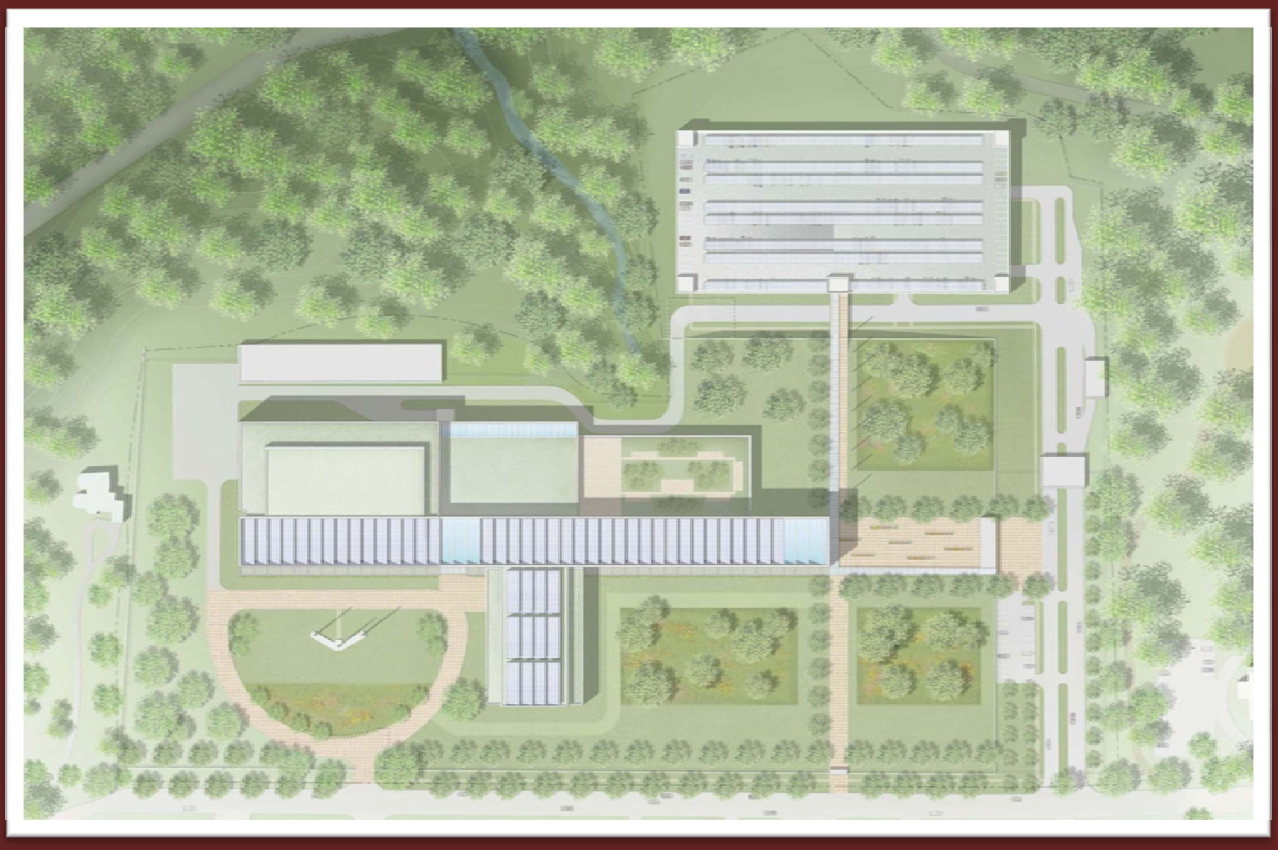
ENVIRONMENTAL ASSESSMENT

Intelligence Community Campus - Bethesda

Bethesda Maryland



September 2011

EXECUTIVE SUMMARY

The Defense Intelligence Agency (DIA) is preparing National Environmental Policy Act (NEPA) documentation for the proposed redevelopment of the National Geospatial-Intelligence Agency (NGA) – Sumner Site located in Bethesda, Maryland as the Intelligence Community Campus, Bethesda (ICC-B) site. The Sumner Site is currently a secured administrative workspace and will be vacated by its current tenant (NGA) and available for a new tenant in the fall of 2011. The Sumner Site is currently occupied by roughly 3,000 NGA employees.

The Proposed Action will focus on connecting the existing structures at the Sumner Site with construction of a new structure, "The Centrum", in the middle of the four main existing buildings. Each of the existing structures will also receive renovations and upgrades designed to mitigate Anti-Terrorism and Force Protection (AT/FP) threat conditions, and unify the exterior appearance as one contiguous facility.

