examples of BMPs are bioretention where landscaping and soil is used to treat stormwater runoff by collecting it in shallow, landscaped depressions and then filtering it through a planting soil; and green roofs where landscaped filters are located on the tops of buildings to collect and filter rainwater before it flows off of the building and into the storm drain system.

Erosion of soils during construction could lead to sedimentation in local streams. Because an erosion and sedimentation plan, approved by the MDE would be followed during construction, indirect, adverse impacts from soil erosion are anticipated to be minor and short-term.

3.2.3 What Measures Will be Taken to Ensure That Erosion and Sedimentation Are Controlled?

Under the 2006 Master Plan and Master Plan Update alternatives, an erosion and sedimentation plan would be implemented to control and reduce sediments from entering storm drains and/or adjacent streams. Any grading activities would follow this plan to ensure soil stability. In addition, grass seed would be applied to all areas where soil is exposed. Best Management Practices (BMPs), such as silt fencing and proper construction sequencing, are being used to control and minimize sediments from entering storm drains and streams.

3.3 Water Resources

3.3.1 Surface Water

3.3.1.1 What Streams Could be Affected by the Proposed Action?

Four intermittent tributaries are located within or adjacent to the western portion of the FRC where the FDA Campus is located. Three of the unnamed intermittent streams appear on U.S. Geological Survey (USGS) topographic maps of the area, which are Tributaries 187, 188, and 189. The other tributary, not shown on the USGS map, has been identified as Tributary A by the Federal Emergency Management Agency (FEMA). All four streams have been classified as intermittent, which means they contain water periodically throughout the year. Intermittent streams are typically driven by rainfall events but also receive groundwater flow throughout the year. These water resources are shown on Figure 5.

Tributary 187 begins in a ravine near the northern site boundary of the FRC. Tributary A begins adjacent to the northeast boundary of FRC. Tributaries 187 and A both flow in a northeast direction where they eventually join with Paint Branch. Tributary 188 begins adjacent to Crouch Road near the southeastern site boundary, and flows in a south/east direction where it eventually confluences with Paint Branch. Tributary 189 starts near Michelson Road and flows southeast generally parallel to the FRC's western boundary near the FDA Headquarters. Tributary 189 flows into a small pond on the former golf course and eventually joins with Paint Branch south of the FRC.

3.3.1.2 How Would Streams be Affected by the Proposed Project?

2006 Master Plan (No-Action Alternative)

Under the 2006 Master Plan, none of the four stream systems in the vicinity of the FDA Campus would be directly affected. However, impervious surfaces would be increased. Construction under the 2006 Master Plan would increase the amount of impervious surface by approximately 51 acres over pre-construction conditions, which is 10 acres more than when the Navy occupied the site. The increase in impervious areas would result in a minor increase in the amount and temperature of stormwater runoff, which increases the peak discharges and temperatures in the receiving stream(s); thereby reducing water quality and degrading the biological integrity of the streams. Because permanent BMPs would be installed at the FDA Campus to trap sediment- and pollutant-laden runoff, the impact to Tributaries 187, 188, 189, and A would be minor, long-term, indirect, and adverse.

Master Plan Update Alternatives (Action Alternatives 2 and 3)

Under Alternatives 2 and 3, the proposed Fitness Center and the proposed locations of the Broadcast Studio would have indirect impacts to streams and the associated stream valley buffers. Each indirect impact to the stream valley buffer would result from the placement of stormwater quantity management outfalls. Indirect impacts to streams would occur from the construction of stormwater outfalls. Under Alternatives 2 and 3, the amount of impervious surfaces would be increased by 5.6 and 2.9 acres, respectively, over the 2006 Master Plan. The increase in impervious areas would result in a minor increase in the amount and temperature of runoff, which increase the peak discharges and temperatures in the receiving stream(s), thereby reducing water quality and degrading the biological integrity of the streams. Because permanent BMPs would be installed at the FDA Headquarters in order to trap sediment- and pollutant-laden runoff, the impact to Tributaries 187, 188, 189, and the unnamed tributaries would be minor, long-term, indirect, and adverse.

3.3.1.3 What Measures Will be Taken to Protect Streams and/or Stream Habitat?

Paint Branch and all its tributaries are designated as Use III by MDE. Use III streams are waters with naturally occurring trout populations and carry the state's most stringent water quality standards (MDE, 2000). For this reason and due to the close proximity of tributaries located within the

western portion of the FRC to development, extra caution, as described below, would be taken under the 2006 Master Plan and Master Plan Update alternatives.

Proposed impacts to streams and their associated buffers would be subject to federal and state review and approvals. GSA would continue to work with federal and state agencies to obtain proper permit authorizations for any alteration of wetlands, waterways, floodplains and/or the associated buffers on the site.

In order to control runoff from entering adjacent streams, buffers from construction would be maintained around streams to the extent possible in order to protect water quality. Vegetated buffers will help filter the pollutants from runoff before it reaches the stream. In addition, forested buffers help mitigate against the increased water temperature associated with development.

Erosion and sediment control measures would be implemented during and after construction to protect streams and stream habitat. For example, grass seed would be applied to all areas where soil is exposed to minimize erosion. The use of silt fencing, BMPs, and proper construction sequencing would control and minimize sediment from entering storm drains and streams. In addition, the installation of permanent BMPs would trap sediment- and pollutant-laden runoff from entering streams.

Wetlands

Wetlands are areas that are inundated or saturated by surface water or groundwater long enough to support a prevalence of plants that are typically adapted to living in wet soils. Wetlands cleanse polluted waters, hold floodwater, recharge groundwater aquifers, and provide valuable fish and wildlife habitat.

3.3.2 Wetlands

3.3.2.1 What Wetlands are Located in the Vicinity of the FDA Campus?

Preliminary identification and delineation of the on site wetlands was completed in 1997 for the Final EIS using aerial photography, a review of the Montgomery and Prince George's Counties Soil Surveys, topographic maps, and National Wetlands Inventory (NWI) maps. Wetlands and streams classified as "waters of the United States" that are expected to fall under the U.S. Army Corps of Engineer's (USACE's) jurisdiction were classified according to the Cowardin System, as described in *Classification of Wetlands and Deepwater Habitats of the United States* (1979). This is a hierarchical system used to define wetlands according to hydrologic, geomorphologic, chemical, and biological factors.

Wetland delineations on portions of the FRC were conducted in December 2001 and May 2004. These wetland delineations were conducted to provide additional information and to verify the location of jurisdictional waters of the U.S. for the FDA facility construction activities. The

delineations, conducted in accordance with the USACE *Wetland Delineation Manual (*1987), identified several wetland systems on the western portion of site. As shown in Table 7, the western portion of the FRC where the FDA Campus is located contains approximately 1.35 acres of wetlands (see also Figure 5). The majority of wetlands are palustrine forested (PFO) wetlands (0.72 acre) followed by 0.2 acre of palustrine emergent (PEM) and 0.16 acre of wetland classified as non-vegetated or palustrine open water (POW) (see Table 7). Wetlands A, B, C, and D are located on Tributary 189 within the western portion of the FRC, comprising 0.2 acre. The Wetland G and H complex is formed by an impoundment of Tributary 189, and comprises 0.64 acre. Cattails (*Typha latifolia*), a hydrophytic species, surrounds the edge of the pond. Two small PFO wetland seeps were identified along the headwaters of Tributary A within the within the western portion of the FRC, approximately 0.08 acre in size.

Table 7. Wetlands Identified at the FRC

	Wetland Type	Area (acres)
Wetland A	PEM	0.03
Wetland B	PEM	0.11
Wetland C	PEM	0.02
Wetland D	PEM	0.04
Wetland G	PFO	0.38
Wetland H	PFO	0.26
Wetland K Non-vegetated waters	POW	0.16
Seep	PFO	0.05
Seep	PFO	0.03
Total		**1.35**

Wetland Definitions

Palustrine - Includes all nontidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean-derived salts is below 0.5%

Hydrophytic - Any plant growing in water or an a substrate that is at least periodically deficient in oxygen as a result of excessive water content

PEM (Palustrine Emergent wetland) – Wetland type characterized by cattail, rushes and sedges

PFO (Palustrine Forested wetland) – Wetland type found adjacent to tributaries characterized by woody vegetation

POW (Palustrine Open water) – Wetland characterized by open water such as ponds

3.3.2.2 How Would Wetlands be Affected by the Project?

2006 Master Plan (No-Action Alternative)

Under the 2006 Master Plan, no vegetated wetlands would be directly affected. The increase in impervious surfaces could increase runoff and erosion and sedimentation, which could result in minor, long-term, indirect, adverse impacts to wetlands.

Master Plan Update Alternatives (Action Alternatives 2 and 3)

Under Alternatives 2 and 3, the proposed locations for the Broadcast Studio and potable water storage tank would have direct impacts to wetlands and their associated buffers. Each direct impact to the wetland and the associated buffer would result from the placement of stormwater outfalls. Further wetland surveys of unnamed Tributary A and its adjacent wetlands would be needed in order to quantify the proposed impacts to the wetlands. No other vegetated wetlands would be directly affected. The increase in impervious surfaces could increase runoff and erosion and sedimentation which could result in minor, long-term, indirect, adverse impacts to wetlands.

3.3.2.3 How Will Wetlands be Protected?

GSA is required to obtain permits for any impacts (direct or indirect) to waters of the U.S.

GSA would continue to work with federal and state agencies to obtain proper permit authorizations for any alteration of wetlands, waterways, or floodplains on the site. Table 8 outlines the permits that have already been obtained for the construction activities proposed as a result of the FDA Headquarters consolidation at the FRC.

Table 8. Wetland Permits

Letter of Authorization (LOA) Number	Effective Date	Project
05-NT-0097/200562972	06/15/2005	Pond Outfall
07-NT-0016/200760184	06/05/2007	SW Loop Road Culvert
07-NT-0034/200760443	06/07/2007	Pond #3 Outfall
07-NT-0157/200762203	07/26/2007	Michelson Road Culvert
07-NT-3182/200763249	10/25/2007	Mahan Road Culvert
2007763160	09/15/2008	East Access Road

GSA is currently designing mitigation for Tributary 189 within the green buffer zone. This mitigation plan is being designed to compensate for impacts to waters of the U.S. under permit LOA #2007763160. This area would be restored by planting native shrubs and tree saplings to establish a riparian buffer to this perennial tributary of the Paint Branch. Also, under this mitigation plan, the stream channel is proposed to be restored to its natural condition.

In addition, invasive species would be removed and controlled, and native species planted in wetlands and upland buffers. These mitigation practices would improve the habitat value for wildlife.

3.3.3 Groundwater Hydrology and Quality

3.3.3.1 What Groundwater Features are Located Within the Western Portion of the FRC?

Groundwater occurs in both confined and unconfined conditions under the FRC. Sand and gravel units of the Coastal Plain Province and the uppermost weathered zone of the Wissahickon Formation comprise a shallow unconfined water table aquifer. Groundwater flow is limited to fractures within competent bedrock and generally occurs under confined conditions. While groundwater flow in the upland sand and gravel deposits is more consistent, surface deposits are less than 30 feet thick and capable of yielding only limited water volumes. Most water storage and circulation will generally occur in the upper 300 feet of the aquifer where fractures are wider, more abundant, and interconnected. Well yields can range from 0 to 183 gallons per minute (gpm), with an average yield of 23.5 gpm (U.S. Navy, 1984).

Water for nearly all private and industrial consumers in Montgomery and Prince George's Counties, including the FRC, is provided by the Washington Suburban Sanitation Commission (WSSC) from surface water sources (see Section 3.3.1). Only nine actively producing groundwater wells are registered in the State of Maryland within a 2-mile radius of the FRC. Well depths range from 80 to 400 feet (MDE, 1994). Groundwater is not used for either potable or industrial purposes at the FRC.

Groundwater in the approximately 31.5-square-mile local recharge area is recharged directly from precipitation. The average annual precipitation is 42 inches. However, evaporation and plant transpiration allows for only 20 to 25 percent of precipitation to reach the groundwater (U.S. Navy, 1984).

Numerous contaminated sites located on the FRC have been remediated (see Section 3.7 and the 1997 Final EIS for further information on the contaminated sites). Of these contaminated sites, groundwater contaminated with chlorinated volatile organic compounds (VOCs) was identified at Site 11 – Industrial Wastewater Disposal Area 100, located within FDA Campus. Groundwater investigations were conducted at Site 11 in 1997, 1999, and 2000-2001. A Record of Decision was signed in April 2004, which required no further remedial action; however, groundwater is not to be used for any purpose other than monitoring. Groundwater will not be withdrawn for potable or industrial uses.

3.3.3.2 How Would Groundwater be Affected by the Project?

2006 Master Plan (No-Action Alternative)

Under the 2006 Master Plan, increases in impervious surface area would have a long-term, direct, adverse impact on the recharge of groundwater aquifers; however, this impact would be negligible. Some open space and forested areas within the western portion of the FRC, where the FDA Campus is located, would remain intact and would allow for continued groundwater recharge.

Groundwater is not used for either potable or industrial purposes at the FRC, nor would it be used for such purposes under the 2006 Master Plan. Development of the additional FDA facilities and the relocation of the Child Care Center within the 130-acre FDA Campus would allow for the majority of open space and forested areas on the FRC site to remain intact, and these areas would continue to recharge the groundwater.

Master Plan Update Alternatives (Action Alternatives 2 and 3)

Under the Master Plan Update alternatives, minor, long-term, direct, adverse impacts to groundwater quality and hydrology would occur from the increase in impervious surface area. Alternative 2 (Dispersed Density Action Alternative) would have a slightly greater square footage of building footprint (impervious surfaces would be increased by 5.6 acres for a total of 56.6 acres of impervious surface) than Alternative 3 (Southeast Quadrant Density Action Alternative), which would increase impervious surfaces by 2.9 acres for a total of 53.9 acres of impervious surface. However, pervious open space surfaces remaining intact within the western portion of the FRC, where the FDA Campus is located, would allow for groundwater recharge. During construction and excavation activities, proper precautions would be taken to prevent transport of contaminants to groundwater. Integrated pest management techniques would be used during landscaping and turf

maintenance to reduce the potential for altering groundwater quality. With these implemented measures, this adverse impact to groundwater quality and hydrology would be negligible and short-term during construction and long-term during maintenance of the landscape.

Groundwater is not used for either potable or industrial purposes at the FRC, nor would it be used for such purposes under the Master Plan Update alternatives. Development of the additional FDA facilities, relocation of the Child Care Center and Broadcast Studio, and expansion of the CUP within the 130-acre FDA Campus would allow for the majority of open space and forested areas on the FRC site to remain intact, and these areas would continue to recharge the groundwater.

3.3.3.3 What Measures Would be Taken to Ensure That Erosion and Sedimentation Do Not Impact Water Resources On and Around the FDA Campus?

Under the 2006 Master Plan, the FDA consolidation at the FRC would continue. Therefore, erosion and sediment control measures would continue to be implemented under the approved erosion and sediment control plans. No additional control measures would be implemented.

Under the Master Plan Update alternatives, the erosion and sediment control plan would be updated and modified accordingly. Erosion and sediment control measures would follow MDE's guidelines in the *2000 Maryland Stormwater Design Manual* to control construction-induced and long-term sedimentation. Stormwater management plans, and erosion and sediment control plans would be submitted to the MDE Water Management Division for approval.

Erosion and sediment control measures that could be implemented include:

- Seed would be applied to all areas where soil is exposed to minimize erosion
- The use of silt fencing, BMPs, and proper construction sequencing would control and minimize sediment from entering water resources.
- Installation of permanent BMPs would trap sediment- and prevent pollutant-laden runoff from entering adjacent water resources.

Mitigation for the increase in impervious area could be achieved by the use of infiltration devices to capture stormwater runoff and divert it to the subsurface. Such devices must be located at sites capable of percolating the water from the surface to the subsurface and designed in compliance with applicable stormwater management regulations. Soils at potential infiltration device locations would be tested for their ability to accept water.

3.3.4 Stormwater Resources

3.3.4.1 How Has Stormwater Management at the FDA Headquarters Been Provided?

On May 2, 2003, the MDE Water Management Administration (MDE/WMA) issued GSA a modification to NOI # 01-SE-0363 to comply with the General Permit for Construction Activities in accordance with the EPA's National Pollutant Discharge Elimination (NPDES) stormwater program. Permitted discharges include stormwater runoff, groundwater from sumps, air conditioning system condensates, process cooling water, and similarly non-process-contaminated waters. All outfalls are monitored regularly for permit compliance.

Under the *Water Resources Development Act of 1992*, the USACE was directed by Congress to assess adverse impacts of federal facilities on the Anacostia Watershed and make recommendations for mitigating the impacts. In a May 2002 report, USACE *Anacostia Federal Facilities Impact Assessment,* USACE stated that the FRC experiences very few stormwater problems on site. According to the USACE, conditions which adversely affect water quality include abundant goose and deer population, uncontrolled stormwater runoff from the eastern portion of the FRC outside of the FDA Campus, and runoff and sediment from the quarry north of the FRC (USACE, 2002).

Stormwater quantity management for the FDA Campus is being provided by three dry detention stormwater management basins. All three basins have been constructed. Stormwater management will provide 12-hour extended detention for the ultimate build-out condition in each drainage area, per MDE's criteria for new developments. MDE has a less restrictive requirement for water quantity control for redevelopment projects, which is to provide 12-hour extended detention for increases in impervious area; there is no requirement to provide quantity management for existing impervious areas. The FDA Headquarters Consolidation project qualifies as a redevelopment project. However, GSA's goal is to construct the stormwater management facilities to provide quantity management for the entire FDA site. As a whole, the FDA project would exceed the minimum level of stormwater quantity management required by the State of Maryland for a redevelopment project.

Stormwater quality management is also being incorporated into the storm drainage system. Quality management facilities would consist of green roofs, bioretention areas, grass channels, and underground sand filter structures. Bioretention areas require that runoff enter via surface sheet flow. Roof drainage will therefore discharge onto the ground surface near the buildings, flow across the surface, and spread out before reaching a bioretention area. MDE also has less restrictive water

quality management regulations for redevelopment projects versus new development projects, similar to the differences for quantity management described above. Stormwater quality management is required for 20 percent of the existing impervious area and 100 percent of the difference between new and existing impervious areas. Again, GSA's goal is to exceed this requirement.

Table 9 outlines the stormwater management and erosion and sediment control approvals that have been obtained for the FDA consolidation at White Oak to date.

Table 9. Stormwater and Erosion and Sediment Control Permits

MDE Approval Number	Effective Date	Project
01-SF-0070	11-08-00 Modified 01-10-02	Phase 1 – Contract 1 CDER Lab
01-SF-0281	10-13-01	Phase 1 – Contract 2 CDER Lab
01-SF-0363	01-30-02 Modified 05-02-02 Mod 08-09-02 Mod 09-09-02 Mod 12-11-02 Mod 04-11-03 Mod 05-01-03	Site Demolition Package
01-SF-0363	04-18-03 Modified 06-24-03 Modified 08-20-03 Modified 09-08-03	Phase 2A - CDER Office I
01-SF-0363	10-07-03	Phase 2B – Central Utility Plant (Phase I)
03-SF-0310	04-28-03	Underground distribution electrical conduit
04-SF-0080	12-31-03	Central Shared Use Excavation & Foundation
04-SF-0079	01-20-04	Engineering/Physics Lab

Table 9. Stormwater and Erosion and Sediment Control Permits

MDE Approval Number	Effective Date	Project
		Excavation & Foundation
04-SF-0225	07-10-04	Central Shared Use
05-SF-0088	11-17-04 Modified 02-03-05	Engineering/Physics Lab
05-SF-0175	01-21-05	North Garage
05-SF-0181	02-04-05	Campus Roads – Phase I
05-SF-0338	08-10-05	Sanitary Sewer Outfall
05-SF-0265	09-21-05 Modified 09-11-07	CDER II
06-SF-0240	04-19-06	Central Utility Plant Phase II
07-SF-0008	10-06-06	CDRH Office
07-SF-0110	03-23-07 Modified 05-04-07 Mod 11-16-07 Mod 12-21-07 Mod 01-16-08	SW Garage
07-SF-0246	07-23-07 Modified 12-12-07	Michelson Road
08-SF-0019	10-09-07 Modified 10-19-07 Mod 11-16-07 Mod 11-21-07	Building 1
08-SF-0073	11-16-07	OC/ORA
08-SF-0156	02-14-08	Truck Screening Facility
08-SF-0154	02-26-08	NE Garage
08-SF-0238	07-16-08	East Access Road – Phase 1

Table 9. Stormwater and Erosion and Sediment Control Permits

MDE Approval Number	Effective Date	Project
08-SF-0277	11-20-08	East Access Road – Phase 2
09-SF-0055	09-22-08	SE Garage – Rough Grading

3.3.4.2 How Would the Proposed Project Affect Stormwater?

2006 Master Plan (No-Action Alternative)

The FDA Campus as shown in the 2002 Master Plan would have approximately 44 acres of impervious surface, which is approximately 26 acres less than what was estimated under the 1997 EIS (GSA, 1997). Construction of additional FDA facilities and the relocated Child Care Center under the 2006 Master Plan would increase impervious surfaces by 10 acres from when the Navy occupied the site to a total of 51 acres. This increase would add to the stormwater management requirements for the FDA Headquarters Consolidation. Stormwater management practices currently in place to address the impacts are discussed in Section 3.3.4.1. This impact from runoff would be a minor, long-term, indirect, adverse impact.

Master Plan Update Alternative 2 (Action Alternative)

The Master Plan Update Alternative 2 would increase impervious surfaces by 5.6 acres over the 2006 Master Plan conditions, for a total of 56.6 acres. This would be an additional 4.3 percent loss of the total 130-acre FDA Campus. This would add to the stormwater management requirements for the FDA Headquarters Consolidation. This impact would be minor, long-term, indirect, and adverse. Potential ways to address stormwater management requirements are included in Section 3.3.4.1.

Master Plan Update Alternative 3 (Action Alternative)

The Master Plan Update Alternative 3 would increase impervious surfaces by 2.9 acres over the 2006 Master Plan conditions, for a total of 53.9 acres. This would be an additional 1 percent loss of the total 130-care FDA Campus. This would add to the stormwater management requirements for the FDA Headquarters Consolidation. This impact would be negligible, long-term, indirect, and adverse. Potential ways to address stormwater management requirements are included in Section 3.3.4.1.

3.3.4.3 What Types of Stormwater Quantity and Quality Control Measures Would be Implemented Under the Proposed Action?

For stormwater management, MDE requires that the 2- and 10- year post-development discharges be reduced to at least existing levels. Montgomery County regulations require that, for any development, the post-development 2-year peak discharge be reduced to pre-development levels. Stormwater management for the proposed development would be designed to meet the MDE requirements, which results in the larger basin volumes of the two requirements.

As previously mentioned, stormwater management quality would be provided by bioretention areas and, if feasible, infiltration trenches throughout the FDA Campus for the buildings and roads. The success rate of infiltration is dependent upon types of soil, slopes, and depth of groundwater and bedrock. Underground sand filters are acceptable, but bioretention areas are preferable because they are easier to maintain and repair. Additionally, they add the benefits of an aesthetically pleasing and functional green space to the site. Bioretention, filter strips, vegetated buffers, dry wells, grassed swales, infiltration trenches, and rooftop greening are all considered to be environmentally sensitive stormwater management practices in the June 1999 *Low Impact Development Design Strategies* guide, prepared by the Prince George's County, Maryland Department of Environmental Resources.

Mitigation of erosion and sedimentation effects during construction would be addressed in an erosion and sediment control plan. This plan would specify measures from MDE's *2000 Maryland Standards and Specifications for Soil Erosion and Sediment Control* to be used to control construction-induced and long-term sedimentation. Approvals of the stormwater management, and erosion and sediment control plans are required from the MDE Water Management Administration.

3.4 Vegetation

3.4.1 What Type of Vegetation is Located on the FDA Campus?

Plant communities were previously classified using the Anderson land-use classification system developed by the USGS (Anderson et al., 1976). Land use classifications found in the western portion of the FRC include:

Urban or Built-up Land – Land comprised of areas of intensive use with much of the land covered by structures, including cities, towns, strip developments along highways,

transportation, power, and communications facilities, and areas such as those occupied by shopping centers, industrial and commercial complexes, and institutions that may, in some instances, be isolated from urban areas.