The purpose of the Proposed Action is to develop a collaborative intelligence community campus for the relocation of roughly 3,000 intelligence workers in the Washington National Capital area by providing secure administration workspace at an existing and available government facility (Sumner Site) in the Washington National Capital Area. The Proposed Action is necessary because: 1) there is a shortage of secured administrative work space in the Washington National Capital area; 2) a shared intelligence community campus supports congressional desires for a collaborative community environment and the consolidation of an intelligence community facility strategy; and 3) it supports to reuse of existing government facilities instead of the use of leased facilities, which will continue to increase in cost as the markets recover.

This Environmental Assessment (EA) was prepared in compliance with the NEPA and supporting regulations promulgated by the Council on Environmental Quality (CEQ) (See Table ES-1) the Department of Defense (DoD) Department of the Army (DOA) Environmental Analysis of Army Actions (32 CFR Part 651). The alternatives identified for analysis by this EA project are the Proposed Action and the No-Action alternative. Under the No-Action alternative, the site would be unused but would receive minimal maintenance. No other feasible alternatives were identified. All natural and social environmental factors that may be relevant to the Proposed Action, including the cumulative impacts thereof, were considered.

Short-term, minor, adverse impacts from the proposed project include dust, air emissions, and noise from earthmoving and construction activities. Short-term impacts to soils, surface waters, drainage, and stormwater as well as aesthetics, vegetation and wildlife would also be expected. Other short-term, minor, adverse impacts include disruption of water, electrical, and natural gas services, increased construction traffic, and increased child safety risks from the presence of a construction site in a residential neighborhood and the use of hazardous materials associated with construction. Long-term minor adverse impacts to air quality, cultural resources, and soils would result from the redevelopment of the Sumner Site. Long-term benefits to surface waters, drainage, stormwater management, vegetation, wildlife, and traffic are expected. Long-term changes to the visual aesthetics of the site would be made. These changes would be a mixture of

adverse and beneficial effects. Short-term and long-term minor benefits to socioeconomics are expected.

Culturally, implementation of the ICC-B project will have an adverse effect upon Erskine Hall, which is eligible for listing in the National Register Historic District. The DIA, the Maryland State Historic Preservation Office (SHPO), the National Park Service (NPS), National Capital Planning Commission (NCPC), and Montgomery County will enter into a Memorandum of Agreement (MOA) that will insure that the project is implemented in accordance with certain stipulations that take into account the effect of the undertaking on historic properties.

A summary matrix of the impacts resulting from construction and operation of the proposed project is available in Table ES-2. Permits and/or approvals have been identified and would be obtained by the DIA prior to the start of construction activities at the Sumner Site.

Based on this evaluation of environmental impacts, there are no significant impacts from the Proposed Action, and a Finding of No Significant Impact (FONSI) will be prepared.

Table ES-1:Compliance Of The Proposed Action With Environmental Protection Statutes And Other Environmental Requirements	
Federal Statutes	**Level of Compliance[1]**
Anadromous Fish Conservation Act	N/A
Archeological and Historic Preservation Act	Pending
Clean Air Act	Full
Clean Water Act	Full
Coastal Barrier Resources Act	N/A
Coastal Zone Management Act	N/A
Comprehensive Environmental Response, Compensation and Liability Act	Full
Endangered Species Act	Full
Estuary Protection Act	N/A
Federal Water Project Recreation Act	N/A
Fish and Wildlife Coordination Act	Full
Land and Water Conservation Fund Act	N/A
Magnuson-Stevens Act	N/A
Marine Mammal Protection Act	N/A
Migratory Bird Act	N/A
National Historic Preservation Act	Pending
National Environmental Policy Act	Full
Resource Conservation and Recovery Act	N/A
Rivers and Harbors Act	N/A
Watershed Protection and Flood Prevention Act	N/A
Wild and Scenic Rivers Act	N/A
Executive Orders (EOs), Memoranda, etc.	
Protection and Enhancement of Cultural Environment (EO 11593)	Pending
Floodplain Management (EO 11988)	Full
Protection of Wetlands (EO 11990)	Full
Prime and Unique Farmlands (Memorandum, CEQ, 11 August 1980	Full
Environmental Justice in Minority and Low-Income Populations (EO 12898)	Full
Protection of Children from Health and Safety Risks (EO 13045)	Full