Deciduous Forest Land – Includes all forested areas having a predominance of trees that lose their leaves at the end of the frost-free season or at the beginning of a dry season.

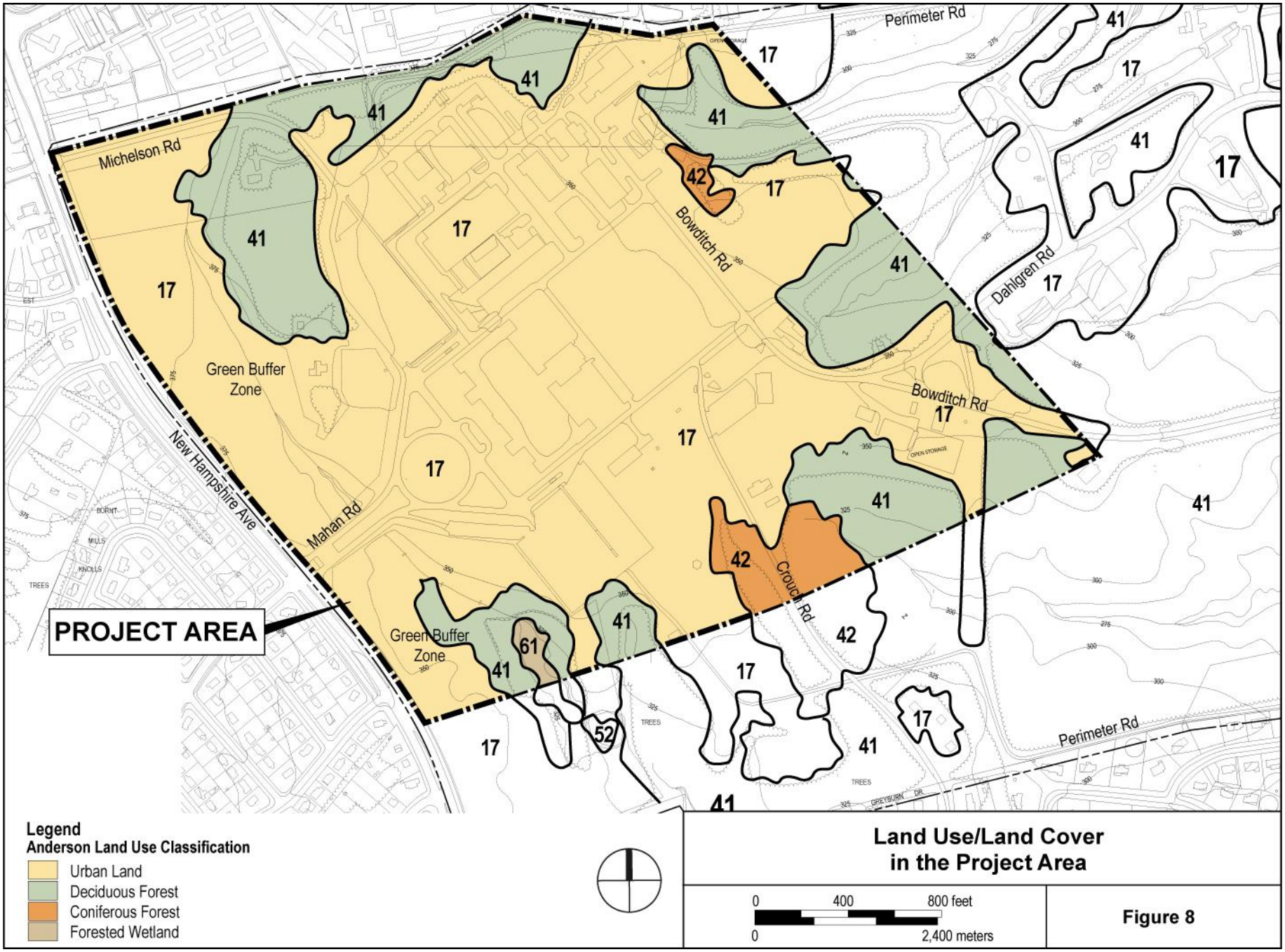
Coniferous Forest Land – Includes all forested areas in which the trees are predominantly those which remain green throughout the year. Both coniferous and broadleaved evergreens are included in this category.

Forested Wetland - Includes wetlands dominated by woody vegetation. Forested Wetlands include seasonally flooded bottomland hardwoods, mangrove swamps, shrub swamps, and wooded swamps, including those around bogs.

During field visits conducted for the 1997 EIS, plant and wildlife species within each plant community were identified. The plant communities and urban land uses in the western portion of the FRC are described below. Land use in the western portion of the FRC that makes up the FDA Campus is shown on Figure 8.

Urban Land in the western portion of the FRC that makes up the FDA Campus includes the green buffer zone, the FDA development, roads, and parking lots. In the urban land communities, planted lawns consist of a mixture of tall fescue (*Festuca arundinacea*) and Kentucky bluegrass (*Poa pratensis*), with smaller amounts of annual ryegrasses (*Lolium sp*.), red clover (*Trifolium repens*), and bush clovers (*Lespedeza spp*.). Various herbaceous species have invaded the grassy areas, including winter cress (*Barbarea vulgaris*), wild mustard (*Brassica kaber*), wild onion (*Allium vineale*), common dandelion (*Taraxacum officinale*), Pennsylvania bitter cress (*Cardamine pennsylvanica*), white clover (*Trifolium repens*), cinquefoils (*Potentilla spp*.), gill-over-the-ground (*Glecoma hederacea*), and speedwells (*Veronica spp*.). Shrubs and brush found in this community include greenbrier, Japanese honeysuckle, and tartarian honeysuckle (*Lonicera tatarica*) (U.S. Navy, 1985).

The predominant plant communities on the FRC are forest land, specifically deciduous forest. Deciduous forest land includes all forested areas with a predominance of trees that lose their leaves in the fall, including forested areas that are also considered wetlands. The FRC contains one of the few remaining large forest plots in this highly developed portion of Montgomery and Prince George's Counties. Within the western portion of the FRC, the deciduous forested area is located on


Perimeter Rd
Michelson Rd
Bowditch Rd
Dahlgren Rd
Green Buffer Zone
New Hampshire Ave
Mahan Rd
Crouch Rd
PROJECT AREA
Green Buffer Zone
Perimeter Rd
Legend
Anderson Land Use Classification
Urban Land
Deciduous Forest
Coniferous Forest
Forested Wetland
Land Use/Land Cover in the Project Area
0 400 800 feet
0 2,400 meters
Figure 8

the northern boundary of the site, including within the green buffer zone area. The different species found within the deciduous forest land at the FRC are shown in Table 10. No evergreen forest or mixed forest land were found in the western portion of the FRC.

Table 10. Dominant Species within the Deciduous Forests at the FRC

	Common Name	Scientific Name
Overstory	Tuliptree	*Liriodendron tulipifera*
	Pignut hickory	*Carya glabra*
	Northern red oak	*Quercus rubra*
	Pin oak	*Quercus palustris*
	Scarlet oak	*Quercus coccinea*
	Scattered Virginia pine	*Pinus virginiana*
	White oak	*Quercus alba L.*
Understory	American beech	*Fagus grandifolia*
	Red maple	*Acer rubrum*
	Flowering dogwood	*Cornus florida*
	Mountain laurel	*Kalmia latifolia*
	American holly	*Ilex opaca*
	Japanese honeysuckle	*Lonicera japonica*
	Greenbrier	*Smilax spp.*

3.4.1 How Would Vegetation be Affected by the Project?

2006 Master Plan (No-Action Alternative)

Under the 2006 Master Plan, locating the Child Care Center to the back of the site would require the removal of approximately 1 acre, of forest resulting in a moderate, long-term, direct, adverse impact to forest habitat.

Currently, a wooded area north of the Northeast Loop Road and the CUP (Building 100) has been removed due to grading and construction of the loop road, which was approved under the 2006 Master Plan. This has created a minor, short-term, direct impact. However, after construction is completed, replacement trees would be planted to reconstruct this natural buffer zone.

Continual development around the site would increase the amounts of airborne pollutants that are harmful to vegetation, resulting in an minor, long-term, indirect, adverse effect to vegetation. Sulfur dioxide (resulting from burning fossil fuels for energy or heating) and ozone (resulting from a combination of atmospheric nitrogen and oxygen with unburned hydrocarbons from automobile exhausts) can cause dieback and general decline in vegetated areas.

Master Plan Update Alternatives (Action Alternative)

Each of the Master Plan Update alternatives would require minimal removal of natural vegetation for construction of new buildings because the new construction would occur within areas that are already developed under the 2006 Master Plan. The relocation of the Child Care Center to the southern part of the site, along with the construction of a fitness center, would not require the removal of any forest land. Either location proposed for the Broadcast Studio would require the removal of approximately 1 acre of forest land.

Continual development around the site would increase the amounts of airborne pollutants that are harmful to vegetation, resulting in a minor, long-term, indirect, adverse effect to vegetation. Sulfur dioxide (resulting from burning fossil fuels for energy or heating) and ozone (resulting from a combination of atmospheric nitrogen and oxygen with unburned hydrocarbons from automobile exhausts) can cause dieback and general decline in vegetated areas.

3.4.2 What Efforts Would be Made to Protect the Vegetation?

Minimization of impacts to vegetation under the 2006 Master Plan or any of the proposed Master Plan Update alternatives can be accomplished by ensuring that construction activities impact only areas that are to be cleared for structural components (buildings, parking lots, etc.). Areas that are not to be developed should not be used for equipment parking and other construction related activities unless no other alternatives are feasible.

Mitigation would also be accomplished by improving the quality of the remaining habitat. A Forest Management Plan/ Tree Conservation Plan would be developed and implemented for the Master Plan Update alternatives. Such a plan would focus on removal of non-native, invasive species on the site. The invasive species would be replaced with plantings of native species beneficial to wildlife such as sumac, elderberry, and serviceberry. Some additional plantings of native evergreen species such as white pine would provide additional areas of shelter for some species.

3.5 Air Quality

3.5.1 Are There Any Air Quality Issues in the Washington Metropolitan Region?

Under the authority of the Clean Air Act (U.S.C. Title 42, Chapter 85, 1970, as amended in 1990), the US Environmental Protection Agency (EPA) is responsible for setting emission standards for six air pollutants with the greatest public and environmental health risks. The standards, known as the National Ambient Air Quality Standards, or NAAQS, set limits on air pollutant concentrations of nitrogen dioxide (NO_2), sulfur dioxide (SO_2), carbon monoxide (CO), ozone (O_3), particulate matter ($PM_{2.5}$/PM_{10}), and lead (Pb). According to EPA's *Green Book Nonattainment Areas for Criteria Pollutants* (2008), the Washington Metropolitan Region does not meet federal air quality standards for ozone (O_3) or for fine particulate matter under 2.5 microns in size ($PM_{2.5}$).

Each state (or regional government) is required by EPA to develop a State Implementation Plan (SIP) that identifies the NAAQS attainment status for each pollutant and accounts for planned projects within the region that have potential to increase pollutant emissions. Areas where concentrations of criteria pollutants are below the NAAQS are designated as being in "attainment" and areas where a criteria pollutant level exceeds the NAAQS are designated as being in "nonattainment" by EPA. O_3 nonattainment areas are categorized based on the severity of pollution: marginal, moderate, serious, severe, or extreme. CO and PM_{10} nonattainment areas are categorized as moderate or serious. The Metropolitan Washington Council of Governments (MWCOG) prepared the SIPs for O_3 and $PM_{2.5}$. The SIP to meet O_3 attainment standards was prepared in May 2007 and the SIP to meet $PM_{2.5}$ standards was prepared in March 2008. The FDA Campus is located within the Washington Metropolitan Region, which is designated as a non-attainment area for $PM_{2.5}$ and as a moderate non-attainment area for O_3 under the 8-hour standard. The 8-hour standard is defined as the 3-year average of the fourth highest daily maximum 8-hour average ozone concentration.

The CAA identified 188 air toxics, also known as hazardous air pollutants. The EPA has assessed this expansive list of toxics and identified a group of 21 as mobile source air toxics (MSATs), which are set forth in an EPA final rule, *Control of Emissions of Hazardous Air Pollutants from Mobile Sources (66 FR 17235)*. The EPA also extracted a subset of this list of 21 that it now labels as the six priority MSATs. These are *benzene, formaldehyde, acetaldehyde, diesel particulate matter/diesel exhaust organic gases, acrolein,* and *1,3-butadiene*. These MSATs are considered the priority transportation toxics.

Geographic Areas Included in the Washington Metropolitan Region

Maryland

- Montgomery County
- Prince George's County
- Frederick County
- Charles County
- Calvert County

Virginia

- Fairfax County
- Arlington County
- Prince William County
- Loudoun County
- City of Alexandria
- City of Falls Church
- City of Fairfax
- City of Manassas
- City of Manassas Park

District of Columbia

3.5.2 Will This Proposed Action Impact Air Quality in the Area?

Ozone (O3)

- Common Sources: Industrial facilities and electric utilities, motor vehicle exhaust, gasoline vapors, and chemical solvents are sources of VOCs and Nox, which combine in the presence of sunlight to form ozone.
- FDA White Oak Master Plan Update Sources: Gas turbines associated with Central Utility Plant, Motor Vehicles

Particulate Matter (PM2.5, PM10)

- Common Sources: Power plants, industrial sites, automobiles, construction sites, unpaved roads, smokestacks.
- FDA White Oak Master Plan Update Sources: Gas turbines associated with Central Utility Plant, Motor Vehicles, Construction (temporary)

Carbon Monoxide (CO)

- Common Sources: Motor vehicles, power plants, industrial sites, Construction sites.
- FDA White Oak Master Plan Update Sources: Gas turbines associated with Central Utility Plant, Motor Vehicles, Construction (temporary)

Nitrogen Oxides (NOx)

- Common Sources: Power plants, motor vehicles, construction sites, unpaved roads, smokestacks.
- FDA White Oak Master Plan Update Sources: Gas turbines associated with Central Utility Plant, Motor Vehicles

Sulfur Dioxide (SO2)

- Common Sources: Power plants, motor vehicles
- FDA White Oak Master Plan Update Sources: Gas turbines associated with Central Utility Plant, Motor Vehicles

Lead (Pb)

- Common Sources: Industrial Sites, Electricity Generation
- FDA White Oak Master Plan Update Sources: None.

2006 Master Plan (No-Action Alternative)

Air quality analyses for both mobile and stationary sources were conducted for the 2005 Final EIS. It was determined that the Master Plan proposed at that time would not significantly affect the ambient air quality in the region, and that emissions generated from the FDA Campus were exempt from further analysis as defined in the General Conformity Rule under the CAA.

Master Plan Update Alternatives (Action Alternatives 2 and 3)

Under the Master Plan Update alternatives, the additional facilities and traffic generated by the additional employees would result in a minor, long-term, direct, adverse increase in emission levels over those modeled in the 2005 Final EIS, but would not result in the project exceeding the conformity requirements of the Clean Air Act.

The mobile and stationary air analyses (described in greater detail below) indicate that the Master Plan Update alternatives would result in minor increases in air pollutant emissions. However, the conformity analysis indicates that each alternative would conform to the Washington Metropolitan Region SIP. Air pollutant emissions would result from the proposed development of the FDA Campus and the addition of 1,170 employees traveling to the campus. Emissions would come from mobile sources, such as motor vehicles travelling on surrounding roadways and from stationary sources, primarily the expanded CUP and vehicles within the new parking garages associated with each Master Plan Update alternative. These impacts would result in minor, long-term, direct, adverse impacts.

Air quality may be temporarily impacted by construction activities. Fugitive dust would be generated during the modification of existing structures, site grading, construction, wind erosion, and vehicular activities. Emissions from construction equipment, including earth moving equipment, demolition equipment, and paving equipment, would generate VOCs and NO_x. Construction at the FDA Campus could extend over a multi-year period. The intensity, duration, location, and type of construction activity would vary over time. These impacts could be considered significant, even on a temporary basis, if the local regulations and BMP control measures are not implemented. With the implementation of control measures, construction activities would be expected to have minor, direct, short-term, adverse impacts on air quality.

3.5.3 How Were Air Quality Effects Determined?

Air quality effects were determined by quantifying new emissions that would occur under the Master Plan Update alternatives, including emissions from stationary sources (the CUP) and from traffic or "mobile" sources.

The CUP expansion proposed under either Master Plan Update alternatives consists of three different options (A, B, and C) for expanding the quantities and types of gas turbines to be used for the CUP expansion. These options include:

- Option A: Five Mercury 50 Gas Turbines
- Option B: One Mercury 50 Gas Turbine; two Taurus 70 Gas Turbines
- Option C: One Mercury 50 Gas Turbine; two Titan 130 Gas Turbines

In addition to these different scenarios for on-campus development which affect the sources of stationary air pollutant emissions, the proposed development analyzed in this Supplemental EIS includes traffic projections that vary, depending on whether or not the project would go forward with the Intercounty Connector (ICC) in place. These are considered mobile source emissions.

Stationary Source Analysis

The potential for stationary source air quality impacts analysis considered emissions from point and area sources on the FDA Campus. These include the expansion of the CUP to meet increased energy needs (a point source) and the parking garages (area sources) associated with each Master Plan Update alternative to accommodate additional trips to and from the campus by commuters and visitors. Potential stationary sources of air pollutant emissions were considered in three separate analyses. The first analysis was to determine if any of the Master Plan Update alternatives would be considered a new major source of emissions. The second analysis was to determine if any of the Master Plan Update alternatives would create a potential violation of the NAAQS. The third analysis was to determine if the Master Plan Update alternatives would be in conformity with the SIP. Stationary source modeling was completed using the EPA AERMOD pollutant dispersion model.

The analysis indicated that stationary source emissions related to either of the Master Plan Update alternatives are (1) expected to exceed the major source new source review (NSR) thresholds for NSR regulated pollutants and will require a full NSR, as well as a Title V operating permit (under Title V of the Clean Air Act) under Maryland's Part 70 Permit Program; (2) are not expected to create any

violation of the NAAQS; and (3) are considered in conformity with the SIP, even though there would still be impacts to air quality from the proposed project. The Air and Noise Quality Technical Report in Appendix C provides additional technical information on the air quality analysis.

Mobile Source Emission Analysis

The potential for mobile source air quality impacts were analyzed by performing "hot spot" or worst-case analyses of CO and $PM_{2.5}$ to determine if localized emissions would exceed the NAAQS, and by a qualitative analysis of the potential for the 2006 Master Plan or either of the Master Plan Update alternatives to result in adverse Mobile Source Air Toxics (MSAT) effects.

In accordance with EPA guidance on CO Hot Spot Analysis, the potential for the 2006 Master Plan and the Master Plan Update alternatives mobile source emissions to violate the NAAQS was evaluated by analyzing CO emissions at two intersections considered to be the worst-case scenarios for potential emissions on nearby air quality sensitive receptors. The worst-case intersections were determined to be:

- US 29 and Musgrove Road, and
- US 29 and Steward Lane

These two intersections were predicted to have the highest level of congestion, the highest traffic volumes, and the closest proximity to air quality sensitive areas (such as public sidewalks) of all the intersections studied in the traffic analysis for this project (see Section 3.14). These intersections are anticipated to emit the highest CO concentrations (measured in parts per million(ppm)) for each of the 2006 Master Plan and Master Plan Update alternatives. Predicted traffic counts and operational characteristics of these intersections were input into EPA's CAL3QHC pollutant dispersion mode to estimate worst-case localized CO emissions in the vicinity of air quality sensitive receptors. The mobile source analysis indicated that the future traffic conditions at either of the intersections would not exceed the 1-hour and 8-hour NAAQS for CO (35 ppm and 9 ppm, respectively).

Because the FDA Campus is located in a $PM_{2.5}$ nonattainment area, the potential for localized $PM_{2.5}$ emissions exceedances were considered. The Master Plan Update alternatives would not add highway capacity nor increase diesel truck or transit traffic on roadways, and would not qualify as a "Project of Air Quality Concern" according to FHWA and EPA regulations as described in

Transportation Conformity Guidance for Qualitative Hot-Spot Analyses in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas (as described in 40CFR93.123 (b)(1)).

In accordance with the Federal Highway Administration's *Interim Guidance on Air Toxic Analysis in NEPA Documents*, the Master Plan Update alternatives qualify as a project that facilitates new development and may generate MSAT emissions from activities, including new trips, truck deliveries, and parked idling vehicles. However, these are activities that are generated from elsewhere in the Washington, DC Metropolitan Region. Thus, on a regional scale, there will be no net change in emissions. Moreover, EPA regulations for vehicle engines and fuels will cause overall MSATs to decline significantly over the next 20 years. Even after accounting for a 64 percent increase in vehicles miles traveled, the Federal Highway Administration predicts MSATs will decline in the range of 57 percent to 87 percent, from 2000 to 2020, based on regulations now in effect. This will both reduce the background level of MSATs as well as the possibility of even minor MSAT emissions from this project. The Air and Noise Quality Technical Report in Appendix C provides additional technical information on the air quality analysis.

Combined Stationary and Mobile Air Quality Analysis

The results of the mobile and stationary air analyses were combined and found not to result in exceedances of the NAAQS for any criteria pollutants.

3.5.4 What Permanent Measures Would be Taken to Reduce Long-Term Impacts to Air Quality?

From Stationary Source Impacts

GSA is expanding the CUP on the campus to provide electricity, heating, and cooling to the campus. The CUP is a cogeneration facility; natural gas is burned in an engine that turns a generator to produce electricity, while heat in the engine exhaust is recovered using a hot water loop and a steam loop. The hot water is used directly for heating. It is also used in absorption chillers to produce chilled water for cooling. Steam is utilized in a steam turbine to generate additional electricity. By recovering heat in the exhaust that would otherwise be lost, the cogeneration system consumes less energy than separate grid electric generation and local boilers. Selective Catalytic Reduction would be applied, if required, as a control technology to mitigate the NO_x and $PM_{2.5}$ emissions from the proposed stationary sources.

From Mobile Source Impacts

Under all alternatives (2006 Master Plan and the two Master Plan Update alternatives), employees would be encouraged to use public transportation (see also the Transportation Management Plan located in Appendix D for additional ways GSA/FDA is encouraging use of public transit). Carpool, vanpool, bicycle- to-work; alternative "clean" fuels and non-polluting sources of energy would be used whenever possible; power generation requirements would be minimized as much as possible; and green building materials, construction methods, and building designs would be used to the maximum extent practicable. In addition, in response to Ozone Action Days, measures to temporarily reduce the generation of emissions that contribute to ozone formation would be taken (see text baox). It should be noted that any long-term impact within the region from the mobile sources will also be offset by the advancement in automobile technology and federal emission regulations and controls.

Ozone Action Day

Ozone Action Days occur on days where meteorological conditions result in high ground-level ozone pollution. MWCOG encourages activities such as carpooling, riding transit, walking, and biking on these days and discourages activities such as driving, refueling, and lawn mowing to help decrease unhealthful ozone concentrations.

3.5.5 What would be done to protect air quality during construction?

Short-term construction impacts can be mitigated through the use of control measures, including maintenance of emission controls on all construction equipment and covering/wetting exposed soils to reduce fugitive dust.

3.6 Noise

3.6.1 What Are the Major Sources of Noise Surrounding the FDA Campus?

In the vicinity of the FDA Campus, common sources of noise include airplanes, barking dogs, industrial noise (e.g., CUP), playgrounds, and sporting events. Located in a primarily residential area, the loudest and most pervasive source of noise in the western portion of the FRC where the FDA Campus is located is truck and automobile traffic on heavily-traveled arterial roadways such as US 29 and New Hampshire Avenue.

3.6.2 How Were Noise Impacts Determined?

A qualitative noise analysis was conducted to identify whether noise-sensitive areas would be potentially impacted by project-related traffic increases on noise-sensitive areas adjacent to the FDA Campus and to determine if the CUP expansion would increase noise levels. In general, the Master

Plan Update alternatives will alter traffic volumes and patterns, and the analysis addressed the potential for those changes to exceed FHWA-established noise abatement criteria and Maryland State Highway Administration (SHA) Noise Abatement Policy criteria. In addition, expansion of the CUP would require the installation of new equipment that would be a new source of noise on the campus.

3.6.3 Would the Project Cause an Increase in Noise?

2006 Master Plan (No-Action Alternative)

Under the 2006 Master Plan, FDA would not generate additional traffic over the traffic levels studied in the 2005 Final EIS (GSA, 2005). CUP expansions planned as part of the 2006 Master Plan would generate new noise impacts. These impacts would be mitigated through the use of acoustic blocks in the engine halls, sound attenuation walls around outside gas compressors and turbines, variable frequency drives to slow the fan speed in the cooling towers, and placement of turbines in cabinets. With these measures, the 2006 Master Plan would have minor, long-term, adverse impacts to noise levels.

Master Plan Update Alternatives (Action Alternatives 2 and 3)

Each Master Plan Update alternative has identical traffic counts because they both result in the addition of 1,170 employees to the FDA Campus; therefore, the noise impacts for each alternative would be the same. Both alternatives would result in modest traffic increases on roadways in the vicinity of the FDA Campus. The amount of noise increase in all noise-sensitive communities associated with this traffic increase is anticipated to be less than 1 decibel. The Burnt Hills Knolls Community would experience the greatest proportional increase in traffic - an approximately 7 percent increase over traffic levels from the 2005 EIS – and, therefore, the greatest noise increase. A doubling (or 100 percent) of existing traffic volumes, of the same vehicle mix composition, would result in a 3 decibel increase in noise levels, which is generally the smallest increment of noise increase or decrease that can be perceived by the human ear.

As described in Section 3.14, the traffic increases anticipated with the Master Plan Update alternatives would be much smaller than a doubling of traffic volumes (e.g., there would not be more than a 7 percent increase in any area), which would result in noise increases of less than a few tenths of a decibel in areas surrounding the FDA Campus. Therefore, the additional traffic

Common Sound Levels

Source	Sound Level (dB(A))
Near large jet at takeoff	140
Air-raid siren	130
Threshold of pain	120
Thunder or sonic boom	110
Garbage or trailer truck at roadside	100
Power lawnmower at 5 feet	90
Alarm clock or vacuum cleaner	80
Freeway traffic at 50 feet	70
Conversational speech	60
Average residence	50
Bedroom*	40
Soft whisper at 15 feet	30
Rustle of leaves	20
Breathing	10
Threshold of hearing	0

*includes HVAC system, conversation, walking, doors opening and closing

Perception of Changes in Noise Levels

Change in dB(A)	Perception
0	Reference
3	Barely perceptible change
5	Readily perceptible change
10	Twice or half as loud
20	Four times or ¼ as loud
40	Eight times or 1/8 as loud

Source: Federal Highway Administration, June 1995 (*Highway Traffic Noise Analysis and Abatement Policy and Guidance*)

Montgomery County Noise Ordinance

The maximum allowable noise levels for non-residential areas are 67 dBA in the daytime and 62 dBA in the nighttime. The maximum allowable noise levels for residential areas are 65 dBA in the daytime and 55 dBA in the nighttime.

Source: Montgomery County, Maryland, 1996.

generated by the additional employees would result in a negligible increase in noise levels over those analyzed in the 2005 Supplemental EIS.

The addition of gas turbines related to CUP expansion has potential to result in noise increases that would affect employees on the campus and nearby residents. Under the Master Plan Update alternatives an addition would be constructed in the vicinity of the CUP to house additional generating equipment. The CUP expansion, like the existing CUP building, would have acoustic blocks to mitigate noise from the generating equipment. Cooling tower fans would include variable frequency drives to reduce noise, and new fans would have a different blade configuration that would reduce fan speed and thus noise. Lastly, sound attenuation walls would be provided, as necessary, between the CUP and residential areas outside of the FDA Campus to mitigate noise impacts. Quantitative noise levels from the CUP cannot be determined until specific equipment and configurations are chosen, but the facility would be required to comply with the Montgomery County Noise Ordinance (Montgomery County Code, Chapter 31B). The noise control measures described above would be designed to ensure compliance with the Montgomery County ordinance. With these mitigation measures, the CUP expansion would have a moderate, long-term, direct, adverse impact to noise levels.

Minor, short-term, direct, adverse noise impacts would result from construction activities for the additional FDA facilities, the Child Care Center, the Broadcast Studio, and the expansion of the CUP. FDA employees located at completed facilities on the campus may experience minor, short-term, adverse impacts from these construction noises. These impacts would not be greater than those presently experienced because of other construction activities occurring at the site.

3.6.4 What Would be Done During Construction to Prevent Disruption to the Community?

Construction is limited to the FDA Campus and, therefore, potential noise associated with the project would be limited to noise-sensitive areas adjacent to the campus. The following measures should be used to reduce construction noise:

- All construction equipment powered by an internal combustion engine should be equipped with a properly maintained muffler.
- Air compressors should meet current EPA noise emission standards.

- Newer model construction equipment and tools should be used as much as possible since it is generally quieter than older equipment.
- Nighttime construction activities should be minimized.
- Portable noise barriers within the equipment area and around stationary noise sources should be established.

3.6.5 What Measures Would be Taken to Reduce the Increase in Noise Levels From the Master Plan Update Alternatives?

The following measures would be instituted to reduce noise impacts associated with the Master Plan Update Alternatives:

- The facility would be required to comply with the Montgomery County Noise Ordinance (Montgomery County Code, Chapter 31B)
- Variable frequency drives on cooling tower fans would be included.
- Acoustic blocks to mitigate noise from the generating equipment.
- Cooling tower fans would include variable frequency drives and blade configurations.
- Sound attenuation walls would be provided.

3.7 Environmental Contamination

3.7.1 How Have Hazardous Materials and Contaminated Soils and Groundwater Been Addressed at the FRC?

The environmental cleanup at the FRC is governed by Section 7003 of the Resource Conservation and Recovery Act (RCRA). The U.S. Navy is responsible for cleanup of prior contamination at the FRC, with EPA oversight. The site is not listed on the National Priorities List (NPL). Since 1998, a number of hazardous materials and environmental contamination studies have been conducted. These ongoing investigations are in accordance with the U.S. Navy's Installation Restoration (IR) Program, which provides compliance with the EPA's Superfund program under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as amended. These programs required the U.S. Navy to thoroughly investigate and remediate as needed any environmental impacts associated with past activities.

The U.S. Navy conducted an Initial Assessment Study (IAS) in 1984 to identify and assess sites where previous hazardous waste disposal practices may have impacted the environment and created a

threat to human health. Of the nearly 50 sites where hazardous materials were disposed of or stored on the base, 14 sites were identified as potential threats to the environment. In 1987, a confirmation study of seven of the 14 sites found varying concentrations of contaminants and recommended further investigation to characterize the contaminants and define the extent of the pollution. Five years later, in 1992, a Remedial Investigation (RI) which included a hydrogeologic investigation, contaminant characterization, and risk assessment determined that contaminants at NSWC had adversely impacted the soil and groundwater conditions (Malcolm Pirnie, 1992). Since then, a Feasibility Study (FS) and a Design Verification (DV) study have been implemented to further investigate the nature of the contamination and formulate methodologies for remediation. Currently, specific remediation strategies are being studied for all the sites with schedules for implementation driven by the availability of funding.

Of the 49 contaminated sites located at the FRC, nine are located within the FDA Campus. Figure 9 and Table 11 provide a summary of these sites and an update on the remedial actions taken.

3.7.2 Would Hazardous Materials, Contaminated Soils or Groundwater be Disturbed?

2006 Master Plan (No-Action Alternative)

Construction of the additional FDA facilities under the 2006 Master Plan would be in the vicinity of cleanup site "Site 11" and Operable Unit 2 (Sites 1 and 2). All other cleanup sites within the western portion of the FRC where the FDA Campus is located have previously been remediated and pose no threat. Site 11 contains industrial wastewater disposal in the 100 Area of the former NSWC. Remediation of Site 11 has been completed; however, groundwater is not permitted for potable use. Because there are no users of groundwater in the area, there are no current environmental risks to human health (Tetra Tech, 2003). Further, this alternative would not affect Operable Unit 2, thereby posing little risk to human health. No impacts are anticipated.

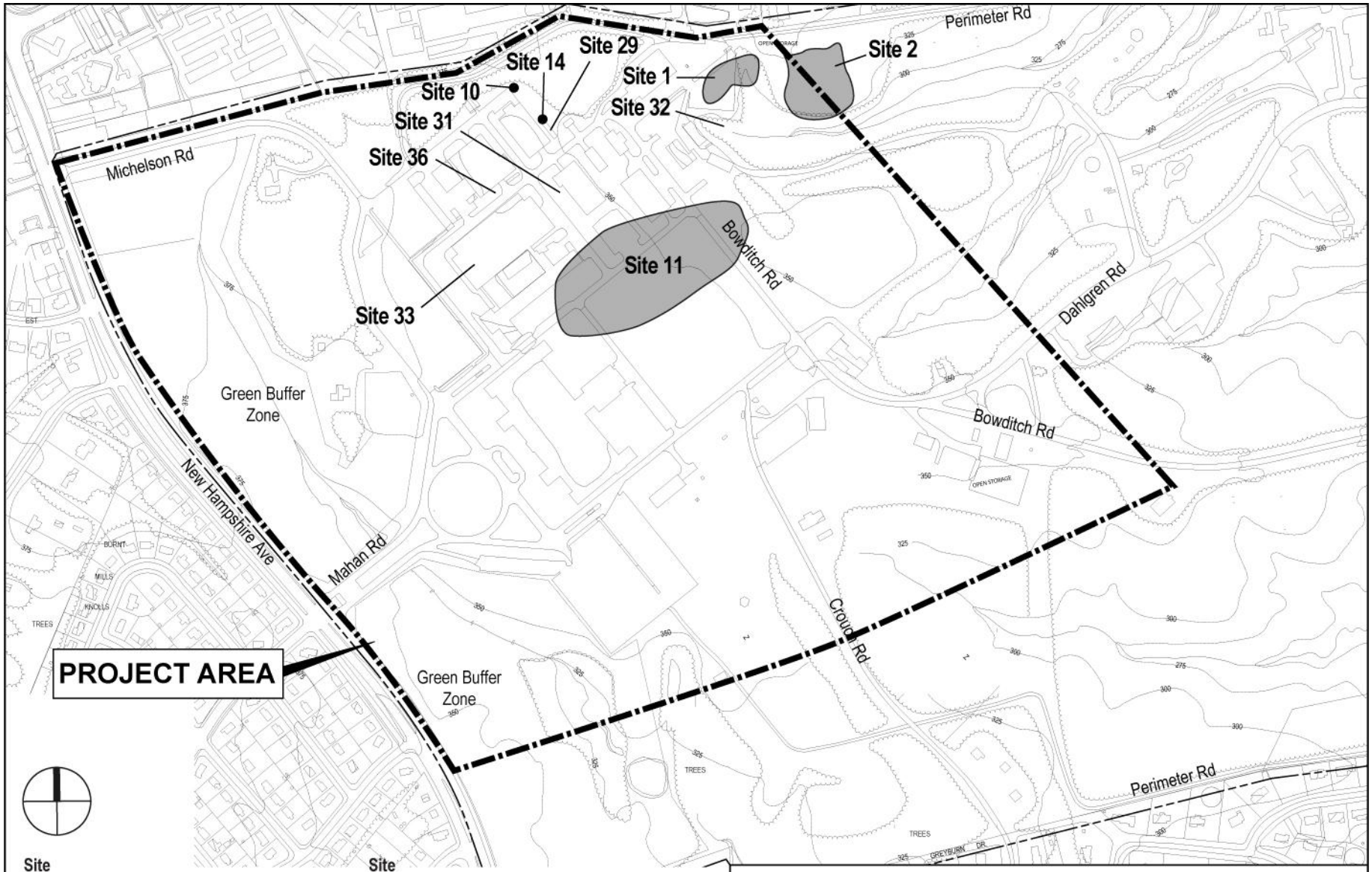

Perimeter Rd
Site 29
Site 14
Site 10
Site 31
Site 36
Site 1
Site 32
Site 2
Michelson Rd
Site 11
Bowditch Rd
Site 33
Dahlgren Rd
Green Buffer Zone
Bowditch Rd
New Hampshire Ave
Mahan Rd
Croud Rd
PROJECT AREA
Green Buffer Zone
Perimeter Rd
Site No. Name
1 Parking Lot Landfill
2 Apple Orchard Landfill
10 Radium Spill at Building 74
11 Industrial Waste Water Disposal from "100" Area
14 Soil Near Building 70
Site No. Name
29 Building 76 Plastics Laboratory Waste Storage Area
31 Building 25 Outdoor Drum Storage Site
32 Former Outfall 009 at Building 112
33 Former Building 25 Plating Shop Equalization Tank
36 Indoor Underground Pistol Range
Contaminated Sites in the Project Area
0 400 800 feet
0 2,400 meters
Figure 9

Table 11. FRC Contaminated Sites

Installation Restoration (IR) Program Number	CERCLIS Operable Unit (OU)	Name	Hazardous Material	Action	Status
1	OU 02	Parking lot landfill, grouped with Site 2 as OU-02	Solid, liquid waste from vehicles	Landfill cap constructed 2001	Long-term monitoring plan 2002
2	OU 02	Apple Orchard Landfill	Containerized and non-containerized liquids, PCB	Landfill cap constructed 2001	Long term monitoring plan 2002
	OU 03	Apple Orchard Groundwater	VOCs, Metals, and explosives	Risk Assessment	ROD 2004: Natural attenuation, institutional controls and long-term monitoring
10		Radium Spill at Bldg. 74 (RCRA AOC-E)	Low level radio-active waste	Closure, Removal Action Plan completed	
11	OU 07	Industrial Wastewater Disposal Area 100	Various liquid wastes from 14 leaching wells	1996 Removal of contaminated soils	ROD: No further action on soils
	OU 15	Site 11 Groundwater underlying & down-gradient of disposal Area 100	Chlorinated VOCs,	1997, 1999, 2000-01, Groundwater investigations	ROD 2004: No further action for groundwater
14		Soil near Bldg. 70 (AOC-C)	Radio-active material	Closure, Removal Action Plan completed	
29		Bldg. 76 Plastics Lab Waste Storage Area (SWMU 74)	Epoxies and resin	AOC 1, deferred to CERCLA/NCP	NFA
31		Former Bldg. 25 Outdoor Drum Storage Site (SWMU 72)	Drummed wastes incl. solvents, lubricating oils	AOC 1, deferred to CERCLA/NCP	NFA
32		Former NPDES Outfall 009 at Bldg 112 (RCRA AOC-0)	Wastewater from shops and labs	Included with IR Site 2	
33		Former Bldg. 25 Electronics Fabrication Shop Etching Rinse Tank Site (SWMU 32)	Waste acids	Closure - Removal of contaminated soils 1999	
36		Indoor Underground Pistol Range (EBS AOC 100)	Munitions	AOC 1, EBS/CERCLA/NCP	NFA

Master Plan Update Alternatives (Action Alternatives 2 and 3)

As with the 2006 Master Plan, construction of the additional FDA facilities under the Master Plan Update alternatives would be in the vicinity of cleanup site "Site 11" and Operable Unit 2 (Sites 1 and 2). All other cleanup sites within the western portion of the FRC where the FDA Campus is located have previously been remediated and pose no threat. Site 11 contains industrial wastewater disposal in the 100 Area of the former Naval Surface Warfare Center. Remediation of Site 11 has been completed; however, groundwater is not permitted for potable use. Because there are no users of groundwater in the area, there are no current environmental risks to human health (Tetra Tech, 2003). Neither Master Plan Update alternative would affect Operable Unit 2, thereby posing little risk to human health. Therefore, no impacts are anticipated.

3.8 Land Use Planning and Zoning

3.8.1 What Are the Local and Federal Planning and Zoning Ordinances?

Regional Land Use Planning

The FDA Campus is located within the White Oak Master Plan area of Montgomery County (M-NCPPC, 1997). The White Oak Master Plan, adopted in 1997, was developed to guide future growth of the area. Development zones in Montgomery County are single-family residential, multi-family residential, commercial-retail, and industrial.

The White Oak Master Plan area is bordered by the Capital Beltway (I-495) to the south, the Northwest Branch to the west, the Paint Branch to the east, and the ICC right-of-way to the north. Within the White Oak Master Plan area are the following landmarks: the Washington Suburban Sanitary Commission (WSSC) buildings and dam along the Northwest Branch at US 29; the FRC; the Adelphi Laboratory Center; the White Oak Library; the Martin Luther King, Jr. Recreational Park; and the Colesville Post Office Distribution Center.

According to the Maryland State Department of Assessment and Taxation, approximately 37 percent of the residential dwelling units in the White Oak Master Plan area are multi-family units. Of these, 72 percent are located along Lockwood Drive, Old Columbia Pike, and in the April-Stewart Lanes area. Townhouses make up approximately 7 percent of the housing units in White Oak and are dispersed throughout the Master Plan area.

Land Use Planning Near the FDA Campus

Land use near the FDA Campus includes administrative, research and development, and open space.

The consolidation of FDA's facilities is taking place within the western portion of the FRC. The 2006 FDA Master Plan calls for construction of 4,735,012 gross square feet of lab, office, parking, and shared use spaces as detailed in Section 2.5.3. To the east of the area for consolidation lies the Hypervelocity Wind Tunnel Complex (400 Area) and undeveloped areas.

Land uses adjacent to the FDA Campus in Montgomery County are residential, parkland, public (governmental), industrial, and commercial retail. To the northwest, approaching US 29, are commercial businesses and apartment/condominium complexes. To the northeast are the proposed East County Center for Science and Technology, Washington Adventist Hospital, West Farm Technology Park, and the composting area for the Montgomery County Regional Composting Facility. The Powder Mill Community Park and Hillandale Local Park are located southeast and southwest of the FRC, respectively.

New Hampshire Avenue is the main road providing access to the FRC and runs north to south; US 29 crosses the White Oak Master Plan area from the southwest to the northeast. Land use in the White Oak Master Plan area is generally characterized by well-established single-family homes such as the Hillandale and Knollwood residential communities.

As of January 2008, development that is proposed/planned or under construction in the area surrounding the FRC is depicted graphically in Figure 10 and Table 12.

The Federal Government is not obligated to comply with county zoning requirements, but GSA must consult with applicable local authorities about their planning objectives. However, Montgomery County has designated its portion of the FRC as Single Family Residential (RE-2) in the event that the site is transferred out of federal ownership. Land uses in RE-2 include apartments, single-family dwellings, medical care facilities, animal facilities, life science facilities, religious facilities, cultural and recreational facilities, commercial facilities, and professional offices (See Figure 11).

3.8.2 Is This Project Consistent With Federal and Local Planning and Zoning Ordinances?

2006 Master Plan (No-Action Alternative)

Under the 2006 Master Plan, the FDA Headquarters consolidation would continue. Construction of planned facilities and the addition of employees at the FDA Campus would still occur. These activities would be consistent with federal and local planning and zoning ordinances. However, the FDA facilities would have a minor, long-term, indirect, adverse effect on regional and local land use. FDA employees would place demand on local commercial establishments, potentially spurring construction of new establishments. FDA contractors and firms that do business with the new FDA programs may also relocate to the area. Construction and operation of the additional facilities would be consistent with local planning.

Master Plan Update Alternatives (Action Alternatives 2 and 3)

The proposed Master Plan Update alternatives involve increasing the number of FDA employees by 1,170 along with additional facilities needed to accommodate this growth. As with the 2006 Master Plan, this growth at the FDA Campus would be consistent with federal and local planning and zoning ordinance. However, the additional 1,170 FDA employees would have a minor, long-term, indirect, adverse effect on regional and local land use. The additional employees would place further demand on local commercial establishments, potentially spurring construction of new establishments. The proposed relocation of the Child Care Center and the Broadcast Studio would have no effect on planning or zoning.

3.8.1 What Efforts Would be Taken to be Consistent with Federal and Local Planning and Zoning Ordinances?

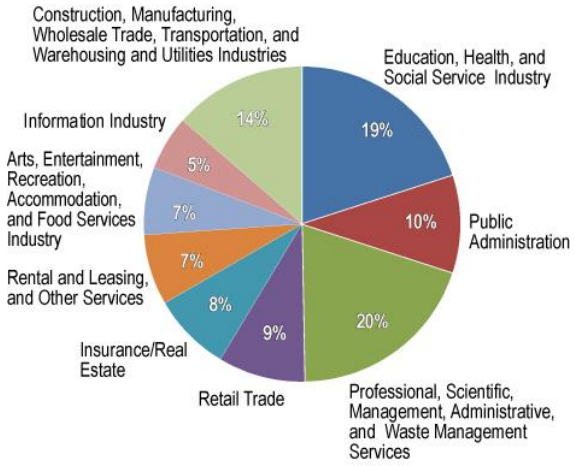
Because the 2006 Master Plan and the Master Plan Update alternatives are consistent with federal and local planning and zoning ordinances, no additional efforts would need to be taken.

3.9 Economy and Employment

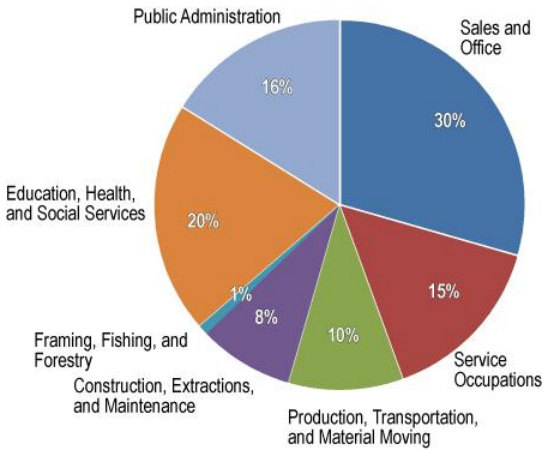
3.9.1 What is the Economic Make-up of the Community Near the FDA Campus?

According to the 2000 Census, the educational, health, and social services industry employs 19.9 percent of the working population in Montgomery County. Professional, scientific, management,

Montgomery County



Prince George's County



administrative, and waste management services industries employ 19.6 percent of the working population. Public administration, retail trade, finance/insurance/real estate/rental and leasing, and other services employ 10.1 percent, 9.0 percent, 8.1 percent and 7.1 percent, respectively. The arts, entertainment, recreation, accommodation, and food services industry employs 6.9 percent of the working population and the information industry employs 5.8 percent. The remaining 13.5 percent are employed by the construction, manufacturing, wholesale trade, transportation and warehousing, and utilities industries (U.S. Census Bureau, 2008).

Management, professional and related occupations employ 38.9 percent of working individuals in Prince George's County. Twenty-nine percent of the working population are in sales and office occupations followed by 14.87 percent in service occupations. Production, transportation, and material moving occupations; construction, extraction and maintenance occupations; and farming, fishing and forestry occupations employ 9.8 percent, 8.2 percent, and 0.7 percent of the working population, respectively. Twenty percent of the workforce in Prince George's County works in the educational, health, and social services. The public administration industry ranks second in Prince George's County at 15.9 percent (U.S. Census Bureau, 2008).

The 2008 unemployment rate in Montgomery County was 3.2 percent (preliminary results), which is lower than the 2007 state average of 4.4 percent (preliminary results) (U.S. Department of Labor, 2008). For Prince George's County, the unemployment rate was 4.5 percent in 2008 (preliminary results). According to the 2000 Census, the median household income in Montgomery County was $71,551 and $55,256 in Prince George's County. The median income in Maryland was $52,868.