[1]Level of Compliance
Full Compliance – (Full)
Partial Compliance – (Partial)
Non-Compliance – (NC)
Not Applicable (N/A)

Table ES-2 : Summary Of Impacts of the Proposed Action and the No-Action Alternative		
Resource Area	**Proposed Action**	**No Action**
Land Use	No Impacts	No Impacts
Coastal Zone Management	No Impacts	No Impacts
Air Quality	Short term minor adverse impacts and possible long-term minor adverse impacts	Short-term and long-term minor benefits
Soils and Geology	Short-term and long-term minor adverse impacts to soils	Long-term minor adverse impacts
Topography and Drainage	Short-term minor adverse impacts and long-term beneficial impacts	Long-term minor adverse impacts
Stormwater Management	Short-term minor adverse impacts and long-term beneficial impacts	Long-term minor adverse impacts
Water Resources		
Surface and groundwater	Short-term minor adverse impacts and long-term beneficial impacts	Long-term minor adverse impacts
Floodplains	No Impacts	No Impacts
Biological Resources		
Wetlands	No Impacts	No Impacts
Vegetation	Short-term minor adverse impacts and long-term minor beneficial impacts	No Impacts
Wildlife Resources	Short-term minor adverse impacts and long-term minor beneficial impacts	No Impacts
Rare, Threatened, or Endangered Species	No Impacts	No Impacts
Prime and Unique Farmland	No Impacts	No Impacts
Wild and Scenic River	No Impacts	No Impacts
Cultural Resources		
Architectural Resources	Long-term adverse impacts	Long-term benefits
Archeological Resources	No Impacts	No Impacts
Hazardous, Toxic, and Radioactive Substances		
Contaminated Sites	No Impacts	No Impacts
Hazardous Materials	Short-term minor impacts	No Impacts
Storage Tanks	No Impacts	No Impacts
Asbestos Containing Materials (ACM)	Long-term minor beneficial impacts	Long-term minor adverse impacts
Lead Based Paint (LBP)	No Impacts	No Impacts
Polychlorinated Biphenyl (PCB)	No Impacts	No Impacts
Infrastructure		
Traffic	Short-term minor adverse impacts and long-term beneficial impacts	Short-term and possible long-term benefits
Utilities (Water, Sewer, Electric, Gas)	Short term minor adverse impacts	No Impacts
Solid Waste Management	No Impacts	No Impacts
Socioeconomic		
Socioeconomics	Short-term and long-term localized minor beneficial impacts and offsetting long-term regional adverse impacts.	Possible localized long-term minor adverse impacts and offsetting regional benefits

Table ES-2 : Summary Of Impacts of the Proposed Action and the No-Action Alternative		
Resource Area	**Proposed Action**	**No Action**
Noise	Short term minor adverse impacts	No Impacts
Aesthetics	Short-term minor adverse impacts and long-term beneficial impacts	No Impacts
Recreation	No Impacts	No Impacts
Children's Health and Safety	Short term minor adverse impacts	No Impacts

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

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1 INTRODUCTION

The National Geospatial-Intelligence Agency (NGA)-Bethesda was established by the Army Map Service (AMS) during World War II, and the sites are linked to the history of U.S. Army and military map-making from World War II to the present day. NGA-Bethesda is presently the headquarters of NGA, and presides over a nationwide network of five major facilities: three located in the Washington, DC, area (including NGA-Bethesda), and two located in the St. Louis, Missouri, area.

NGA-Bethesda consists of two discontiguous parcels, the Dalecarlia Site and the Sumner Site, located in Montgomery County, Maryland (Figure 1-1). The Dalecarlia Site buildings and land are owned by the U.S. Army Corps of Engineers (USACE) Washington Aqueduct. The Sumner Site buildings and land are owned by U.S. Army Garrison Fort Myer. NGA and its predecessors have occupied and operated both sites over the past 50+ years through real estate permits granted by the USACE.