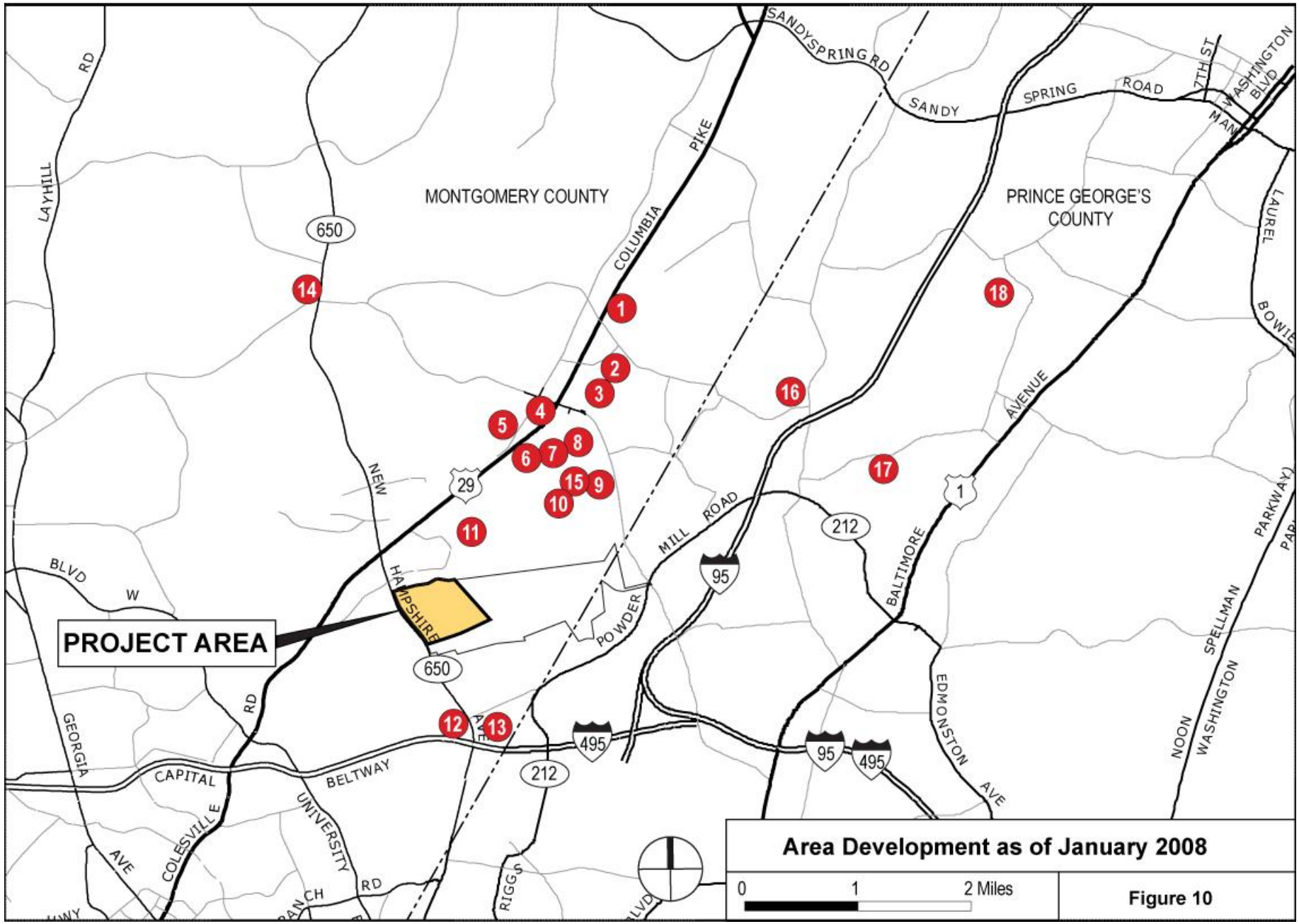
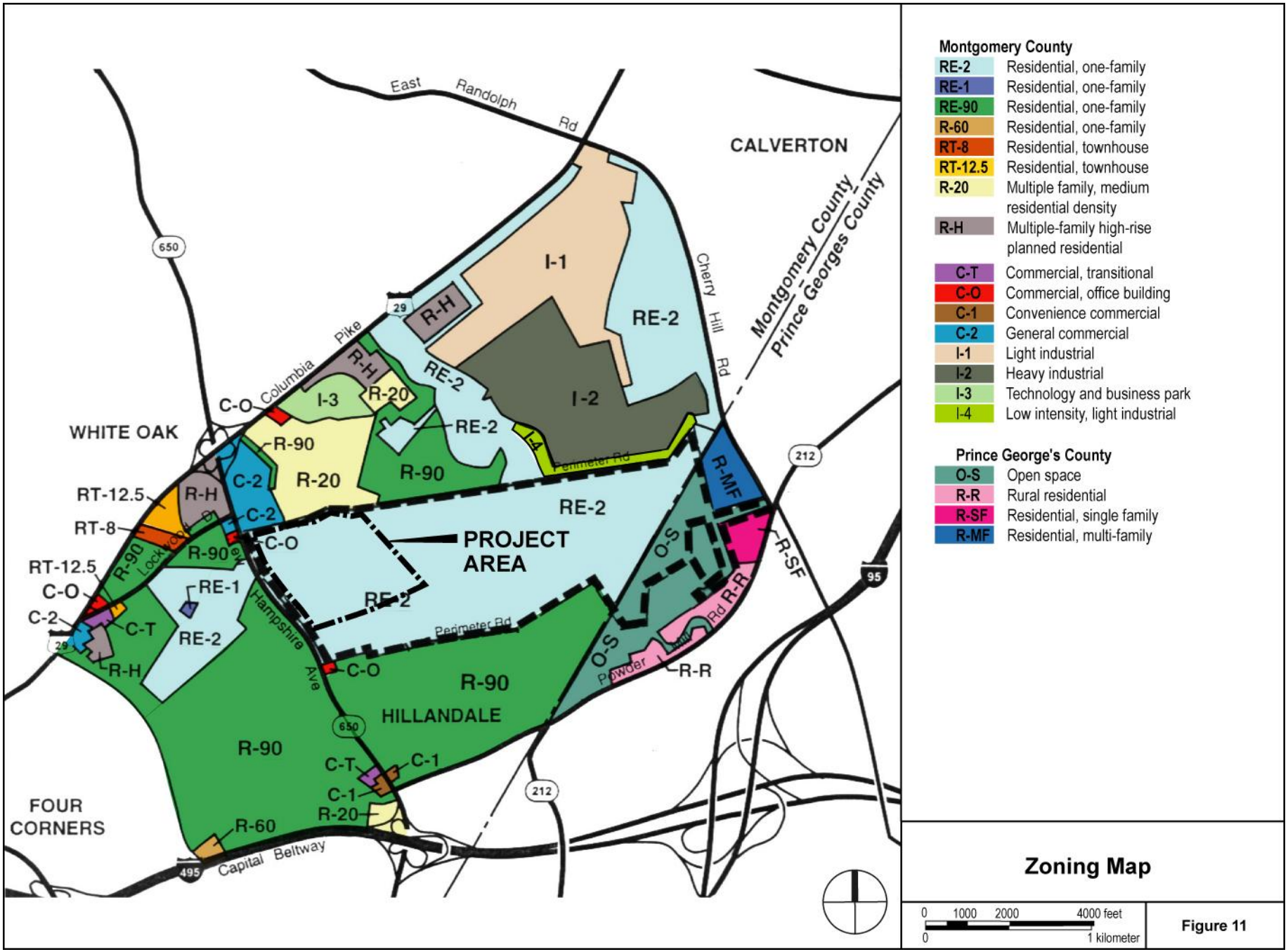

MONTGOMERY COUNTY
PRINCE GEORGE'S COUNTY
PROJECT AREA
SANDY SPRING RD
SANDY SPRING ROAD
COLUMBIA PIKE
LAYHILL RD
NEW HAMPSHIRE
MILL ROAD
POWDER
BALTIMORE AVENUE
LAUREL BOWIE
PARKWAY
SPELLMAN
NOON
WASHINGTON
EDMONSTON AVE
GEORGIA AVE
COLESVILLE
UNIVERSITY BLVD W
CAPITAL BELTWAY
RIGGS
650
29
212
95
495
1
Area Development as of January 2008
0 1 2 Miles
Figure 10

Table 12. Area Development as of January 2008

Development Project	Land Use	Size
MONTGOMERY COUNTY		
1. Fairland View	Townhouses	39 Houses
2. Deer Park Subdivision	Single-Family Detached	12 Units
3. Summer Hill	Single-Family Detached	3 Units
4. Seventh Day Adventist	General Office	350,000 SF
5. Rolling Acres	Single-Family Detached	10 Units
6. WestTech Village Corner	TGI Friday's	7,000 SF
	Panera Bread	5,000 SF
	Steakhouse	7,000 SF
7. Baywood Hotels	Hotel	104 Rooms
8. WestFarm I-1	GBLLC	73,078 SF
	Home Depot	129,134 SF
	State Farm Insurance Co.	63,552 SF
	Montgomery County Public Schools	239,575 SF
9. Orchard Center	Office	Removed – substituted with Washington Adventist Hospital
10. West Farm I-1	Kaiser Permanente	Removed – substituted with Washington Adventist Hospital
	GBLLC	
11. White Oak Property	Townhouses	106 Houses
12. Chevy Chase Bank, Hillandale	Drive-in Bank	3,650SF
13. 10001 New Hampshire Ave.	General Office	55,862 SF
14. Randolph Plaza	General Office	16,806 SF
	General Retail	4,005 SF
15. Washington Adventist Hospital	Hospital	803,570 SF

Table 12. Area Development as of January 2008

Development Project	Land Use	Size
PRINCE GEORGE'S COUNTY		
16. Cross Creek	Hotel	50 Rooms
	Single-Family Detached	97 Units
17. Ammendale South	Flex Office	90,000 SF
18. Konterra Town Center East	Residential (80% multi-family and 20% townhouses)	4,500 Units
	Hotel	600 Rooms
	Retail	1,500,000 SF
	Office	3,800,000 SF


East Randolph Rd
CALVERTON
Montgomery County
Prince Georges County
Cherry Hill Rd
650
29
Columbia Pike
WHITE OAK
I-1
I-2
RE-2
R-H
R-20
I-3
I-4
C-O
C-2
R-90
RT-12.5
RT-8
PROJECT AREA
Perimeter Rd
212
R-MF
R-SF
95
O-S
R-R
Powder Mill Rd
Lockwood Dr
New Hampshire Ave
RE-1
C-T
HILLANDALE
C-1
FOUR CORNERS
R-60
Capital Beltway
495
Montgomery County
RE-2 Residential, one-family
RE-1 Residential, one-family
RE-90 Residential, one-family
R-60 Residential, one-family
RT-8 Residential, townhouse
RT-12.5 Residential, townhouse
R-20 Multiple family, medium residential density
R-H Multiple-family high-rise planned residential
C-T Commercial, transitional
C-O Commercial, office building
C-1 Convenience commercial
C-2 General commercial
I-1 Light industrial
I-2 Heavy industrial
I-3 Technology and business park
I-4 Low intensity, light industrial
Prince George's County
O-S Open space
R-R Rural residential
R-SF Residential, single family
R-MF Residential, multi-family
Zoning Map
0 1000 2000 4000 feet
0 1 kilometer
Figure 11

3.9.2 What Impact Would the Project Have on the Local and Regional Economy?

2006 Master Plan (No-Action Alternative)

New retail services and business employment may result from implementation of the 2006 Master Plan with the creation of new businesses to serve the additional employees. Existing businesses would also experience beneficial impacts from employees frequenting these establishments. Beneficial economic effects may also occur from contractual obligations with vendors to support the FDA operations. The categories of services include maintenance and repair contractors such as HVAC, plumbing, and electrical; chemical and allied product producers; manufacturers of scientific instruments; printing and publishing; equipment rental; and business service providers.

Regional economic activity would directly increase as construction contractors and construction firms are hired for the project. The purchase of building materials, construction supplies, and construction equipment would add income to the economy. These activities would have an short-term, indirect, beneficial effect on local economic conditions.

The consolidation of FDA facilities under the 2006 Master Plan would have a direct and indirect effect on the economy of the National Capital Region. In addition, there would be an economic benefit from payroll spending by FDA employees at local businesses. These impacts would be minor, long-term, and beneficial.

Master Plan Update Alternatives (Action Alternatives 2 and 3)

As with the 2006 Master Plan, additional new retail services and business employment may result from implementation of the action alternatives with the creation of new businesses to serve the additional employees. Existing businesses would also experience beneficial impacts from employees frequenting these establishments. Beneficial economic effects may also occur from contractual obligations with vendors to support the FDA operations. The categories of services include maintenance and repair contractors such as HVAC, plumbing, and electrical; chemical and allied product producers; manufacturers of scientific instruments; printing and publishing; equipment rental; and business service providers.

Regional economic activity would directly increase as construction contractors and construction firms are hired for the project. The purchase of building materials, construction supplies, and

construction equipment would add income to the economy. These activities would have an short-term, indirect, beneficial effect on local economic conditions.

The additional employees proposed under the Master Plan Update alternatives would have a direct and indirect effect on the economy. These new hires could come from anywhere in the U.S. This would beneficially impact the economic makeup of Montgomery and Prince George's Counties as this would add to their overall permanent employment. In addition, there would be an economic benefit from payroll spending by FDA employees at local businesses. These impacts would be minor, long-term, and beneficial.

3.9.3 Would This Project Affect Employment Within the Area?

2006 Master Plan (No-Action Alternative)

Under the 2006 Master Plan, employment within the area would not be directly affected. The majority of the FDA consolidation involves employees already working in Montgomery County. However, employment may increase indirectly through the creation of local businesses to serve FDA employees.

Master Plan Update Alternatives (Action Alternatives 2 and 3)

Under the Master Plan Update alternatives, employment at the FDA Headquarters would increase by 1,170 employees by 2012, based on available funding. The additional employees would be new hires needed to handle Congressional mandates. This impact would be moderate, long-term, direct, and beneficial to overall employment.

3.9.4 How Would the Project Impact Taxes and Revenue?

2006 Master Plan (No-Action Alternative)

Under the 2006 Master Plan, no property taxes would be received from the FRC because it is under federal ownership and is not subject to property taxes. However, there would be an increase in spending by FDA employees at local businesses for the purchases of materials and goods that would generate additional revenues for local and state governments, which would have a moderate, long-term, indirect, and beneficial effect on taxes and revenues.

Construction workers employed for the construction period are assumed to be currently employed, and residing and paying taxes within the State of Maryland or surrounding states. Secondary jobs

related to the increase economic activity stimulated by the proposed action may be created. Additional retail services and business employment may result from the proposed action through a multiplier effect, yielding additional sales and income tax revenues for the local and state governments. Overall, this impact would be minor, long-term, and beneficial.

Master Plan Update Alternatives (Action Alternatives 2 and 3)

As with the 2006 Master Plan, under the Master Plan Update alternatives no property taxes would be received from the FRC because it is under federal ownership and is not subject to property taxes. However, there would be an increase in spending by FDA employees at local businesses for the purchases of materials and goods that would generate additional revenues for local and state governments, which would have a moderate, long-term, and beneficial effect on taxes and revenues.

Construction workers employed for the construction period are assumed to be currently employed, and residing and paying taxes within the State of Maryland or surrounding states. Secondary jobs related to the increase economic activity stimulated by the proposed action may be created. Additional retail services and business employment may result from the proposed action through a multiplier effect, yielding additional sales and income tax revenues for the local and state governments. Overall this impact would be minor, long-term, and beneficial.

3.9.5 What Measures Would be Taken to Reduce the Impact on the Local and Regional Economy?

Any impact on the local and regional economy, as a result of the 2006 Master Plan or the Master Plan Update alternatives, would be beneficial. Therefore, no mitigation measures would need to be taken.

3.10 Visual Quality

3.10.1 What Are the Important Existing Visual Elements (Aesthetics) That Exist Near or on the FDA Campus?

Prior to the initial FDA consolidation construction, aesthetic resources within the FDA Campus included a combination of natural and built elements resulting in a campus-like arrangement of buildings and outdoor spaces, as described in the 1997 Final EIS. The site was characterized by a

variety of pine and hardwood forested areas, grassy meadow areas, and groupings of buildings clustered in various locations around the facility. These characteristics resulted in the screening of direct views of the existing facility from the adjacent communities to the north, south, and east. The only view of the facility at that time was from New Hampshire Avenue and the adjacent community west of the FDA Campus. This view was framed by the landscape elements of the historic green buffer zone, located between New Hampshire Avenue and the Main Administration Building (now Building 1). The principal element of the view was the main entry road to the facility, which formed a directional axis from the gate along New Hampshire Avenue. This was reinforced by a landscaped median along the entry road, regularly spaced ornamental trees, and a circular grassed mall in front of the building.

Building 1 was once part of the original Administration and Laboratory complex designed in the 1940s by the architectural firm of Eggers and Higgins, New York, with Taylor & Fisher, Baltimore as associates. The administration/laboratory complex utilized a combination of late Art Deco and Neoclassical stylistic elements typical of government and institutional buildings of the period. Its focal point was the façade of the main building, which is currently retained as Building 1. It is visible from New Hampshire Avenue and has slightly projecting angular columns faced with granite contrasting with red brick construction (G&O, 1992).

Since the commencement of the FDA consolidation project, nearly all of the original buildings have been demolished within the FDA Campus with the exception of Building 1, the historic fire station portion of Building 100 located northeast of the original administration and laboratory complex, and the flagpole with a redesigned circle to be located in front of Building 1. The fire station has been incorporated into the construction of the CUP. The aesthetic elements associated with the original complex have been adversely affected by the new construction.

Currently, the FDA Campus can be viewed from New Hampshire Avenue and the adjacent community to the west and from the community to the north. The view from New Hampshire Avenue is still framed by the landscape elements of the green buffer zone. The principal element of the view continues to be the main entry road which is reinforced by a landscaped median along the road, regularly spaced ornamental trees, and a redesigned circle and flagpole area in front of Building 1.

3.10.2 How are Viewsheds Going to be Impacted by the Proposed Action?

Construction under the FDA Master Plan may temporarily and, in some instances, permanently affect the visual quality within the current viewsheds. The view from New Hampshire Avenue is dominated by the façade of Building 1, enhanced by the redesigned circle and flagpole in front. The second important viewshed is that from the adjacent community located north of the FDA Campus.

2006 Master Plan (No-Action Alternative)

Under the 2006 Master Plan, the FDA Campus buildings are generally visible from New Hampshire Avenue. The visibility of these buildings is increased during winter months when foliage is less dense. Buildings in the southwest and central portions of the FDA Campus, particularly Buildings 1, 21, and 31 and the Southwest parking garage, can be clearly seen from New Hampshire Avenue. Structures located in the northern portion of the FDA Campus, including the North and Northeast parking garages, are less likely to be visible from New Hampshire Avenue due to an increased amount of trees in the historic green buffer zone. Buildings located east of (behind) the above-mentioned structures are not easily seen from New Hampshire Avenue due to their similar building heights and a slight decrease in elevation on the eastern side of the campus.

Some of this wooded area has been removed due to grading and construction of the loop road which was approved under the 2006 Master Plan. However, after construction is completed, replacement trees will be planted to restore and enhance this natural buffer zone and reduce visibility from the adjacent community.

The view from New Hampshire Avenue and the view from the north and west are both expected to be adversely impacted by lighting from the parking garages proposed in the 2006 Master Plan. Lighting from the Southwest parking garage in all alternatives would be seen from New Hampshire Avenue. Lighting from the North and Northeast parking garages is likely to be seen from the adjacent community to the north, unless the vegetation buffer is replanted or restored. Overall these impacts would be minor to moderate, long-term, and adverse.

Master Plan Update Alternative 2 (Action Alternative)

Under Master Plan Update Alternative 2, the visibility of buildings in the southwest and central portions of the FDA Campus (Buildings 1, 21, and 31 and the Southwest parking garage) would not differ from that under the 2006 Master Plan. Under Alternative 2, changes to structures located

behind these buildings (including Buildings 10, 52, and 72, the Southeast parking garage, and the Broadcast Studio) would not further impact the viewshed from New Hampshire Avenue. These structures are similar in height to those in front and are also lower in elevation. The location of the Child Care Center and the Fitness Center in both action alternatives are not expected to impact viewsheds. The location for these facilities is southeast of the Southwest parking garage and is not within the current viewshed from New Hampshire Avenue.

Under Alternative 2, proposed buildings located in the northern portion of the campus would adversely impact both viewsheds from New Hampshire Avenue and the adjacent community north of the FDA Campus. Building 25 and the Northwest parking garage located in the northern portion of the FDA Campus would be buffered by the grove of trees from New Hampshire Avenue. However, the visibility of these buildings would be increased during winter months when foliage is less dense.

The expansion of the CUP and construction of a thermal water storage tank in Master Plan Update Alternative 2 may impact the viewshed from the adjacent apartment complexes (White Oak Garden Apartments, Villa Nova Apartments, and White Oak Park Apartments) located north of the FDA Campus. A wooded area north of the Northeast Loop and the CUP acts as a natural visible buffer between the FDA facilities and the adjacent community. Some of this wooded area has been removed due to grading and construction of the loop road which was approved under the 2006 Master Plan. However, after construction is completed, replacement trees would be planted to restore this natural buffer zone and reduce visibility from the adjacent community. In addition, the CUP expansion to the northwest would further alter the visual setting of the historic fire station (Building 100), resulting in a moderate, long-term, direct, adverse impact.

Under Alternative 2, a new parking garage would be built on a surface parking lot on the northwest portion of the FDA Campus. The view from New Hampshire Avenue and the view from the north and west are both expected to be adversely impacted by lighting from the various parking garages associated with the Master Plan Update Alternative 2. Lighting from the Southwest parking garage under this alternative would be seen from New Hampshire Avenue. Lighting from the North and Northeast parking garages is likely to be seen from the adjacent community to the north, unless the vegetation buffer is replanted.

The water storage tank will be located east of the Southeast Parking Garage in Alternatives 2. The tank will be placed 85 to 95 feet above ground level and will be 38 feet tall. The top of the tank will

be between 123 and 128 feet above ground level. Ground level at this location has an elevation of 348 feet. Therefore, the top of the water storage tank will have an elevation of 471 to 476 feet.

With a total elevation of 471 to 476 feet, the water storage tank will stand more than 20 feet taller than any surrounding building (Broadcast Studio, Southeast Parking Garage, Building 71). Therefore, it will likely be visible from the section of New Hampshire Avenue south of Mahan Road. The tank is not likely to be seen from Mahan Road or New Hampshire Avenue north of Mahan Road.

Overall, the impacts to viewsheds under the Master Plan Update Alternative 2 would be moderate, long-term, direct, and adverse.

Master Plan Update Alternative 3 (Action Alternative)

Under Master Plan Update Alternative 3, the visibility of buildings in the southwest and central portions of the FDA Campus (Buildings 1, 21, and 31 and the Southwest parking garage) is not likely to differ from that under the 2006 Master Plan. Under Alternative 3, Buildings 71 and 75 are planned to be 10-story (elevation of 480 feet) buildings. These would be the tallest buildings in either action alternative. However, with topography of the site taken into consideration, it is likely that Buildings 71 and 75 would be only partially visible from New Hampshire Avenue and only from south of Mahan Road. The building would not be visible from Mahan Road or from New Hampshire Avenue north of Mahan Road. The location of the Child Care Center and the Fitness Center in both action alternatives are not expected to impact viewsheds. The location for these facilities is southeast of the Southwest parking garage and is not within the current viewshed from New Hampshire Avenue.

The expansion of the CUP and construction of a thermal water storage tank in Master Plan Update Alternative 3 may impact the viewshed from the adjacent apartment complexes (White Oak Garden Apartments, Villa Nova Apartments, and White Oak Park Apartments) located north of the FDA Campus. A wooded area north of the Northeast Loop and the CUP acts as a natural visible buffer between the FDA facilities and the adjacent community. Some of this wooded area has been removed due to grading and construction of the loop road which was approved under the 2006 Master Plan. However, after construction is completed, replacement trees would be planted to restore this natural buffer zone and reduce visibility from the adjacent community. In addition, the CUP expansion will further alter the visual setting of the historic fire station (Building 100), resulting in a moderate, long-term, direct, adverse impact.

The water storage tank will be located east of the Southeast Parking Garage in Alternative 3. The tank will be placed 85 to 95 feet above ground level and will be 38 feet tall. The top of the tank will be between 123 and 128 feet above ground level. Ground level at this location has an elevation of 348 feet. Therefore, the top of the water storage tank will have an elevation of 471 to 476 feet.

With a total elevation of 471 to 476 feet, the water storage tank has a similar elevation to Building 75 (480 feet) and its visual impacts would be similar. The tank may be visible from the section of New Hampshire Avenue south of Mahan Road. The tank is not likely to be seen from Mahan Road or New Hampshire Avenue north of Mahan Road.

Under Alternative 3, the Northeast and Southeast parking garages would be expanded. The view from New Hampshire Avenue and the view from the north and west are both expected to be impacted by lighting from the various parking garages associated with this alternative. Lighting from the Southwest parking garage in all alternatives will be seen from New Hampshire Avenue. Lighting from the North and Northeast parking garages is likely to be seen from the adjacent community to the north, unless the vegetation buffer is rebuilt.

Overall, the impacts to viewsheds under the Master Plan Update Alternative 3 would be moderate, long-term, direct, and adverse.

3.10.3 What Measures Will be Taken to Reduce Impacts to Viewsheds?

The historic green buffer zone between the FDA Campus and New Hampshire Avenue would generally remain unchanged from the 2006 Master Plan. The restoration of Tributary 189 in this buffer zone would help enhance the views from New Hampshire Avenue and the surrounding communities.

The existing and proposed facilities of the 2006 Master Plan and Master Plan Update alternatives consist mainly of a compact aggregation of medium-rise buildings and associated parking structures, five to eight stories in height (with the exception of Building 71 and Building 75 in Alternative 3), clustered around a central common area. The view from New Hampshire Avenue is dominated by the façade of Building 1, enhanced by the redesigned circle and flagpole in front. The tight development concept results in fewer buffer and visual impacts.

The adverse visual impact to Building 100 would be minimized by the following measures:

- Stepping the façade away from the historic building so that its rhythm is similar

- Placing smaller functions of the CUP to the west side of the building so that the scale can be similar to the firehouse
- Placing large equipment behind the building to reduce the visual impact on the firehouse

The adverse visual impact from the construction of a 300,000 gallon water storage tank would be minimized by painting the water storage tank in such a way that it blends in more with its surroundings.

3.11 Security

3.11.1 What Security Measures Are Currently Provided at the FRC?

The FRC is currently fenced and monitored 24 hours per day, seven days per week. Access to the FDA Campus is provided off of New Hampshire Avenue via Mahan and Michelson Roads. Access to the eastern portion of the FRC is currently restricted to everyone but Air Force, FDA, and GSA personnel unless visits are scheduled in advance.

The security design for the FDA Headquarters is based on the *Interagency Security Committee (ISC) Design Criteria for a Low Threat/Medium Protection Facility* (RTKL, 2002). Access to the FDA facility will be restricted to FDA employees and visitors, and security checkpoints will be in place to control vehicular and pedestrian access. The campus security design is based on establishing multiple tiers of security for both vehicles and pedestrians. Measures that are being taken to provide a secure campus include:

- Vehicular barrier system
- Card-activated vehicular access gates
- Minimum 75-foot stand-off distances from all buildings
- Separate visitor parking areas for visitors with a separate visitor screening area
- Perimeter fencing surrounding the FDA Campus
- Perimeter fencing around the entire FRC

3.11.2 Will the Master Plan Update Affect Security At the FDA Headquarters?

Under the 2006 Master Plan and Master Plan Update alternatives, no additional security measures other than those already designed for the FDA Headquarters would be put in place.

3.12 Public Health and Safety

3.12.1 How Would the Operation of the FDA Headquarters Affect Public Health and Safety?

2006 Master Plan (No-Action Alternative) and Master Plan Update Alternatives (Action Alternatives 2 and 3)

The operation of the FDA Campus would be the same under the 2006 Master Plan and Master Plan Update alternatives. As part of the routine operation of the FDA facilities, certain research will be conducted using etiologic agents (also called pathogens or infectious substances), which are defined as viable microorganisms or their toxins (49 CFR 173.376). These agents are currently in use by FDA at the FRC. In addition, FDA operations at the FRC include the use of radionuclides in experimental research (e.g., radioactive tracers). Radionuclides may be used by all three FDA centers conducting research at the FRC: CBER, CDRH, and CDER. Many of the radionuclides will be sealed sources. Sealed sources are usually small metal containers in which a specific amount of radioactive material is sealed. As long as they remain sealed and the housing remains intact and the devices are handled and used properly, the devices present no health risk from the radioactive source within. Unsealed sources are and will continue to be used by FDA at the FRC. Potential health risks related to exposure to unsealed sources is predominantly associated with the handling and use of the materials by research staff (i.e., occupational exposure), with minimal risk to the surrounding environment. FDA research activities at the FRC also involve the use of hazardous chemicals.

The most common scenario for the release of etiologic agents, radiation, and hazardous chemicals would be during the transport of such materials onto and off the FRC. Other potential routes of exposure to the surrounding environment would be through laboratory exhaust and wastewater/sewage systems. Mitigation measures proposed in Section 3.12.3 would reduce the impact to public health and safety. This impact would be minor, long-term, indirect/direct, and adverse. This is no change from the 1997 and 2005 EISs.

3.12.2 What Measures Would be Taken to Protect Public Health and Safety?

As outlined in the 1997 Final EIS, FDA has and will continue to employ three critical elements to ensure the safe handling, use, containment and disposal of etiological agents, radioactive materials, and hazardous chemicals. FDA utilizes 1) appropriate facility design, 2) adequate containment

equipment, and 3) safe laboratory practices and procedures to protect employees and the general public from exposure to these materials.

Etiologic agents: The three critical elements noted above are addressed in the National Institutes of Health/Centers for Disease Control and Prevention publication, *Biosafety in Microbiological and Biomedical Laboratories*, 5th Edition, 2008 as well as other applicable federal, state, and local regulations. GSA and FDA have and will continue to adhere to these requirements to protect both FDA employees and the general public. Facility design is the most important element, and special engineering and containment features are being used to prevent the release of etiologic agents to the environment. For instance, High Efficiency Particulate Air (HEPA) filters are being installed as part of the exhaust system on the laboratories where these agents are used to filter the air before it is released to the environment. Containment laboratories are also designed to ensure adequate directional ventilation (i.e., air pressure of laboratory rooms negative to air pressure of surrounding corridors and offices) and include biological safety cabinets (BSCs) as the primary containment devices for work with etiologic agents, especially when microbiological procedures will result in the creation of aerosols. Laboratory practices involve strict adherence to safe microbiological practices, including the use of the biological safety cabinets noted above. Procedures are also in place to ensure the proper operation and decontamination of BSCs.

Radioactive materials are managed in accordance with FDA's Nuclear Regulatory Commission (NRC) licenses and all other applicable regulations, which are designed to protect employees and the general public from exposure to radiation. Appropriate radiation safety procedures are followed regarding the handling, use, and disposal of radioactive materials. Designated laboratories have and will continue to be designed for the use of radioactive materials that ensure adequate directional ventilation and filtration of exhausted air.

Hazardous chemicals: FDA will continue to employ safe laboratory practices, special equipment and appropriate facility design to protect employees and the general public from exposure to these materials. The storage, handling, use, and disposal of hazardous chemicals on the site will be performed in conformance with established procedures developed in accordance with applicable federal, state, and local regulations. Examples of such procedures include a site Chemical Hygiene Plan and Hazardous Waste Management Program. Laboratory chemical fume hoods, as part of a directional ventilation system, are the primary safety equipment used to protect workers when

Biological Safety Cabinets

Biological Safety Cabinets (BSCs) are the primary means of containment developed for working safely with infectious microorganisms. BSCs are designed to provide personnel, environmental and product protection when appropriate practices and procedures are followed. Three kinds of biological safety cabinets have been developed to meet varying research and clinical needs. Most BSCs use high efficiency particulate air (HEPA) filters in the exhaust and supply systems.

using hazardous chemicals. Additional design features such as emergency showers and eyewash stations are incorporated to protect workers.

Waste Management: FDA uses a qualified contractor to properly package and transport its medical pathological waste (MPW), radioactive waste, and hazardous chemical waste to approved off-site disposal sites. FDA holds a Special Medical Waste identification (ID) number issued by the MDE and an EPA generator ID number for chemical waste. Radiological waste is managed in accordance with FDA's Nuclear Regulatory Commission licenses for the FRC. FDA performs varying degrees of decontamination and/or sterilization of MPW prior to packaging and shipment off site. MPW will not be incinerated on site. All packaging and transportation is performed by the contractor in accordance with Department of Transportation requirements. All other solid wastes would be collected on site for transport to appropriately licensed off-site disposal facilities by separate contract haulers.

3.13 Cultural Resources

Section 101(b)(4) of the NEPA requires the Federal Government to coordinate and plan its actions to, among other goals, "preserve important historic, cultural, and natural aspects of our national heritage…." The CEQ implementing regulations require that federal impacts to historic and cultural resources be included as part of the NEPA process.

3.13.1 What is the Area of Potential Effect (APE) for the Proposed Action?

Area of Potential Effect

Area of potential effect means the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking. 36 CFR 800.16

The Area of Potential Effect (APE) for the redevelopment of the FDA Campus encompasses all historic resources that could be affected by the proposed project (see Figure 12). Primary and secondary APEs for the FDA Campus redevelopment project have been identified. The primary APE includes resources physically impacted by demolition or construction associated with the redevelopment of the FDA Campus. This encompasses the entire area of current and potential construction within the FDA Campus and includes the three historic structures retained from the White Oak/Naval Ordnance Laboratory Historic District and the historic green buffer zone discussed. The three historic structures retained are: portions of the Main Administration Building (Building 1); the flagpole with a redesigned and relocated circle in front of Building 1; and the historic fire station, which is now part of Building 100. The secondary APE expands to include resources located in the vicinity of the FDA Campus that will not be physically impacted, but would be visually impacted, by the redevelopment. This would be due to the construction of visible tall buildings and parking

garages within the FDA Campus; however, as discussed in Section 3.13.2.3, no known historic resources are located within the project's secondary APE (GSA, 2005).

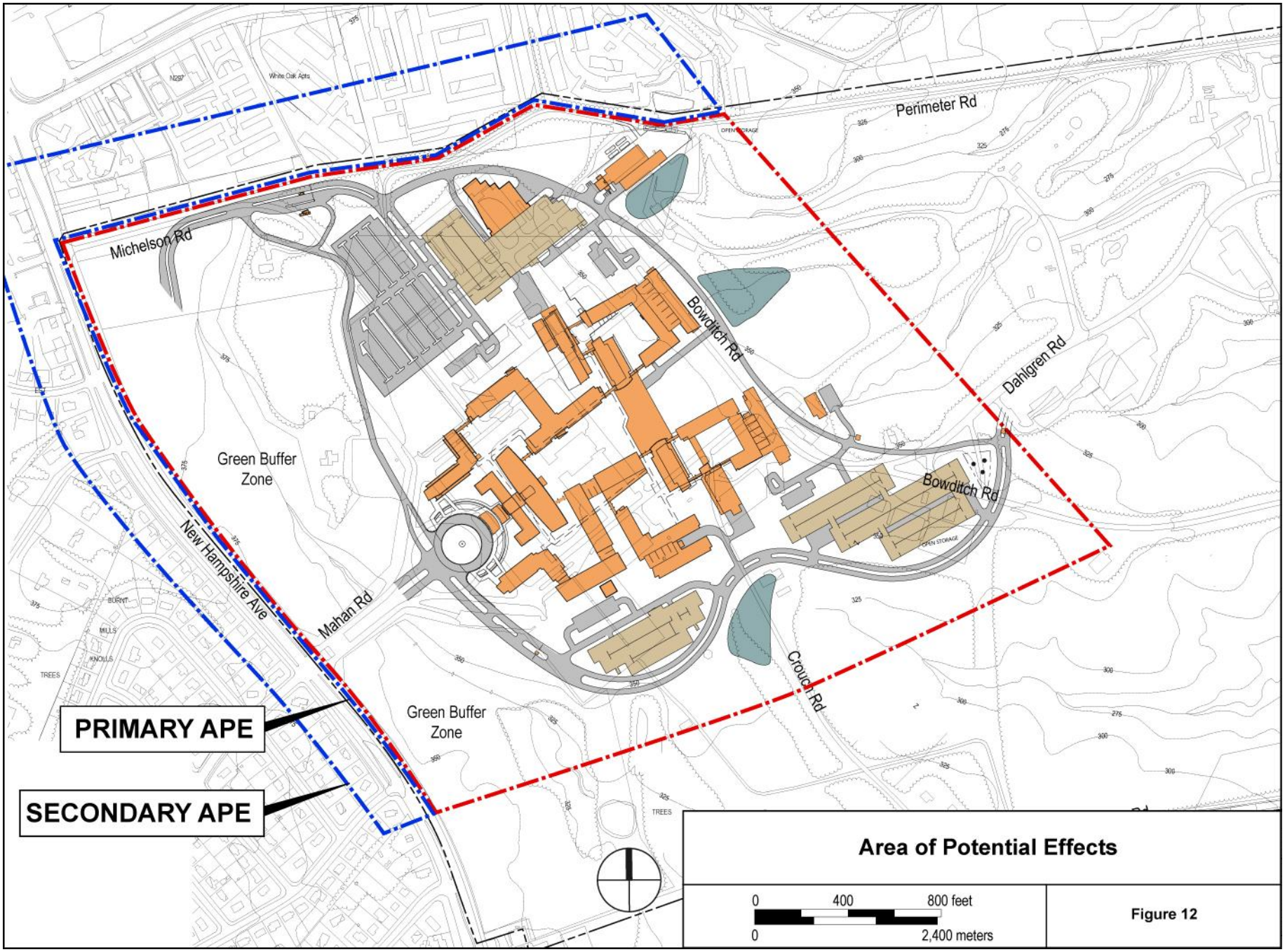
3.13.2 Historic Structures and Landscapes

3.13.2.1 Will Historic Buildings be Affected by Updating the Master Plan?

The FDA Campus is located within the White Oak/Naval Ordnance Laboratory Historic District. The district is eligible for listing in the National Register of Historic Places for architectural and historical association with important Cold War-era naval weapons research, association with the researchers who worked at the laboratory and their significant contributions to history, and for noteworthy architectural design. However, the majority of original buildings and structures within the FDA Campus of the historic district have been demolished. In 2000, a MOA was executed between GSA, FDA, the Maryland Historical Trust (MHT) – the State Historic Preservation Office (SHPO), ACHP, and others for construction of the FDA Headquarters. This MOA provided for the retention of contributing resources including portions of the Main Administration Building (now Building 1), the flagpole with a redesigned and relocated circle in front of Building 1, and the historic fire station which is now part of Building 100.

The MOA was amended in 2002 (see Appendix B) and executed between GSA, FDA, MHT, and ACHP. The 2002 MOA provided for extensive modifications to the Building 1 for use in the FDA program. (Under the 2000 MOA, Building 1 was not to be part of the FDA program, but to be preserved for historic purposes only.) It also provided that GSA shall work with the MHT on the design plans of proposed buildings that are "compatible with neighboring historic buildings in terms of their height, scale, massing, and materials."

GSA is currently in consultation with the MHT regarding impacts to cultural resources.


Perimeter Rd
Michelson Rd
Bowditch Rd
Dahlgren Rd
Bowditch Rd
Green Buffer Zone
New Hampshire Ave
Mahan Rd
Crouch Rd
Green Buffer Zone
PRIMARY APE
SECONDARY APE
Area of Potential Effects
0 400 800 feet
0 2,400 meters
Figure 12

2006 Master Plan (No-Action Alternative)

Construction of FDA facilities at the FDA Campus, in accordance with the 2006 Master Plan, and relocation of the Child Care Center and Broadcast Studio would not affect known or potential historic properties or cultural resources (GSA, 2005).

Master Plan Update Alternative 2 (Action Alternative)

A stipulation in the 2002 MOA states that: "GSA will submit to the MHT the proposed design plans for all phases of the project to ensure that the design of the proposed buildings will be compatible with neighboring historic building in the terms of their height, scale, massing, and materials". Under this alternative, GSA has worked and would continue to work with the MHT to ensure the proposed buildings in the vicinity of Building 1 (Buildings 2, 21, 25, and 31) would not impact the historic integrity of Building 1.

The flagpole and redesigned circle in front of Building 1 is not likely to be affected. As mentioned above, proposed buildings in all alternatives will be "compatible with neighboring historic buildings." Alternative 2 calls for the construction of Building 25 to be located northeast of the flagpole area beyond Buildings 21 and 22. Building 25 would be placed back from the road leading to the redesigned Main Entrance in order to limit its visibility from the flagpole area.

The CUP expansion in the vicinity of Building 100 would further alter the visual setting of the fire station (Building 100), resulting in a moderate, long-term, direct, adverse impact.

The potable water storage tank will be located east of the Southeast Parking Garage in Alternative 2. The tank will be placed 85 to 95 feet above ground level and will be 38 feet tall. The top of the tank will be between 123 and 128 feet above ground level. Ground level at this location has an elevation of 348 feet. Therefore, the top of the potable water storage tank will have an elevation of 471 to 476 feet.

With a total elevation of 471 to 476 feet, the potable water storage tank will stand more than 20 feet taller than any surrounding building (Broadcast Studio, Southeast Parking Garage, Building 71). Therefore, it will likely be visible from the section of New Hampshire Avenue south of Mahan Road. The tank is not likely to be seen from Mahan Road or New Hampshire Avenue north of Mahan Road.

Master Plan Update Alternative 3 (Action Alternative)

Because of the stipulation in the 2002 MOA, buildings in the vicinity of Building 1 (Buildings 2, 21, and 31) would not impact the historic integrity of Building 1.

The flagpole and redesigned circle in front of Building 1 would not be affected. As mentioned above, proposed buildings under this alternative will be "compatible with neighboring historic buildings."

The CUP expansion, in the vicinity of Building 100, would further alter the visual setting of the fire station (Building 100), resulting in a moderate, long-term, direct, adverse impact.

The potable water storage tank will be located east of the Southeast Parking Garage in Alternative 3. The tank will be placed 85 to 95 feet above ground level and will be 38 feet tall. The top of the tank will be between 123 and 128 feet above ground level. Ground level at this location has an elevation of 348 feet. Therefore, the top of the potable water storage tank will have an elevation of 471 to 476 feet.

With a total elevation of 471 to 476 feet, the potable water storage tank has a similar elevation to Building 75 (480 feet) and its visual impacts would be similar. The tank may be visible from the section of New Hampshire Avenue south of Mahan Road. The tank is not likely to be seen from Mahan Road or New Hampshire Avenue north of Mahan Road.

3.13.2.2 Would the Historic Landscape be Affected by Updating the Master Plan?

2006 Master Plan (No-Action Alternative)

The historic green buffer zone, part of the historic landscape, is characterized by a variety of pine and hardwood forested areas, grassy meadow areas, and groupings of buildings clustered in various locations around the facility. These characteristics result in the screening of direct views of the existing FDA facilities from the adjacent communities to the north, south, and east. The only view of the FDA Campus is from New Hampshire Avenue and the adjacent community west of the FDA Campus. This view is framed by the landscape elements of the historic green buffer zone, located between New Hampshire Avenue and the Main Administration Building (now Building 1). The principal element of the view is the main entry road to the facility, which formed a directional axis from the gate along New Hampshire Avenue. This is reinforced by a landscaped median along the

entry road, regularly spaced ornamental trees, and a circular grassed mall in front of the building. In addition, vegetation on the former golf course located at the front of the FDA Campus facing New Hampshire Avenue is in the process of being restored as part of the green buffer zone.

Master Plan Update Alternatives (Action Alternatives 2 and 3)

The historic landscape would not be impacted further by the Master Plan Update alternatives. The historic green buffer zone, part of the historic landscape, is characterized by a variety of pine and hardwood forested areas, grassy meadow areas, and groupings of buildings clustered in various locations around the facility. These characteristics resulted in the screening of direct views of the existing FDA facilities from the adjacent communities to the north, south, and east. The only view of the FDA Campus was from New Hampshire Avenue and the adjacent community west of the FDA Campus. This view was framed by the landscape elements of the historic green buffer zone, located between New Hampshire Avenue and the Main Administration Building (now Building 1). The principal element of the view was the main entry road to the facility, which formed a directional axis from the gate along New Hampshire Avenue. This was reinforced by a landscaped median along the entry road, regularly spaced ornamental trees, and a circular grassed mall in front of the building.

3.13.2.3 How Will Historic Resources Off Site of the FDA Campus be Affected by the Project?

As documented in the 2005 Supplemental EIS, there are no known historic resources off site of the FDA Campus that would be indirectly affected under the 2006 Master Plan or the Master Plan Update alternatives (GSA, 2005).

3.13.2.4 What Efforts are Being Made to Preserve the Historic Landscape?

The historic green buffer zone between the FDA Campus and New Hampshire Avenue would generally remain unchanged. The restoration of Tributary 189 in this buffer zone would help enhance the views from New Hampshire Avenue and the surrounding communities. Under Alternative 2, it would be ensured that the construction of Building 25 would adhere to *The Secretary of the Interior's Standards for the Treatment of Historic Properties* (revised 1992).

Under either Master Plan Update Alternatives, it would be ensured that the CUP expansion would also adhere to *The Secretary of the Interior's Standards for the Treatment of Historic Properties* (revised 1992).

The adverse visual impact from the construction of a 300,000 gallon water storage tank would be minimized by painting the water storage tank in such a way that it blends in more with its surroundings.

3.14 Traffic and Transportation

3.14.1 What Makes Up the Local Roadway Network?

The FRC is located just north of Interstate 495 (I-495). The site is surrounded by New Hampshire Avenue (MD 650) to the west, Cherry Hill Road to the east, and Powder Mill Road (MD 212) to the south.

Study Area for Traffic Analysis

For the traffic analysis performed as part of this Supplemental EIS, the study area was defined based upon discussion with the M-NCPPC and the number of intersections studied. In order to perform an accurate traffic analysis, 19 intersections in both Montgomery and Prince George's Counties were studied. These intersections are in the vicinity of the FRC – not just the FDA Campus.

Following are descriptions of the main roadways in the vicinity of the FRC:

Interstate 495 (I-495). In the vicinity of the FRC, I-495 also known as the Capital Beltway is an eight-lane, divided, interstate highway. It carries approximately 212,170 vehicles per day (VPD) near MD 650. The posted speed limit in the vicinity of the traffic analysis study area is 55 miles per hour (mph).

New Hampshire Avenue (MD 650). This is a six-lane divided roadway with a posted speed limit of 35 mph. It runs in a north-south direction and has a grade separated interchange with both I-495 and US 29 (Columbia Pike). Currently, it carries approximately 51,400 VPD north of I-495. Its intersections with Elton Road, Powder Mill Road, Schindler Drive/Mahan Drive, Michelson Road, and Lockwood Drive are signalized.

Powder Mill Road (MD 212). This is a two-lane roadway between New Hampshire Avenue and Cherry Hill Road with a posted speed limit of 35 mph. It runs in an east-west direction with signalized intersections at New Hampshire Avenue (MD 650) and Cherry Hill Road. East of Cherry Hill Road, it becomes a four-lane roadway and has an interchange with I-95. Currently, it carries approximately 22,500 VPD.

Columbia Pike (US 29). This is a six-lane highway with a posted speed limit of 50 mph. It runs in a north-south direction, parallel to I-95, and ends at I-70 to the north. It is grade separated at its intersections with MD 650 and Cherry Hill Road/Randolph Road. It carries approximately 64,000 VPD.

Cherry Hill Road. This roadway runs in a north-south direction and has a posted speed limit of 40 mph. In the vicinity of the traffic analysis study area, it is a four-lane roadway. Its intersections with Powder Mill Road, US 29/Randolph Road, Plum Orchard Drive, Calverton Drive, and Prosperity Drive are signalized. As mentioned above, its intersection with US 29 (Columbia Pike) is a grade separated interchange.

Randolph Road. North of Columbia Pike (US 29) Cherry Hill Road becomes Randolph Road. It is a four-lane undivided highway that runs in a north-south direction. The posted speed limit for this roadway is 35 mph.

Plum Orchard Drive. This is a two-lane roadway which runs in an east-west direction. Its intersection with Cherry Hill Road is signalized.

Calverton Boulevard/Broadbirch Drive. This roadway connects Cherry Hill Road to Powder Mill Road via Beltsville Drive. Similarly, Broadbirch Drive connects Cherry Hill Road to Columbia Pike via Tech Road. It is a two-lane roadway to the east of Cherry Hill Road and becomes a four-lane facility to the west. Its intersection with Cherry Hill Road is signalized.

Prosperity Drive. This roadway runs in an east-west direction, teeing into Cherry Hill Road and extending past Tech Road. Its intersection with Cherry Hill Road is signalized. Land along Prosperity Drive is developed with either retail or office developments.

Lockwood Drive. This roadway runs in an east-west direction from US 29 (Columbia Pike) to east of New Hampshire Avenue. It provides access to several commercial and residential developments located along it. There is a large shopping center at the northeast corner of its intersection with New Hampshire Avenue.

Schindler Drive/Mahan Road. This roadway runs in an east-west direction. To the west of New Hampshire Avenue, it provides access to a neighborhood and to the east, it provides the main access point for the FDA development. Currently, its intersection with New Hampshire Avenue is signalized.