The Sumner Site, located 0.5 miles (mi) (0.8 kilometers [km]) northwest of the Dalecarlia Site, is connected to the Dalecarlia Site via MacArthur Boulevard and Sangamore Road. It encompasses approximately 39 acres (12.5 hectares) and currently consists of five main buildings having a combined gross floor area of over 700,000 gross square feet (SF): Abert Hall (81,900 SF), Emory Hall (10,000 SF), Erskine Hall (386,100 SF), Roberdeau Hall (113,500 SF), and Maury Hall (124,700 SF). Of these five main buildings, Erskine Hall was constructed at the end of World War II; Abert Hall, Emory Hall, and Roberdeau Hall were constructed during the Cold War in the 1960s; and Maury Hall was constructed at the end of the Cold War era in the late 1980s. Additionally, the site includes a Visitor Center (1,600 SF), constructed in 2005, and a 1,480 space surface parking lot. The site is bounded to the north by Montgomery County property which is leased by a private school, to the south by the Brookmont residential neighborhood, to the east by Sangamore Road, and to the west by steeply sloped land and MacArthur Boulevard (Figure 1-1).

As a result of the 2005 Base Realignment and Closure (BRAC) Act, the current tenant (NGA) at the Army-owned Sumner Site in Bethesda, Maryland, is relocating to Fort Belvoir in 2011, leaving the Sumner Site, a secured administrative facility, vacant for a new tenant. The federal government is proposing the redevelopment of the Sumner Site for use as the Intelligence Community Campus – Bethesda (ICC-B). The ICC-B will consist of secured administrative space for use by multiple intelligence agencies to create a collaborative environment. The purpose of this Environmental Assessment (EA) is to assess the impacts associated the proposed redevelopment plan for the Sumner Site and its operation as the ICC-B.