Fairland Road: The roadway runs in an east-west direction and makes a four-leg signalized intersection with US 29. Fairland road intersects with Old Columbia Pike at signalized intersection to the west of US 29 and provides access to the commercial and residential developments. To the east of US 29, Fairland Road provides access to the residential developments and connected to Briggs Chaney Road.

Level of Service

LOS is a qualitative measure of traffic conditions through a given roadway intersection or segment. Intersection LOS is measured in terms of "A" through "F" with LOS "A" representing little or no delay and LOS "F" representing extreme congestion with excessive delay and standing queues. Level of Service "E" (less than 80 seconds average delay for signalized intersections) is typically accepted as the minimum threshold limit for peak hour conditions in an urban area such as Washington, DC.

3.14.2 How Were Impacts to the Local Roadway Network Assessed?

A traffic analysis was performed in January 2008, which studied the impact to the local roadway network under the conditions where approximately 2,080 FDA employees and contractors were at the FDA Campus; the existing build-out of 7,719 FDA employees, which for the purposes of this Supplemental EIS is the 2006 Master Plan (No-Action Alternative); and under conditions where FDA would have an additional 1,170 employees at the FRC (Master Plan Update Action Alternatives 2 and 3). More detailed analysis can be found in the FDA Traffic Analysis (2008) found in Appendix E.

Analysis was performed using the Critical Lane Analysis Technique as directed by Montgomery and Prince George's Counties guidelines. The Critical Lane Analysis outputs a Level of Service (LOS).

The Critical Lane Analysis Technique determines the overall operational LOS for an entire signalized intersection. Unsignalized intersections are assumed to be simple two-phase signalized intersections for the analysis. The analysis examines the combination of vehicular streams with conflicting movement during a peak period. This maximum number of conflicts is termed the critical lane volume (CLV). This CLV value is then compared to a range of values to determine the approximate LOS at an intersection.

3.14.3 How Would the Local Roadway Network Be Affected by the Project?

Intersections in Montgomery County with a CLV of 1,475 or lower are considered to be operating at an acceptable LOS. Montgomery County's standards do not provide breakdowns for LOS A through E. They only provide a CLV limit beyond which the intersection is said to be operating at an unacceptable LOS. Intersections in Prince George's County with a CLV of 1,600 (LOS E) or lower are considered to be operating at an acceptable LOS.

As of January 2008, with approximately 2,080 employees and contractors currently at the FDA Campus, many of the intersections were operating at or above capacity conditions in either or both the AM and PM peak hours. Only the intersections of US 29/Fairland Road, US 29/Musgrove Road, and US 29/Stewart Lane were operating at or below capacity. Tables 13 and 14 present the difference in LOS and CLV between the 2006 Master Plan (No-Action Alternative) and the existing traffic, as of January 2008.

The surrounding roadways are currently congested during the peak hours. Congestion is expected to increase as more employees relocate to the FDA Campus.

2006 Master Plan Alternative (No-Action Alternative)

In the 2005 Supplemental EIS, the impact of 7,719 FDA employees at the FDA Campus on the future anticipated volumes at the study intersections was analyzed (GSA, 2005) since then, there have been increases from traffic from other developments in the area. Therefore, a new traffic impact analysis was prepared for this Supplemental EIS (see Appendix E). This analysis included existing traffic volumes, regional background growth, and approved but not constructed developments in the surrounding area, including previously approved FDA development (with 7,719 employees). (Discussions with Montgomery and Prince George's Counties staffs have indicated that they do not require the addition of regional growth factors for this analysis because they wanted all background development included.)

The 2006 Master Plan traffic analysis also took into account any funded infrastructure improvements projects through 2006 in the traffic analysis study area. The ICC is expected to be constructed and open by 2012. However, a majority of FDA employees will be at the FDA Campus before the ICC is fully operational. Therefore, in order to understand the impacts of the ICC, the 2006 Master Plan was analyzed two different ways: with the ICC and without the ICC.

2006 Master Plan Analysis – without ICC

Under the 2006 Master Plan without the ICC, access would be provided along New Hampshire Avenue via Schindler Drive/Mahan Road and Michelson Drive, and along Cherry Hill Road via the new Eastern Access Road currently under construction. Results of the analysis indicate that most of the intersections (approximately 63 percent) analyzed are expected to operate at unacceptable LOSs during both or at least one peak hour (see Table 13). The following intersections are expected to operate at acceptable LOSs during both AM and PM peak hours:

- MD 650/Powder Mill Road,
- MD 650/Mahan Road,
- MD 650/Lockwood Drive,
- Beltsville Drive/Powder Mill Road,
- Beltsville Drive/Calverton Boulevard,
- US 29 northbound ramp/Cherry Hill Road, and
- Proposed Cherry Hill Road/Eastern Access Road.

Table 13: 2006 Master Plan Traffic Volumes Without ICC LOS Results

Intersection	Existing*		No-Action	
	AM (CLV)	PM (CLV)	AM (CLV)	PM (CLV)
Cherry Hill Road/Powder Mill Road*	B (1,128)	C (1251)	C (1,238)	F (1,660)
Cherry Hill Road/Plum Orchard Drive	Acceptable (951)	Acceptable (1,055)	Unacceptable (1,817)	Unacceptable (1,723)
Cherry Hill Rd/Calverton Blvd./Broadbirch Dr	Acceptable (1,101)	Acceptable (1,419)	Unacceptable (1,826)	Unacceptable (2,074)
Cherry Hill Road/Prosperity Drive	Acceptable (1,195)	Acceptable (1,050)	Unacceptable (1,648)	Acceptable (1,411)
MD 650/Michelson Road	Acceptable (1,073)	Acceptable (1,008)	Acceptable (1,192)	Unacceptable (1,530)
MD 650/Powder Mill Road	Acceptable (1,272)	Acceptable (1,400)	Acceptable (1,373)	Acceptable (1,444)
MD 650/Schindler Drive/Mahan Road	Acceptable (1,048)	Acceptable (870)	Acceptable (1,083)	Acceptable (1,039)
MD 650/Lockwood Drive	Acceptable (1,223)	Acceptable (1,207)	Acceptable (1,415)	Acceptable (1,361)
Beltsville Drive/Powder Mill Road**	B (1,044)	C (1,299)	E (1,460)	D (1,421)
Beltsville Drive/Calverton Boulevard*	A (797)	A (846)	A (836)	A (849)
US 29 Fairland Road	Unacceptable (1,591)	Unacceptable (1,769)	Unacceptable (1,837)	Unacceptable (1,993)
US 29 /Musgrove Road	Acceptable (1,448)	Unacceptable (1,593)	Unacceptable (1,698)	Unacceptable (1,814)
US 29 N.B. Ramp/Cherry Hill Road	Acceptable (875)	Acceptable (819)	Acceptable (1,328)	Acceptable (1,304)
US 29 S.B. Ramp/Cherry Hill Road	Acceptable (1,096)	Acceptable (951)	Unacceptable (1,573)	Acceptable (1,286)

Table 13: 2006 Master Plan Traffic Volumes Without ICC LOS Results

Intersection	Existing*		No-Action	
	AM (CLV)	PM (CLV)	AM (CLV)	PM (CLV)
US 29/ Tech Road	Acceptable (1,448)	Acceptable (1,460)	Unacceptable (1,906)	Unacceptable (2,478)
US 29/ Industrial Parkway	Acceptable (1,343)	Acceptable (1,396)	Acceptable (1,397)	Unacceptable (1,499)
US 29/Stewart Lane	Acceptable (1,423)	Unacceptable (1,681)	Unacceptable (1,560)	Unacceptable (1,792)
US 29/ Lockwood Drive	Acceptable (1,475)	Acceptable (1,448)	Unacceptable (1,574)	Unacceptable (1,595)
Cherry Hill Road/Eastern Access Road	(intersection does not currently exist)	(intersection does not currently exist)	Acceptable (902)	Acceptable (1,261)

**Existing conditions as of January 2008.*

*** This intersection is located in Prince George's County.*

2006 Master Plan Analysis – with ICC

Under the 2006 Master Plan with the ICC, access to the FRC would be the same as shown under the 2006 Master Plan without the ICC. However, some of the traffic which used I-495 to New Hampshire Avenue would now use the ICC and US 29 to Cherry Hill Road. This will reduce the traffic on New Hampshire Avenue but increase the traffic using Cherry Hill Road. Results of the analysis indicate that most of the intersections (approximately 63 percent) are expected to operate at unacceptable LOSs during both or at least one peak hour (see Table 14). The following intersections are expected to operate at acceptable levels of service during both the AM and PM peak hours:

- Cherry Hill Road/Powder Mill Road,
- MD 650/Powder Mill Road,
- MD 650/Mahan Road,
- Beltsville Drive/Powder Mill Road,
- Beltsville Drive/Calverton Boulevard,
- US 29 northbound ramp/Cherry Hill Road, and
- Proposed Cherry Hill Road/Eastern Access Road.

Table 14: 2006 Master Plan Traffic Volumes With ICC LOS Results

Intersection	Existing*		No-Action	
	AM (CLV)	PM (CLV)	AM (CLV)	PM (CLV)
Cherry Hill Road/Powder Mill Road*	B (1,128)	C (1,251)	B (1,076)	E (1,466)
Cherry Hill Road/Plum Orchard Drive	Acceptable (951)	Acceptable (1,055)	Unacceptable (1,586)	Acceptable (1,357)
Cherry Hill Road/Calverton Blvd./Broadbirch Dr	Acceptable (1,101)	Acceptable (1,419)	Unacceptable (1,631)	Unacceptable (1,626)
Cherry Hill Road/Prosperity Drive	Acceptable (1,195)	Acceptable (1,050)	Unacceptable (1,645)	Acceptable (1,138)
MD 650/Michelson Road	Acceptable (1,073)	Acceptable (1,008)	Acceptable (1,318)	Unacceptable (1,549)
MD 650/Powder Mill Road	Acceptable (1,272)	Acceptable (1,400)	Acceptable (1,433)	Acceptable (1,372)
MD 650/Schindler Drive/Mahan Road	Acceptable (1,048)	Acceptable (870)	Acceptable (1,178)	Acceptable (1,242)
MD 650/Lockwood Drive	Acceptable (1,223)	Acceptable (1,207)	Unacceptable (1,610)	Acceptable (1,275)
Beltsville Drive/Powder Mill Road*	B (1,044)	C (1,299)	D (1,362)	C (1,287)
Beltsville Drive/Calverton Boulevard**	A (797)	A (846)	A (797)	A (834)
US 29 Fairland Road	Unacceptable (1,591)	Unacceptable (1,769)	Unacceptable (1,979)	Unacceptable (2,234)
US 29 /Musgrove Road	Acceptable (1,448)	Unacceptable (1,593)	Unacceptable (1,743)	Unacceptable (1,931)
US 29 N.B. Ramp/Cherry Hill Road	Acceptable (875)	Acceptable (819)	Acceptable (1,325)	Acceptable (1,157)
US 29 S.B. Ramp/Cherry Hill Road	Acceptable (1,096)	Acceptable (951)	Unacceptable (1,637)	Acceptable (1,150)
US 29/ Tech Road	Acceptable (1,448)	Acceptable (1,460)	Unacceptable (1,923)	Unacceptable (3,044)

Table 14: 2006 Master Plan Traffic Volumes With ICC LOS Results

Intersection	Existing*		No-Action	
	AM (CLV)	PM (CLV)	AM (CLV)	PM (CLV)
US 29/ Industrial Parkway	Acceptable (1,343)	Acceptable (1,396)	Unacceptable (1,557)	Unacceptable (1,845)
US 29/Stewart Lane	Acceptable (1,423)	Unacceptable (1,681)	Unacceptable (1,800)	Unacceptable (2,164)
US 29/ Lockwood Drive	Acceptable (1,475)	Acceptable (1,448)	Acceptable (1,231)	Unacceptable (1,814)
Cherry Hill Road/Eastern Site Access	(intersection does not currently exist)	(intersection does not currently exist)	Acceptable (849)	Acceptable (1,056)

**Existing conditions as of January 2008.*

***This intersection is located in Prince George's County.*

Master Plan Update Alternatives (Action Alternatives 2 and 3)

As with the 2006 Master Plan Analysis, the Master Plan Update alternatives analysis also took into consideration the ICC and providing access along New Hampshire Avenue via Schindler Drive/Mahan Road and Michelson Drive, and along Cherry Hill Road via the new Eastern Access Road currently under construction. The Master Plan Update alternatives traffic analysis is an analysis of the future anticipated traffic volumes at the study intersections with the project traffic. This analysis includes, existing traffic volumes, regional background growth, and approved unbuilt developments in the traffic analysis study area, including the proposed FDA development (with 8,889 employees). Table 15 presents the trip generation table for the 8,889 employees at this site.

As can be seen in Table 15, the additional 1,170 employees at the FDA Headquarters is expected to generate approximately 777 vehicle trips in the morning peak hours and approximately 776 vehicle trips in the evening peak hours. It should be noted that the assumptions and methodology used for the trip generation have been agreed to by the M-NCPPC.

Table 15: FDA Headquarters Trip Generation During Peak Hours

	Morning	Evening
Employees	1,170	1,170
Percent Absentees	10[1]	10[1]
Trips	1,053	1,053
Proposed Additional Parking Spaces	780[2]	780[2]
Percent in Peak Hour (peak direction)	42 %[3]	40 %[3]
Peak Hour Vehicle Trips (peak direction)	328	312
Peak Hour Vehicle Trips (non-peak direction)	49[4]	64[5]
Peak Hour Visitor (peak direction)	400[6]	400[6]
Total Peak Hour Vehicle Trips (peak direction)	728	721
Total Peak Hour Vehicle Trip (non-peak direction)	49	64
Total Vehicle Trips (Peak Hours)	**777**	**776**

[1] Standard absentee rate, accounts for employees taking vacation, sick days, etc. (scheduled and unscheduled time).
[2] The total number of parking spaces provided on site at the new FDA facility.
[3] Peak hour percentages have been based on the employee survey. For a conservative analysis the peak hour percentages have been increased by 5 percent.
[4] Peak direction percentage for "outbound" based on in/out ratio provided by M-NCPPC guidelines for office 87 percent/13 percent.
[5] Peak direction percentage for "inbound" based on in/out ratio provided by M-NCPPC guidelines for office land use of 83 percent/17 percent.
[6] The FDA site is proposing an additional 500 visitor parking spaces. In order to perform a conservative analysis, it has been assumed that approximately 80 percent of the total visitors will arrive and depart during the peak hour.

Master Plan Update Action Alternative – without ICC

Results of the analysis indicate that, with the addition of 1,170 new FDA employees at the FRC, most intersections are expected to continue operating at unacceptable LOSs during peak hours (see Table 16). Overall, there would not be a significant change in CLV between the Action and No-Action Alternatives (2006 Master Plan). As shown in Table 16, the largest percentage changes in CLV are seen along Cherry Hill Road at Plum Orchard Drive, and at MD 650. The percent change in CLV

between the 2006 Master Plan and Master Plan Update alternatives is generally less than 10 percent and at most intersections it is less than 5 percent.

Under both Master Plan Update alternatives, the following intersections are expected to operate at an acceptable LOS during both the AM and PM peak hours:

- Cherry Hill Road/Eastern Access Road,
- MD 650/Powder Mill Road,
- MD 650/Schindler/Mahan Road,
- Beltsville Drive/Powder Mill Road,
- Beltsville Drive/Calverton Boulevard, and
- US 29 northbound ramp/Cherry Hill Road

Master Plan Update Action Alternatives – with ICC

Results of the analysis indicate that with the addition of 1,170 new FDA employees at the FDA Campus, most intersections are expected to continue operating above unacceptable LOSs during peak hours (see Table 17). With the ICC and the addition of FDA employees under the 2006 Master Plan (No-Action), there is expected to be large changes in CLVs at the study intersections. Most intersections are expected to see an increase in CLV between 20 to 50 percent. However, due to the shifts in the arrival patterns, some intersections will have a decrease in the CLV since vehicles are taking a different route.

Between the 2006 Master Plan and Master Plan Update alternatives, the percent change in CLV is less than 10 percent at all the study intersections with the exception of the Cherry Hill Road/Eastern Site Access intersection where the percent change is approximately 11 percent. At most intersections, the percent change in CLV is less than 5 percent.

Under both the Master Plan Update alternatives, the following intersections are expected to operate at an acceptable LOS during both the AM and PM peak hours:

- Cherry Hill Road/Eastern Access Road,
- Cherry Hill Road/Powder Mill Road,
- MD 650/Powder Mill Road,
- MD 650/Schindler/Mahan Road,
- Beltsville Drive/Powder Mill Road,
- Beltsville Drive/Calverton Boulevard, and
- US 29 northbound ramp/Cherry Hill Road.

Table 16: Master Plan Update Action Alternatives Traffic Volume LOS Results - Without ICC

Intersection	Existing*		No Action		Action		% Change in CLV Between Existing and No Action		% Change in CLV Between No Action and Action	
	AM (CLV)	PM (CLV)	PM (CLV)	PM (CLV)	AM (CLV)	PM (CLV)	AM (%)	PM (%)	AM (%)	PM (%)
Cherry Hill Road/Powder Mill Road*	B (1,128)	C (1,251)	C (1,238)	F (1,660)	C (1,244)	F (1,684)	9.8	32.7	0.5	1.4
Cherry Hill Road/Plum Orchard Drive	Acceptable (951)	Acceptable (1,055)	Unacceptable (1,817)	Unacceptable (1,723)	Unacceptable (1,964)	Unacceptable (1,880)	91.1	63.3	8.1	9.1
Cherry Hill Road/Calverton Blvd./Broadbirch Dr	Acceptable (1,101)	Acceptable (1,419)	Unacceptable (1,826)	Unacceptable (2,074)	Unacceptable (1,919)	Unacceptable (2,164)	65.8	46.2	5.1	4.3
Cherry Hill Road/Prosperity Drive	Acceptable (1,195)	Acceptable (1,050)	Unacceptable (1,648)	Acceptable (1,411)	Unacceptable (1,740)	Unacceptable (1,501)	41.9	40.7	6.0	6.4
MD 650/Michelson Road	Acceptable (1,073)	Acceptable (1,008)	Acceptable (1,192)	Unacceptable (1,530)	Acceptable (1,239)	Unacceptable (1,759)	11.1	51.8	3.9	15.0
MD 650/Powder Mill Road	Acceptable (1,272)	Acceptable (1,400)	Acceptable (1,373)	Acceptable (1,444)	Acceptable (1,423)	Acceptable (1,451)	7.5	3.9	3.6	0.5
MD 650/Schindler Drive/Mahan Road	Acceptable (1,048)	Acceptable (870)	Acceptable (1,083)	Acceptable (1,039)	Acceptable (1,089)	Acceptable (1,125)	3.3	19.4	0.6	8.3
MD 650/Lockwood Drive	Acceptable (1,223)	Acceptable (1,207)	Acceptable (1,415)	Acceptable (1,361)	Unacceptable (1,494)	Acceptable (1,430)	15.7	12.8	5.6	5.1
Beltsville Drive/Powder Mill Road**	B (1,044)	C (1,299)	E (1,460)	D (1,421)	E (1,485)	D (1,424)	39.8	9.4	1.7	0.2
Beltsville Drive/Calverton Boulevard**	A (797)	A (846)	A (836)	A (849)	A (836)	A (849)	4.9	0.4	0.0	0.0
US 29 Fairland Road	Unacceptable (1,591)	Unacceptable (1,769)	Unacceptable (1,837)	Unacceptable (1,993)	Unacceptable (1,865)	Unacceptable (2,021)	15.5	12.7	1.5	1.4
US 29/ Musgrove Road	Acceptable (1,448)	Unacceptable (1,593)	Unacceptable (1,698)	Unacceptable (1,814)	Unacceptable (1,726)	Unacceptable (1,841)	17.3	13.9	1.6	1.5
US 29 N.B. Ramp/Cherry Hill Road	Acceptable (875)	Acceptable (819)	Acceptable (1,328)	Acceptable (1,304)	Acceptable (1,420)	Acceptable (1,369)	51.8	59.2	6.9	5.0
US 29 S.B. Ramp/ Cherry Hill Road	Acceptable (1,096)	Acceptable (951)	Unacceptable (1,573)	Acceptable (1,286)	Unacceptable (1,670)	Acceptable (1,294)	43.5	35.2	6.2	0.6
US 29/ Tech Road	Acceptable (1,448)	Unacceptable (1,460)	Unacceptable (1,906)	Unacceptable (2,478)	Unacceptable (1,782)	Unacceptable (2,020)	24.5	30.7	0.0	0.1

Table 16: Master Plan Update Action Alternatives Traffic Volume LOS Results - Without ICC

Intersection	Existing*		No Action		Action		% Change in CLV Between Existing and No Action		% Change in CLV Between No Action and Action	
	AM (CLV)	PM (CLV)	PM (CLV)	PM (CLV)	AM (CLV)	PM (CLV)	AM (%)	PM (%)	AM (%)	PM (%)
US 29/ Industrial Parkway	Acceptable (1,343)	Acceptable (1,396)	Acceptable (1,397)	Unacceptable (1,499)	Acceptable (1,401)	Unacceptable (1,502)	9.0	9.3	0.3	0.2
US 29/Stewart Lane	Acceptable (1,423)	Unacceptable (1,681)	Unacceptable (1,560)	Unacceptable (1,792)	Unacceptable (1,564)	Unacceptable (1,796)	9.6	6.6	0.3	0.2
US 29/ Lockwood Drive	Acceptable (1,475)	Acceptable (1,448)	Unacceptable (1,574)	Unacceptable (1,595)	Unacceptable (1,581)	Unacceptable (1,615)	6.7	10.2	0.4	1.3
Cherry Hill Road/Eastern Site Access	(intersection does not currently exist)	(intersection does not currently exist)	Acceptable (902)	Acceptable (1,261)	Acceptable (95)	Acceptable (1,368)			5.5	8.5

**Existing conditions as of January 2008.*

***This intersection is located in Prince George's County.*

Table 17: Master Plan Update Action Alternatives Traffic Volumes LOS Results - With ICC

Intersection	Existing*		No Action		Action		% Change in CLV Between Existing and No Action		% Change in CLV Between Existing and No Action	
	AM (CLV)	PM (CLV)	AM (CLV)	PM (CLV)	AM (CLV)	PM (CLV)	AM	PM	AM	PM
Cherry Hill Road/Powder Mill Road*	B (1,128)	C (1,251)	B (1,076)	E (1,466)	B (1,085)	E (1,514)	-4.6	17.2	0.8	3.3
Cherry Hill Road/Plum Orchard Drive	Acceptable (951)	Acceptable (1,055)	Unacceptable (1,586)	Acceptable (1,357)	Unacceptable (1,660)	Acceptable (1,365)	75.4	29.9	6.4	0.8
Cherry Hill Road/Calverton Blvd./Broadbirch Dr	Acceptable (1,101)	Acceptable (1,419)	Unacceptable (1,631)	Unacceptable (1,626)	Unacceptable (1,705	Unacceptable (1,695)	55.6	19.6	6.2	6.0
Cherry Hill Road/Prosperity Drive	Acceptable (1,195)	Acceptable (1,050)	Unacceptable (1,645)	Acceptable (1,138)	Unacceptable (1,719)	Acceptable (1,207)	49.2	20.5	6.6	8.4
MD 650/Michelson Road	Acceptable (1,073)	Acceptable (1,008)	Acceptable (1,318)	Acceptable (1,549)	Acceptable (1,365	Unacceptable (1,785)	19.3	43.8	3.0	13.2
MD 650/Powder Mill Road	Acceptable (1,272)	Acceptable (1,400)	Acceptable (1,433)	Acceptable (1,372)	Acceptable (1,442)	Acceptable (1,429)	12.2	-1.3	0.6	4.2
MD 650/Schindler Drive/Mahan Road	Acceptable (1,048)	Acceptable (870)	Acceptable (1,167)	Acceptable (1,218)	Acceptable (1,172)	Acceptable (1,332)	11.4	36.1	0.4	8.4
MD 650/Lockwood Drive	Acceptable (1,223)	Acceptable (1,207)	Unacceptable (1,610)	Acceptable (1,275)	Unacceptable (1,719)	Acceptable (1,339)	26.9	4.9	5.6	2.0
Beltsville Drive/Powder Mill Road**	B (1,044)	C (1,299)	D (1,362)	C (1,287)	D (1,406)	C (1,292)	30.5	-0.9	3.2	0.4
Beltsville Drive/Calverton Boulevard**	A (797)	A (846)	A (797)	A (834)	A (797)	A (834)	0	-1.4	0.0	0.0
US 29 Fairland Road	Unacceptable (1,591)	Unacceptable (1,769)	Unacceptable (1,979)	Unacceptable (2,234)	Unacceptable (2,033)	Unacceptable (2,286)	24.4	26.3	2.7	2.3
US 29 /Musgrove Road	Acceptable (1,448)	Unacceptable (1,593)	Unacceptable (1,743)	Unacceptable (1,931)	Unacceptable (1,797)	Unacceptable (1,983)	20.4	21.2	3.1	2.7
US 29 N.B. Ramp/Cherry Hill Road	Acceptable (875)	Acceptable (819)	Acceptable (1,325)	Acceptable (1,157)	Acceptable (1,366)	Acceptable (1,187)	60.9	40.2	7.5	3.4
US 29 S.B. Ramp/Cherry Hill Road	Acceptable (1,096)	Acceptable (951)	Unacceptable (1,637)	Acceptable (1,150)	Unacceptable (,722)	Acceptable (1,159)	56.8	22.2	7.2	1.0
US 29/ Tech Road	Acceptable (1,448)	Unacceptable (1,460)	Unacceptable (1,923)	Unacceptable (3,044)	Unacceptable (1,884)	Unacceptable (2,420)	31.7	56.4	0.0	0.3

Table 17: Master Plan Update Action Alternatives Traffic Volumes LOS Results - With ICC

Intersection	Existing*		No Action		Action		% Change in CLV Between Existing and No Action		% Change in CLV Between Existing and No Action	
	AM (CLV)	PM (CLV)	AM (CLV)	PM (CLV)	AM (CLV)	PM (CLV)	AM	PM	AM	PM
US 29/ Industrial Parkway	Acceptable (1,343)	Acceptable (1,396)	Unacceptable (1,557)	Unacceptable (1,845)	Unacceptable (1,557)	Unacceptable (1,874)	20.7	30.9	0.0	0.4
US 29/Stewart Lane	Acceptable (1,423)	Unacceptable (1,681)	Unacceptable (1,800)	Unacceptable (2,164)	Unacceptable (1,800)	Unacceptable (2,193)	25.9	25.8	0.0	0.3
US 29/ Lockwood Drive	Acceptable (1,475)	Acceptable (1,448)	Acceptable (1,231)	Unacceptable (1,814)	Acceptable (1,231)	Unacceptable (1,822)	-16.5	25.3	0.1	0.4
Cherry Hill Road/Eastern Site Access	(intersection does not currently exist)	(intersection does not currently exist)	Acceptable (849)	Acceptable (1,056)	Acceptable (948)	Acceptable (1,156)			11.5	11.1

**Existing conditions as of January 2008.*

***This intersection is located in Prince George's County.*

3.14.4 What Public Transportation Facilities and Services are Available in the Vicinity of the FDA and Campus and How Would They be Affected by the Project?

The existing public transportation facilities and routes that serve the FRC, include Metrorail, commuter rail, and bus. The following describes the transit routes and schedules of public transportation, which currently serves the site.

Metrorail System

The Metrorail system connects downtown Washington, DC to the adjoining areas in Maryland and Virginia (see Figure 13). Metrorail operates five lines of which two lines, the Red and the Green, have stations within 5 miles of the FDA Campus.

The Metrorail Red Line operates west of the site, from the Glenmont Station to the Shady Grove Station, in Montgomery County. The Silver Spring station is the closest to the FDA Campus, and is located approximately 3.4 miles from the FDA Campus off of Colesville Road (US 29). Access to the station from the FDA Campus can be obtained by traveling south on US 29. The Forest Glen and Wheaton Stations are located approximately 4 miles to the west of the FDA Campus.

The Metrorail Green Line operates east of the site from the Greenbelt station to the Branch Avenue station in Prince George's County. The two closest Green Line stations to the FDA Campus are the Greenbelt station, located approximately 4.2 miles from the site, and the College Park station, located 4.6 miles from the site. Trains operate at 7-minute intervals during the peak hours and 12-minute intervals during the non-peak periods. Trains also operate on the weekends.

Under the No-Action Alternative, no changes to the Metrorail system are anticipated. With either Action Alternatives, no changes to the Metrorail system are expected. The FDA shuttle will continue to provide direct connectivity to the Metrorail System. The FDA Employee Transportation Coordinator will monitor the FDA shuttle schedule and ridership and modify the shuttle routes/frequency, as needed, to accommodate and serve FDA employees.

MARC Rail System

The MARC is a commuter rail system that connects Washington, DC to the surrounding counties in Maryland and West Virginia (see Figure 14). The MARC operates three lines, the Brunswick Line, the Camden Line, and the Penn Line.

The MARC Brunswick Line operates from Martinsburg, West Virginia to Union Station in Washington, D.C. This line has a stop at the Silver Spring Metrorail station and is connected to the Red Line. Trains only operate in the eastbound direction in the morning (AM) peak beginning at 5 a.m. and the trains in the westbound direction begin at 1:45 p.m.

The MARC Camden Line operates from Camden Station in Baltimore, Maryland, to Union Station in Washington, DC. The stations near the FDA Campus include the Muirkirk, College Park, and Greenbelt stations, with the Greenbelt station being the closest to the FRC. The Camden Line trains run approximately every 30 to 50 minutes during the AM and evening (PM) peak period. There are six southbound trains in the AM peak period which start at 5:10 a.m. and stop at 8:15 a.m. and in the northbound direction there are six PM peak period trains beginning at 4:13 p.m. and ending at 7:35 p.m. There are also some mid-day trains in each direction.

The Penn Station Line operates from Perryville to Union Station in Washington, DC. Most of the trains; however, do not begin in Perryville; instead they operate between the Baltimore/Penn Station and Union Station. The trains start at 4:47 a.m. in the southbound direction and continue until 10:18 PM. In the northbound direction trains start at 5:54 a.m. and stop at 10:45 p.m. Trains are more frequent during the AM and PM peaks. There are several mid-day trains as well.

Under the No-Action Alternative and Master Plan Update alternatives, no changes to the MARC system are anticipated.

Source:Washington Metropolitan Area Transit Authority, Revised 012/04.

Figure 13: Metro Rail System Map

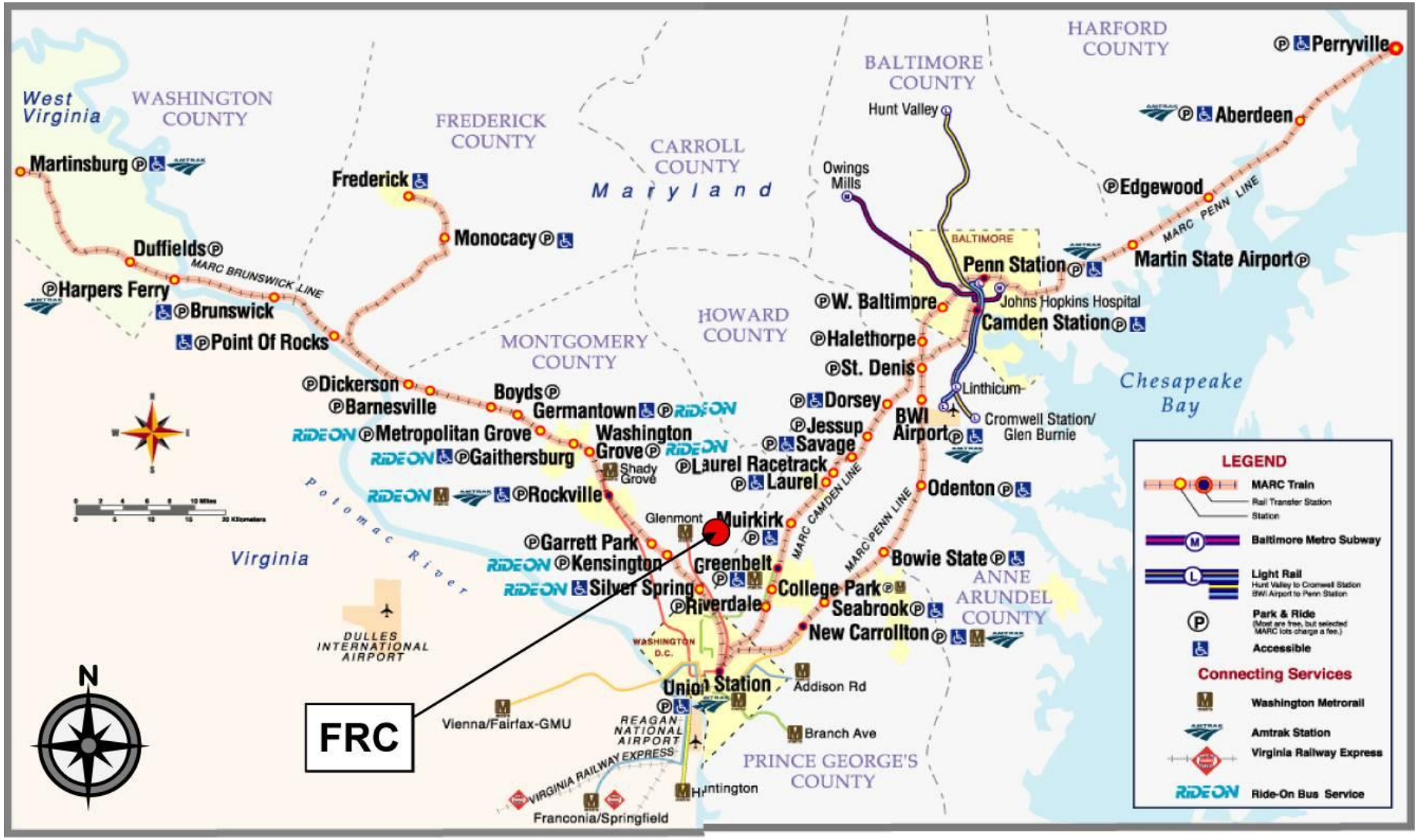


Figure 14: MARC System Map
Source: MTA website

Buses

Several bus routes presently provide service along New Hampshire Avenue and US 29 in the vicinity of the site. These routes can be adjusted to serve the FDA Campus, provided that there is sufficient demand. These routes are shown in Figure 15. It should also be noted that bicycle racks are available on all Ride On buses. The Silver Spring Metrorail Station is considered the primary transit station for the FDA Campus due to the number of buses which use US 29, the proximity of the Silver Spring Metrorail station to the site, and the accessibility of the Silver Spring Metrorail station to the MARC Train System.

In addition, FDA provides two bus shuttles: one from the Silver Spring and College Park Metrorail stations, and one from the Twinbrook Metrorail station. Once at the FDA Campus, a circulator shuttle within the FDA Campus has been provided that connects all buildings at the FDA Campus to each other (see Figure 16).

The College Park, Silver Spring, and Twinbrook Metrorail stations tie into the regional MARC rail system. The Camden line of the MARC ties into the College Park station and the Brunswick line ties in at the Silver Spring station. Thus, by providing shuttle service from these stations, the employees from Baltimore County, outer Montgomery County, Frederick County, and West Virginia have access to the Surface Rail Transportation System, enabling them to make their trips to the White Oak site by rail.

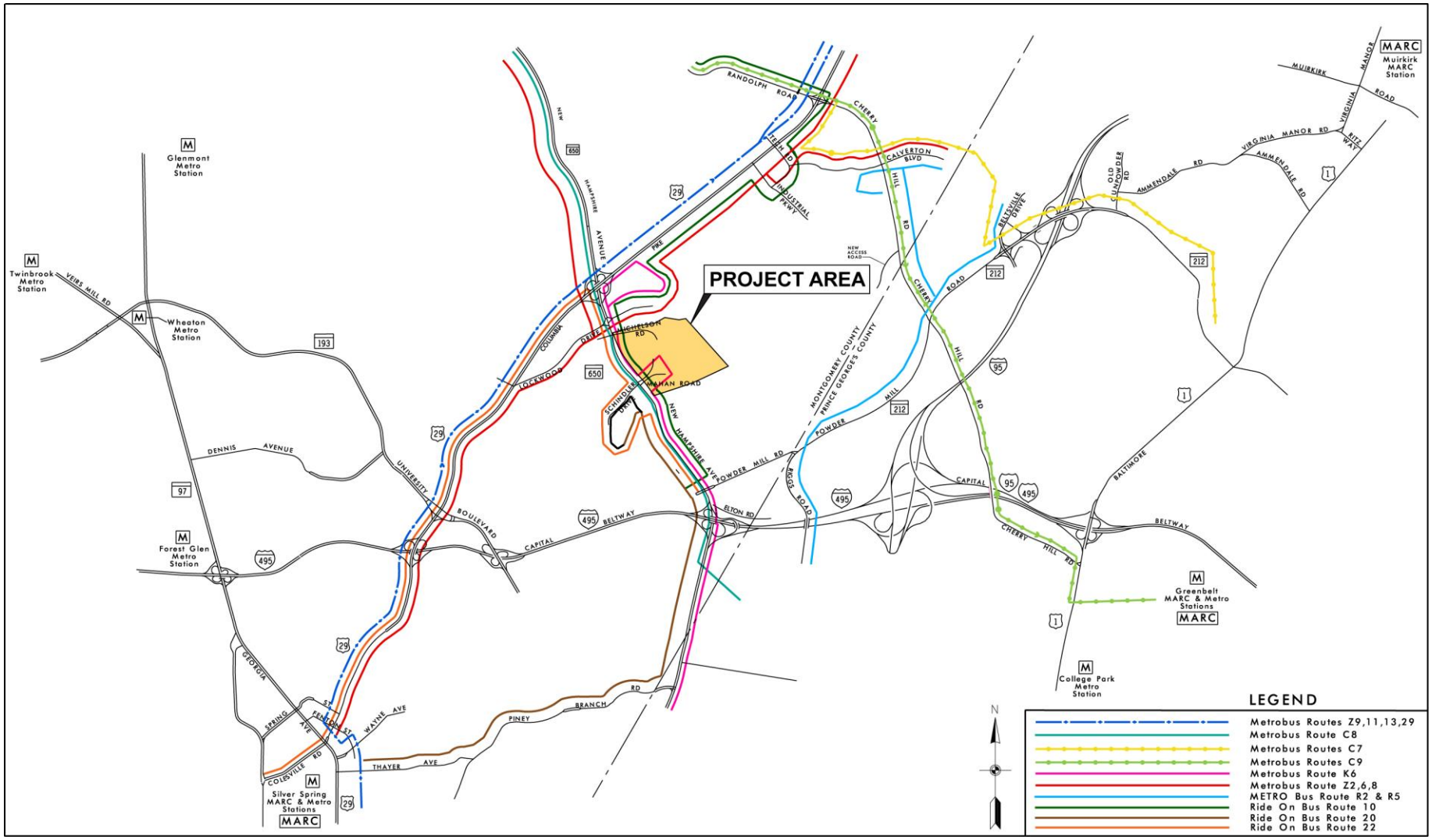


Figure 15: Existing Public Transportation


Legend
2006 Master Plan Development
Surface Parking
Parking Garage
Storm Water Management Pond
FDA Commuter Shuttle
Internal Shuttle – 6 a.m. to 7 p.m., every 15 minutes
Metro Ride-On
2006 Master Plan Parameters
Population 7,719
Parking Ratio 1:1.5
Employee Parking 5,141
Visitor Parking 500
Total Parking Required 5,641
Parking Provided 5,641
Antenna Farm
East Loop
Building 100
Surface Parking 24
Gate
Child Care Center
Southeast Parking Garage 1,695
Surface Parking 7
Building 66
Building 71
Southeast Loop
Northeast Loop
Surface Parking 20
Surface Parking 20
Distribution Center
Northeast Parking Garage 927
Building 64
Building 10 (Below Grade)
Building 72
Building 52
Building 62
North Parking Garage 831
Building 22
Building 51
Surface Parking 362
Surface Parking 450
Surface Parking 34
Building 32
Broadcast Studio
Southwest Parking Garage 1,229
Gate
Truck Screening Facility
Building 2
Surface Parking 32
Building 21
Building 1
Building 31
Southwest Loop
Main Entrance
Gate
Michelson Road
Green Buffer Zone
Mahan Road
Green Buffer Zone
Existing FDA Campus Bus Routes
February 2009
0 50 100 Meters
Figure 16

Peak hour trips are not made to the Silver Spring station by the shuttles because Montgomery County Bus Ride On 22 provides 20 trips to and from the Silver Spring station to White Oak. However, during the mid-day, when Ride On 22 trips are less frequent, the shuttle service is designed to accommodate employees needing access to the Silver Spring station. Montgomery County has increased the frequency of the Ride On 22 route from 8 trips to the current 20 trips per day.

Under the No-Action Alternative, no changes to the bus system are anticipated. Under the Action Alternatives, as additional employees are added to the FDA Headquarters, there is the potential that the frequency of bus trips will be increased and/or additional bus routes will be added to accommodate the additional employees. This would create a minor, long-term, adverse impact to the bus system.

3.14.5 How Do Pedestrian and Bicycle Commuters Access the Site?

Sidewalks are provided along New Hampshire Avenue and Cherry Hill Road. Sidewalks are also provided along Lockwood Drive between US 29 and New Hampshire Avenue. A bicycle lane is provided along New Hampshire Avenue. The Silver Spring Green Bicycle/Hiking Trail ties into downtown Silver Spring and will provide a connection to the Sligo Creek Trail which runs near the FDA Campus.

A sidewalk along US 29, approximately a half-mile long between Lorain Avenue and Burnt Mills Shopping Center, is expected to be completed this year. The sidewalk will provide FDA employees with bicycling and pedestrian connectivity to residential areas to the south of the FDA Campus. The supplemental funding needed to start and complete this project was approved by the Montgomery County Executive and the Montgomery County Council. The completion of the project was actively supported through collaboration between FDA employees and local residents of the adjoining community who articulated the need for the additional funding for the project.

3.14.6 How Would Pedestrian and Bicycle Access be Affected by the Project?

Pedestrian and bicycle access to the FDA Campus will not be impacted by the proposed project. As part of the Master Plan Update alternatives, sidewalks will be constructed on site. On-site roadways and buildings will be bicycle compatible. Sidewalks will connect the FDA buildings to parking lots and New Hampshire Avenue.

3.14.7 What Measures Would be Taken to Reduce Impacts to the Transportation Network?

Major improvements would be required at most of the intersections to bring them to acceptable levels of service whether under the 2006 Master Plan or the Master Plan Update alternatives.

Improve Operational Conditions at Intersections

A majority of the intersections in the traffic analysis study area are expected to operate at an unacceptable LOS. With the ICC, many intersections are expected to be less congested. Many of the intersections along Cherry Hill Road, however, are expected to operate with a lower CLV.

Even though roadway improvements are not under the jurisdiction of GSA and GSA cannot fund the transportation improvements, Table 18 shows the roadway improvements that are recommended to improve traffic conditions based on an analysis of the traffic conditions:

Table 18. Recommended Roadway Improvements

Intersection	No-Action Alternative (2006 Master Plan)	Alternatives 2 & 3 (Master Plan Update)	
		Without the ICC	With the ICC
Cherry Hill Road/Powder Mill Road			
Provide an exclusive right turn lane along Powder Mill Road		X	X
Cherry Hill Road/Plum Orchard Drive			
Provide an exclusive southbound right turn lane along Cherry Hill Road	X	X	X
Cherry Hill Rd/Calverton Blvd./Broadbirch Dr			
Provide an exclusive southbound right turn lane along Cherry Hill Road	X	X	X
Provide an exclusive right turn lane along Broadbirch Drive	X	X	X
Cherry Hill Road/Prosperity Drive			

Table 18. Recommended Roadway Improvements

Intersection	No-Action Alternative (2006 Master Plan)	Alternatives 2 & 3 (Master Plan Update)	
		Without the ICC	With the ICC
Provide an additional eastbound left turn lane from Prosperity Drive to northbound Cherry Hill Road		X	X
Provide an exclusive southbound right turn lane along Cherry Hill Road		X	
MD 650/Michelson Road			
Convert the right turn lane along westbound Michelson Road to a free-flow right turn lane		X	X
US 29 Fairland Road/Musgrove Road			
The interchange as proposed by SHA (CTP 2008-2013) should be constructed		X	X
US 29/ Tech Road; US 29/Stewart Lane			
The interchange as proposed by SHA (CTP 2008-2013) should be constructed		X	X
US 29/ Lockwood Drive			
Provide an additional eastbound left turn lane from driveway onto northbound US 29		X	X

Montgomery County would be responsible for improvements along Cherry Hill Road. The Maryland State Highway Administration would be responsible for US 29 and MD 650 improvements. As shown in Table 18, SHA has programmed "planning funds" for two new interchanges on US 29, but there are currently no construction funds.

Transportation Management Plan (TMP)

The Master Plan Update action analysis presented above includes the implementation of a Transportation Management Plan (TMP) (see Appendix D). The site trip generation for the 1,170

FDA employees is based on the parking provided on site, which includes two parking spaces for every three employees (for a ratio of 1:1.5); thus inherent in the analysis is the need to provide the employees who will not have parking spaces with viable alternative modes of transportation. Therefore, the FRC White Oak Campus has implemented a TMP which seeks to reduce the number of single occupancy vehicles and encourage alternate modes of traveling to work.

Average Vehicle Occupancy (AVO)

The Average Vehicle Occupancy (AVO) is the ratio of employees to vehicles. The AVO ratio is calculated as follows:

AVO = number of employees reporting to the worksite/number of vehicles at the worksite

The AVO is increased by decreasing the number of vehicles traveling to the work site.

An update to the FDA TMP has been prepared and is attached as Appendix D. In order to update the TMP, an employee survey was completed in January 2008. Separate surveys were completed by the employees currently at the White Oak Campus and the employees slated to move to the campus. Travel characteristics as well as the TMP strategies were analyzed. Overall, FDA is meeting or exceeding the goals outlined in the 2005 TMP. Currently, FDA employees at the FRC White Oak Campus have an average vehicle occupancy (AVO) of 1.27. FDA is dedicated to continue on this path and obtain an AVO of 1.5 by 2012. Strategies to attain this AVO have been outlined in the TMP. The following strategies are either in place or are in the process of being implemented:

- FDA employees are eligible to receive Transit Subsidies.
- FDA provides shuttle service from the Silver Spring, Twinbrook, and College Park Metrorail stations to the FDA Campus and other FDA sites.
- FDA runs a circulator shuttle which provides service within the FDA Campus.
- FDA will provide carpool/vanpool incentives such as preferred parking, and guaranteed ride home service.
- A bus stop is provided in the circle in front of Building 1.
- Telecommuting programs are and will continue to be provided.
- FDA provides Bicycling/Walking to work incentives.
- The Hillandale and White Oak Shopping Centers currently provide a free lunchtime shuttle from 11:30 a.m. to 2:30 p.m. Tuesday, Wednesday, and Thursday between the FDA Campus and the shopping centers.
- Bicycle racks have been installed on the FDA Campus.

3.15 Utilities

3.15.1 Who Provides Utility Service to the FDA Campus?

The WSSC provides public water to the FRC including the FDA Campus. WSSC operates water intakes and water treatment facilities on the Potomac and Patuxent Rivers.

Existing water mains running underground along New Hampshire Avenue consist of a 16-inch line and two 12-inch connections to the FRC off the 16-inch line. As part of the New Hampshire Avenue reconstruction, new 12-inch connections that link to new meter vaults were installed. There is an existing 8-inch water line through the U.S. Army Laboratory connecting from a 12-inch main along Powder Mill Road. This line traverses the eastern portion of the FRC and is 8 inches where it enters the eastern side of the property. This water line is currently capped and not in use.

The WSSC also provides sewer service to the FRC. Sewage from the site is treated at the Blue Plains Regional Wastewater Treatment Plant in Washington, DC. The FRC is served by two sewer lines. One line is the Paint Branch Trunk Sewer, located in the Paint Branch drainageway that flows from north to south through the central portion of the FRC. This line ranges from 21 inches to 27 inches within the FRC site. There are three connections from the FRC site to the Paint Branch Trunk line. One is active and serves the FDA site and the Air Force site. It connects to the Paint Branch Trunk line near the Dahlgren road crossing over Paint Branch. The other two connections are abandoned lines: One comes from the west, along east Bowditch Road, and one comes from the east from the end of Kuester Road. Both of these abandoned lines connect at the same point on the Paint Branch Trunk line, about 700 feet above the southern boundary of the FRC. The second WSSC line is located in the drainageway to the east of Paint Branch. This sewer line is known as Branch B. The Branch B line ranges in size from 18 inches to 20 inches within the FRC site and connects to the Paint Branch Trunk line south of the southeastern site boundary. There is one connection from the onsite FRC sewer system to the Branch B line, just south of the southeastern site boundary. WSSC has identified both existing lines through the FRC site as being likely to require relief, due to projected ultimate growth in the area (GSA, 1997).

The old outfall sewer pipe that serves the FDA site and the existing Air Force facility, has been replaced by a larger parallel sewer outfall pipe. The new pipe goes from the FDA site down to a point just above the connection to the Paint Branch line. One remaining section of old sewer pipe was not replaced, in order to keep the current connection to the WSSC line undisturbed. Under the

Action Alternatives, this remaining section of the old smaller sewer pipe would need to be replaced with larger pipe.

Electric power to the FRC is provided by two 69-KV transmission lines to a substation that feeds FDA and Air Force. The transmission lines are provided by Potomac Electric Power Company (PEPCO), and the substation is managed by GSA. The CUP currently generates electricity, chilled water, and hot water for heating and cooling the FDA Campus. The CUP is a cogeneration facility where natural gas is burned in an engine that turns a generator to produce electricity, while heat in the engine exhaust is recovered using a hot water loop. The hot water is used directly for heating. It is also used in absorption chillers to produce chilled water for cooling. By recovering heat in the exhaust that would otherwise be lost, the cogeneration system consumes less energy than a separate grid electric generation and local boilers. The CUP consists of a 5.6-MW permanent source generator and two additional 4.5 MW generators are operational. An additional 4.5-MW generator will be online in 2009. A fourth 4.5-MW generator will be added at an as yet undetermined time in the future. There is also a 2.0-MW standby generator for the CUP. A photovoltaic array provides an additional 29-kW of electricity depending on weather. The CUP is expected to result in a net reduction in energy use compared to independently supplied electricity, heating, and cooling from multiple geographic locations. This would create a moderate, long-term, direct, beneficial impact.

Natural gas to the FRC, including the FDA Campus, is provided by Washington Gas. A 4-inch line connects the CUP to Michelson Road on the northwestern corner of the site.

Communications service to the FRC is provided by Verizon Communications. Cables enter from along Cherry Hill Road and from New Hampshire Avenue. A tie cable was placed between the U.S. Army Laboratory and the FRC. Fiber optic lines have been installed from New Hampshire Avenue into the FRC to serve the FDA Campus. Fiber infrastructure consists of a combination of Single Mode Fiber, 50-micron multimode fiber and 62.5-micron multimode fiber. The fiber infrastructure supports voice, data, video, Cable TV, security and wireless services.

3.15.2 How Would Updating the 2006 Master Plan Impact Local Utilities?

2006 Master Plan (No-Action Alternative)

Operation of the FDA Headquarters under the 2006 Master Plan would have a minor, direct, long-term, adverse impact on the water and wastewater supply. The facilities under these alternatives would be connected to the on-site water and waste water distribution systems. No new off-site

connections or extensions would be needed. PEPCO would continue to provide back-up electricity to the campus, but the FDA Campus will continue to be powered by the onsite CUP. Washington Gas would also continue to provide natural gas to the CUP. The CUP is expected to result in a net reduction in energy use compared to independently supplied electricity, heating, and cooling from multiple geographic locations. This would create a moderate, long-term, direct, beneficial impact.

Master Plan Update Alternatives (Action Alternatives)

Operation of the FDA Headquarters under the Master Plan Update alternatives would have minor, direct, long-term, adverse impact on the water and wastewater supply. The facilities under these alternatives would be connected to the on-site water and waste water distribution systems. No new off-site connections or extensions would be needed. A new 3000,000 potable water storage tank would be constructed on the southeast quadrant to accommodate critical operations and for fire safety.

On-site water and sewage treatment plants would not be required because the site is served by public WSSC facilities. Water supply to the site would utilize a portion of the existing capacity of the regional water storage and water distribution. Meters have been installed to allow WSSC to bill GSA for all potable water used within the FRC.

Under the Master Plan Update alternatives, the remaining section of the old smaller sewer pipe near the Paint Branch line would need to be replaced with larger pipe. During scoping, WSSC expressed concerns related to monitoring sewage flow at the site as personnel are added. In response to this concern, as the campus is developed, GSA and FDA will coordinate with WSSC to install flow meter(s) that monitors sewage flow discharging into WSSC pipelines. GSA will continue to work with WSSC in identifying potential additional water and wastewater system requirements that may be needed related to FDA Headquarters Consolidation. Operation of the expanded CUP would require increased use of natural gas resulting in a minor, long-term, direct, adverse impact to regional natural gas supplies. However, use of the CUP to provide electricity, heating, and cooling would result in moderate, long-term, beneficial impacts to local utilities.

3.15.3 What Conservation Measures be Incorporated Into the Redevelopment of the FDA Campus?

GSA has implemented a water conservation plan and policy for the FDA Campus. In addition, the following conservation measures would be implemented to mitigate impacts:

- Install faucet aerators and low-flow toilets and shower heads.
- Design landscape plans for minimum water use (e.g., plant native, drought tolerant species).
- Minimize use of lawns because of their high water consumption, energy consumption, and air emissions from mowers.
- Incorporate energy conservation measures into new facility design, including recommendations of the Montgomery County Building Energy Efficiency Design Guidelines.
- The FDA Campus would seek LEED® Certifications for campus buildings. For some buildings, a Silver Rating would be achieved.
- Install occupancy and daylight sensors.

FDA/GSA is already implementing these mitigation measures, as appropriate, as new buildings are constructed.

3.16 Waste Management

3.16.1 How Is Waste Managed On the FDA Campus?

The following wastes are generated on the FDA portion of the FRC: non-hazardous solid waste, hazardous waste, special medical waste (including pathological waste), low-level radioactive and mixed waste, wastewater, animal waste, and air emissions.

The two laboratory facilities currently in operation at the FDA Campus - FDA Life Sciences Building (LSB) (Building 64) and the Engineering/Physics Laboratory (Building 62) - generate hazardous chemical, radiological, and/or medical pathological wastes. Chemical waste is packaged and shipped off site by a qualified contractor using FDA's EPA generator ID number. Radiological waste is packaged and shipped off site by a qualified contractor in accordance with FDA's Nuclear Regulatory Commission licenses. Medical pathological waste is packaged and shipped off site by a qualified contractor using FDA's Special Medical Waste ID number issued by the Maryland Department of the Environment. All packaging and transportation is performed by the contractor in accordance with Department of Transportation requirements. All other solid wastes are collected on site for transport to appropriately licensed off-site disposal facilities by separate contract haulers.

GSA is responsible for the collection and disposal of non-hazardous solid waste from the buildings as well as typical recycling. GSA's Operations and Maintenance (O&M) contractor is responsible for any hazardous or universal wastes generated from building O&M activities and from operating the CUP.

As additional facilities are opened on the FDA Campus, they will generate additional waste which will be handled in accordance with all applicable laws and regulations.

3.16.2 How Would the Project Affect Waste Management?

2006 Master Plan (No-Action Alternative)

Under the 2006 Master Plan, impacts to waste management would occur. The additional FDA facilities would generate general solid wastes, recyclable waste, and hazardous waste. The amount of waste generated by the FDA facilities would have a minor impact on the waste handled at waste-receiving facilities.

Under the 2006 Master Plan, general waste would be appropriately placed into receptacles located throughout the buildings, removed from these receptacles on a regular basis, and transported to compactors/dumpsters located outside of each building. The waste would be transported either to the Montgomery County incinerator, located south of Dickerson, Maryland, or to an out-of-county landfill for proper disposal. The amount of waste generated by the FDA facilities would have a minor adverse impact on the waste handled at these facilities. General waste would be created during construction; however, this adverse impact would be short-term and minor.

Under the 2006 Master Plan, chemical waste would be packaged and transported off site by a qualified contractor using FDA's EPA generator ID number. Radiological waste would be packaged and shipped off site by a qualified contractor in accordance with FDA's Nuclear Regulatory Commission licenses. Medical pathological waste would be packaged and shipped off site by a qualified contractor using FDA's Special Medical Waste ID number issued by the Maryland Department of the Environment. All packaging and transportation would be performed by the contractor in accordance with the Department of Transportation requirements.

Master Plan Update Alternatives (Action Alternatives)

Under the Master Plan Update alternatives, impacts to waste management would occur. Under any of the alternatives, the additional FDA facilities would generate general solid wastes, recyclable waste, and hazardous waste. The amount of waste generated by the FDA facilities would have a minor adverse impact on the waste handled at waste receiving facilities. All wastes would be handled in the same manner as described for the 2006 Master Plan above.

Under the Master Plan Update alternatives, general waste would be appropriately placed into receptacles located throughout the buildings, removed from these receptacles on a regular basis, and transported to compactors/dumpsters located outside of each building. The waste would be transported either to the County incinerator, located south of Dickerson, Maryland, or to an out-of-county landfill for proper disposal. The amount of waste generated by the FDA facilities would have a minor adverse impact on the waste handled at these facilities. General waste would be created during construction; however, this adverse impact would be minor and short-term.

Under both the Master Plan Update Alternatives, chemical waste would be packaged and transported off site by a qualified contractor using FDA's EPA generator ID number. Radiological waste would be packaged and shipped off site by a qualified contractor in accordance with FDA's Nuclear Regulatory Commission licenses. Medical pathological waste would be packaged and shipped off site by a qualified contractor using FDA's Special Medical Waste ID number issued by the MDE. All packaging and transportation would be performed by the contractor in accordance with the Department of Transportation requirements.

3.16.3 What Measures Would be Implemented to Reduce Waste Generated on the Site?

All feasible and practicable measures would be implemented in order to reduce waste generated on the site during construction and operation. The following measures will be implemented at the additional FDA facilities, the relocation of the Child Care Center and the Broadcast Studio, and the expansion of the CUP:

- Recycling white office paper, newspapers, corrugated cardboard, aluminum and bi-metal cans, glass bottles and jars, plastic containers (PETG and HDPE) and yard/landscaping waste.
- Using recycled building materials and finishes
- Using recycled or recyclable products during operation of the facility.

FDA/GSA is already implementing these mitigation measures, as appropriate, when new buildings are constructed.

3.17 Cumulative Effects

3.17.1 What are Cumulative Effects and Why are They Discussed?

CEQ regulations require federal agencies to assess the cumulative effects of federal projects during the decision making process. Cumulative effects are defined as:

> "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonable foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions" (40 CFR 1508.7).

In other words, would the proposed federal project add to or interact with the environmental impacts of past, present, or future projects, regardless of the agency or group implementing those actions? This section of the Supplemental EIS provides a description of the cumulative impacts that the proposed action, combined with other projects in the area, may have on the human environment. To help the reader gain a better understanding of cumulative effects, the text box provides further explanation.

Cumulative Effects: An Example

There is evidence that the majority of environmental effects may result not from the direct effects of a single action, but from the combination of individually minor effects of multiple actions over time. A hypothetical example of the type of cumulative effects that could result from GSA projects is as follows:

> A change in the character of a neighborhood resulting from federal office construction when added to local development.

In other words, a residential neighborhood may become increasingly more commercial as federal office and other local developments (office or mixed use retail) are constructed.

3.17.2 What Past, Present, and Future Projects Could Add to or Interact With the Impacts of the Proposed Action?

Past Actions

Land for the former NOL complex was acquired by the U.S. Navy in 1944 to supplement the tremendous wartime expansion of research and weapons development needs at the original Ordnance Laboratory located at the Washington Navy Yard (Smaldone, 1977). Laboratory and testing facilities were built at the White Oak site during a building campaign lasting primarily between 1944 and 1954, with the transfer of NOL operations from the Navy Yard completed in mid-June 1948 (Rosenzwieg, 1995). Due to the additional facilities and laboratories at the NOL, a resulting housing boom transformed the White Oak area in the decade following World War II. The housing boom was immediately experienced in the Burnt Mills Knolls neighborhood, where it is estimated that 60 percent of the houses around Schindler Drive were purchased by Laboratory employees (M-NCPPC, 1995). Programs at the White Oak Laboratory included analysis, research, design, development, testing, and systems integration supporting the Navy's Surface Forces, as one of the principal Navy research, development, and testing centers. Reflecting its expanded mission,

in 1974 the Naval Ordnance Laboratory was consolidated with the Naval Weapons Laboratory at Dahlgren, Virginia, to become the Naval Surface Weapons Center. The White Oak facility's name was changed to the Naval Surface Warfare Center (NSWC) in 1987. As a result of the 1995 Base Realignment and Closure Act (BRAC), the NSWC was closed and transferred to GSA in 1997.

Present and Future Actions

Today the area surrounding the FRC includes the neighborhoods of White Oak, Burnt Mills Hills, Burnt Mills Knolls, Pine Hill, and Hillandale. White Oak is a residential and commercial area in which the FDA Campus is located. It is a diverse neighborhood occupying an area from Lockwood Drive starting from New Hampshire Avenue towards Stewart Lane crossing Columbia Pike (US 29). White Oak includes commercial centers such as the White Oak Shopping Center. Burnt Mills Hills and Burnt Hills Knolls are adjacent residential neighborhoods located west of the FDA Campus and New Hampshire Avenue. Commercial centers are also located in the Burnt Mills area. Pine Hill is a residential community located north/northeast of the FDA Campus. Hillandale is a residential community with commercial centers and is located south of the FDA Campus between Powder Mill Road and the FRC property. Hillandale Recreational Center is located just south of the FRC property along the east side of New Hampshire Avenue.

A considerable amount of new development is either occurring or planned in the vicinity of the FRC. A total of 18 developments in both Montgomery and Prince George's Counties have been approved. Development that is planned or under construction as of January 2008 in the area surrounding the FRC is depicted graphically in Figure 17 and shown in Table 19. It is assumed that most of these developments will be built-out by 2012, with the exception of the Konterra Town Center East, which has an estimated build out of 2014.

According to the Prince George's County Planning Department, development that is currently ongoing within the immediate vicinity of the FRC consists of the Ammendale South Site. Approximately 40,000 square feet (SF) of warehouse space has been constructed on the Ammendale South site and approximately 50,000 SF of office space (totaling 90,000 SF for the site) is planned, pending the approval of a site plan. No new construction has occurred on the site since 2005 (Personal communication, Tom Masog, December 12, 2008).

Although future development projects on the FRC are not planned and no details are available, future site modifications or development may occur that could add to cumulative environmental

impacts. Any future development on the FRC would be subject to separate NEPA processes and additional environmental review.

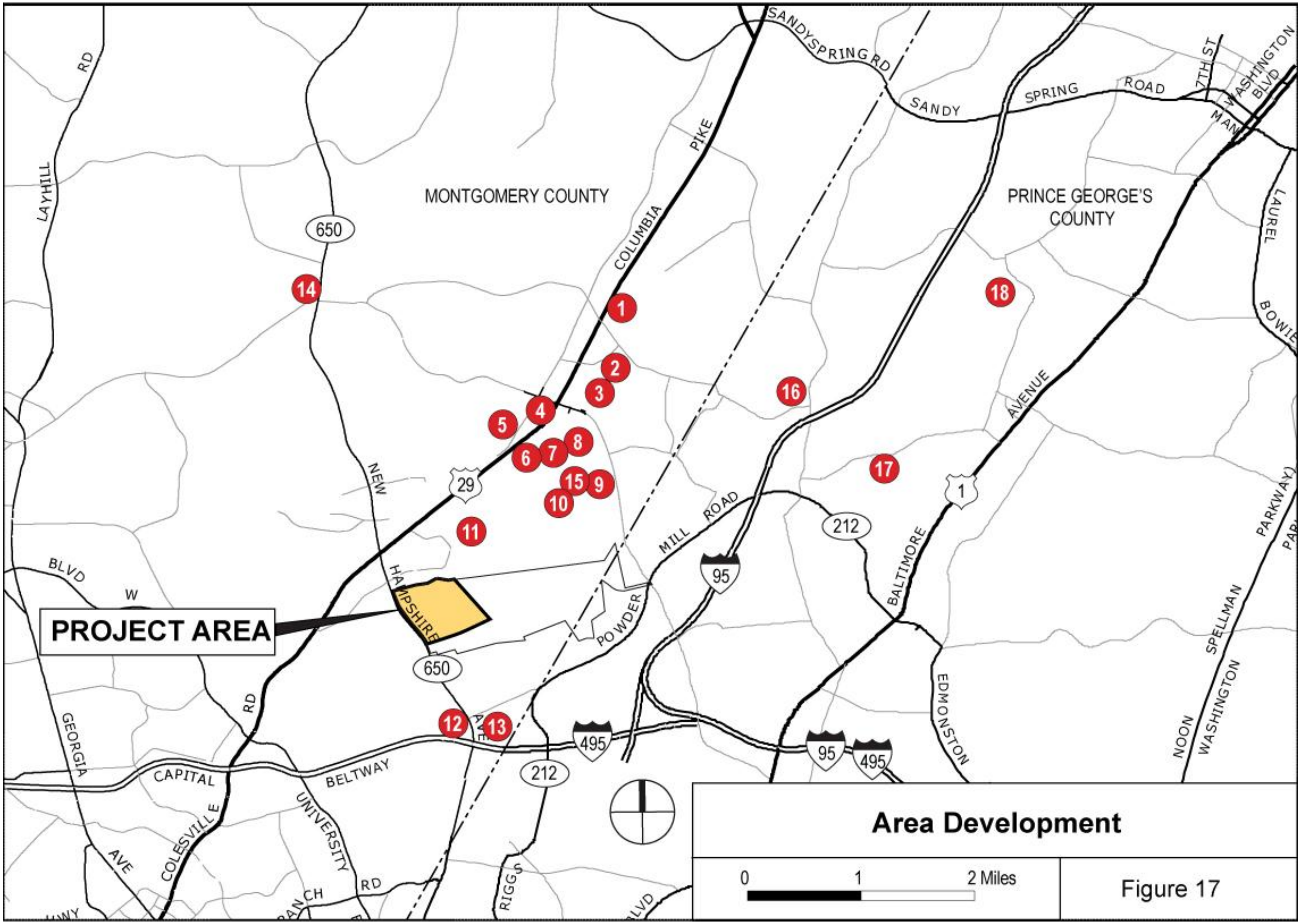
3.17.3 What are the Cumulative Effects?

Past, present and future development has affected and will continue to affect the natural, cultural, and social environment of the FRC and surrounding areas. Current and future development continues to result in a loss of vegetation, putting pressure on natural habitats and adversely affecting wildlife. In addition, development increases impervious surfaces, which in turn increase stormwater runoff. Runoff continues to degrade the water quality of Paint Branch and its tributaries. Additional development continues to put pressure on community services and increases demand for utilities, particularly electrical and water supplies. With an increase in development there also comes an increase in roadway congestion and the LOS on our roadways becomes problematic. Congestion and worsening LOSs contribute to poor air quality. Finally, future development projects may present views of a more densely developed environment and could affect historic and archeological resources.

Beneficial cumulative impacts associated with past, current, and future development include increased job opportunities, improved housing, and an increase in the regional and state tax base.

3.18 Are There Any Adverse Environmental Effects Which Cannot be Avoided Associated With This Project?

Environmental impacts for both alternatives have been described in detail in the previous sections of this chapter. In general, there would be unavoidable adverse effects due to the type of the construction project that is proposed. There would be a loss of land to building space for the FDA Headquarters, which will include some forested land. While some space would remain open, some areas would be paved, thereby not allowing vegetative growth. The loss of these upland areas would lead to an unavoidable loss of habitat for some animal species. There would also be permanent changes to the views of the site from New Hampshire Avenue. There would also be an increase in traffic densities in the area surrounding the site, due to commuting employees.


MONTGOMERY COUNTY
PRINCE GEORGE'S COUNTY
PROJECT AREA
COLUMBIA PIKE
NEW HAMPSHIRE AVE
SANDY SPRING RD
SANDY SPRING ROAD
7TH ST
WASHINGTON BLVD
LAYHILL RD
LAUREL BOWIE
BALTIMORE AVENUE
POWDER MILL ROAD
CAPITAL BELTWAY
GEORGIA AVE
COLESVILLE RD
UNIVERSITY BLVD
EDMONSTON
SPELLMAN PARKWAY
NOON WASHINGTON
RIGGS
650
29
95
212
1
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Area Development
0
1
2 Miles
Figure 17

Table 19. Area Development as of January 2008

Development Project	Land Use	Size
MONTGOMERY COUNTY		
1. Fairland View	Townhouses	39 Houses
2. Deer Park Subdivision	Single-Family Detached	12 Units
3. Summer Hill	Single-Family Detached	3 Units
4. Seventh Day Adventist	General Office	350,000 SF
5. Rolling Acres	Single-Family Detached	10 Units
6. WestTech Village Corner	TGI Friday's	7,000 SF
	Panera Bread	5,000 SF
	Steakhouse	7,000 SF
7. Baywood Hotels	Hotel	104 Rooms
8. WestFarm I-1	GBLLC	73,078 SF
	Home Depot	129,134 SF
	State Farm Insurance Co.	63,552 SF
	Montgomery County Public Schools	239,575 SF
9. Orchard Center	Office	Removed – substituted with Washington Adventist Hospital
10. West Farm I-1	Kaiser Permanente	Removed – substituted with Washington Adventist Hospital
	GBLLC	
11. White Oak Property	Townhouses	106 Houses
12. Chevy Chase Bank, Hillandale	Drive-in Bank	3,650SF
13. 10001 New Hampshire Ave.	General Office	55,862 SF
14. Randolph Plaza	General Office	16,806 SF
	General Retail	4,005 SF
15. Washington Adventist Hospital	Hospital	803,570 SF
PRINCE GEORGE'S COUNTY		

Table 19. Area Development as of January 2008

Development Project	Land Use	Size
16. Cross Creek	Hotel	50 Rooms
	Single-Family Detached	97 Units
17. Ammendale South	Flex Office	90,000 SF
18. Konterra Town Center East	Residential (80% multi-family and 20% townhouses)	4,500 Units
	Hotel	600 Rooms
	Retail	1,500,000 SF
	Office	3,800,000 SF

3.19 What Relationships Exist Between the Local Short-Term Uses of This Project and Maintenance and Enhancement of Long-Term Productivity?

The long-term benefits of the proposed action would occur at the expense of short-term impacts in the vicinity of the project site. These short-term effects would occur during the period of construction, and would include localized noise and air pollution, as well as traffic detours and delays. However, these impacts are temporary and proper controls would be utilized to prevent these impacts from having a lasting effect on the environment.

Short-term gains to the local economy would occur as local companies and workers are hired and local businesses provide services and supplies during the construction of the facilities and required infrastructure. However, upon completion of the project, the gains to the local economy would evolve into a long-term benefit as FDA employees move into the facilities and provide consistent business to the surrounding merchants.

Furthermore, upon the consolidation of the FDA facilities, there would be a long-term increase in efficiency of FDA operations, as coordination among various departments and disciplines would be encouraged by the consolidated location.

3.20 Are There Any Irreversible and Irretrievable Commitments of Resources Associated With This Project?

The proposed action would require the commitment of land for construction of the additional FDA facilities, the relocation of the Child Care Center and the Broadcast Studio, and the expansion of the CUP. The total commitment would include loss of wildlife habitat currently present on site. While much of the habitat on the FRC would be preserved, this would not be possible in the paved areas and the loss of vegetation would be permanent.

A commitment of fuel, including natural gas and energy would be required to construct the additional facilities. Other resource commitments during the construction period would include construction materials and labor. There would be an additional long-term commitment of labor for the maintenance of the facilities and the infrastructure. In addition, once the facilities are in place, there is a commitment of utilities, fuel, and power. All of these resources relating to the construction and maintenance of the FDA Headquarters and its infrastructure are considered irretrievably committed.

While there will be the above commitment of resources, through conservation practices some of these resources, such as water supply, may be retrieved. In addition, the consolidation of the FDA facilities to the FDA Campus at White Oak would require a lower expenditure of funds, energy, and fuel than presently committed at other FDA facilities off site. The consolidation of FDA's facilities would reduce some of these expenditures at full build-out of the FDA Campus. FDA employees would not be spread out over 40 different locations in Montgomery and Prince George's Counties.

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