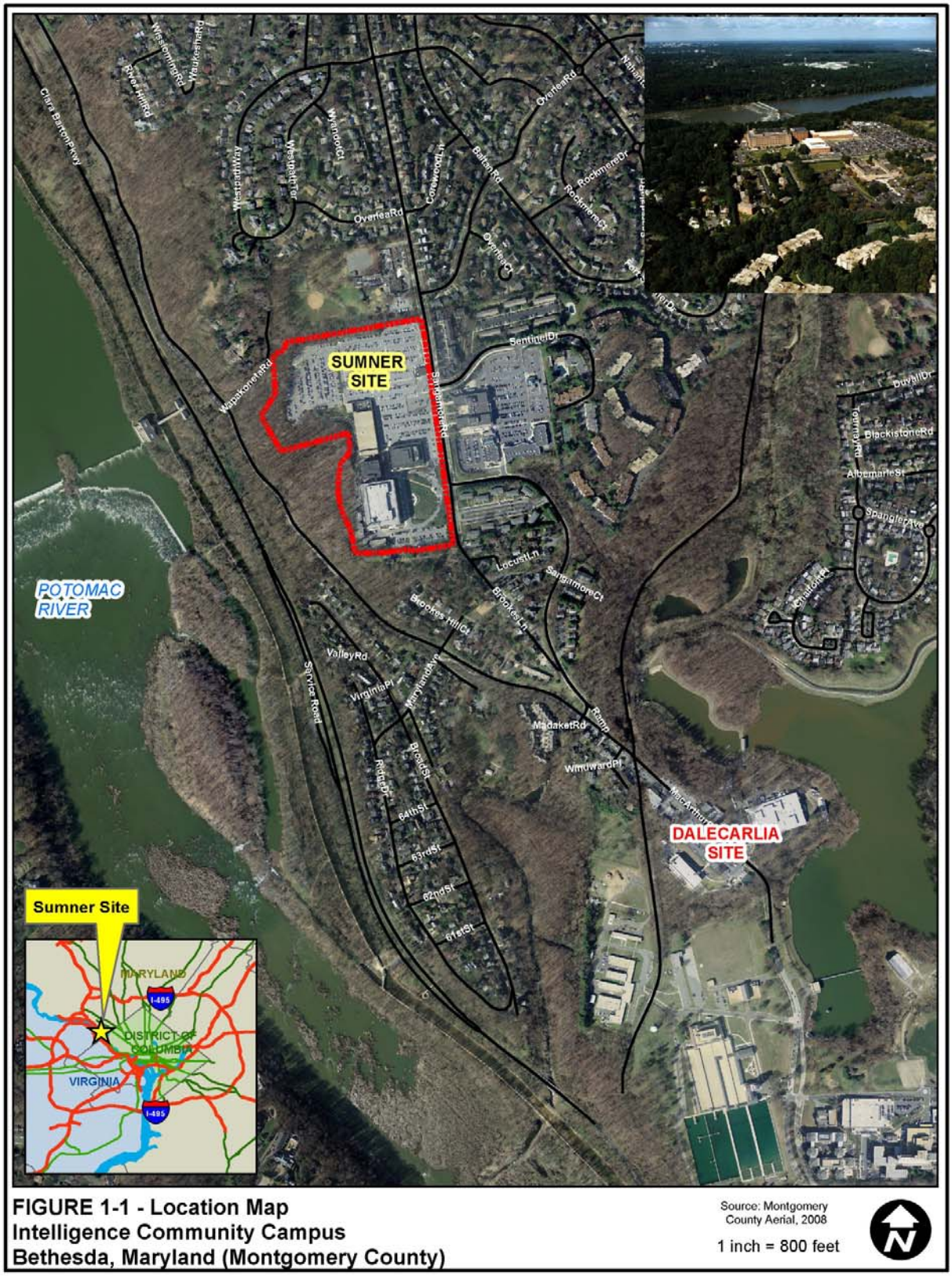

Figure 1-1: Site Location Map

1.1 PURPOSE AND NEED FOR THE PROPOSED ACTION

The purpose of the Proposed Action is to develop a collaborative intelligence community campus for the relocation of roughly 3,000 intelligence workers in the Washington National Capital area by providing secure administration space at an existing and available government facility (Sumner Site) in the Washington National Capital Area. The Proposed Action is necessary because: 1) there is a shortage of secured administrative building space in the Washington National Capital area; 2) a shared intelligence community campus supports congressional desires for a collaborative community environment and the consolidation of an intelligence community facility strategy; and 3) it supports to reuse of existing government facilities instead of the use of leased facilities, which will continue to increase in cost as the markets recover.

1.2 SCOPE OF THE ENVIRONMENTAL ASSESSMENT

Under the requirements of Section 102 of the National Environmental Policy Act (NEPA), this proposed project constitutes a major Federal action, and an EA is therefore required. This EA has been prepared pursuant to NEPA and the regulations for implementing NEPA promulgated by the Council on Environmental Quality (CEQ) (40 Code of Federal Regulations [CFR] 1500-1508) and the Department of Defense (DoD) Department of the Army (DOA) Environmental Analysis of Army Actions (32 CFR Part 651).

The purpose of this EA is to evaluate the direct and indirect impacts associated with the proposed redevelopment of the Sumner Site for the ICC-B. This document identifies and evaluates the potential environmental, cultural, and socioeconomic effects associated with the Proposed Action as accomplished by implementing the Preferred Alternative discussed in Section 2.0. Section 3.0 of this EA describes the alternatives considered. Section 4.0 describes the existing environmental, cultural, and socioeconomic conditions that fall within the scope of this EA. Section 5.0 describes the environmental, cultural, and socioeconomic consequences envisioned as a result of implementing the feasible alternatives.

The EA focuses on impacts likely to occur within the proposed area of development. The document analyzes direct effects (those resulting from the alternatives and occurring at the same time and place) and indirect effects (those distant or occurring at a future date). The potential for cumulative impacts as defined by 40 CFR 1508.7 is also addressed.

1.3 PUBLIC INVOLVEMENT

Early agency coordination was accomplished in accordance with 40 CFR 1501.6, by way of a Public Notice dated November 12, 2010, which was issued to Federal, state, and local agencies. Responses to the Public Notice were received from the U.S. Fish and Wildlife Service (USFWS); National Park Service (NPS); Maryland Department of Planning (MDP); MDP–Maryland Historical Trust; Maryland Department of the Environmental (MDE); Montgomery County – Office of the County Executive; Washington Waldorf School; Steven C. Salop and Judith R. Gelman; Jesse L. Goodman and Nicole Lurie; Sumner Village Community Association; and

Glen Echo Heights Citizens Association. These responses are provided in Appendix A along with a summary of the responses.
Once the draft EA is prepared, a Notice of Availability (NOA) announcing the availability of the draft EA and draft Finding of No Significant Impact (FONSI) will be distributed to agencies and interested parties and published in a local newspaper. If it becomes evident during the preparation of the EA that significant adverse impacts that cannot be mitigated would occur as a result of the Proposed Action, a Notice of Intent (NOI) to prepare an Environmental Impact Statement would be prepared and published.

The 30 day public review on the draft EA and FONSI started on June 3, 2011 and ended on July 5, 2011. The NOA was published in the Washington Post on June 3, 2011 (See Appendix A). Additionally, the NOA with directions to access the draft EA and FONSI was mailed to all government agencies and project stakeholders that were sent or responded to the Notice to Prepare the EA on November 12, 2011. To facilitate that public review process and as indicated in the NOA, two hardcopies of the draft EA and FONSI were placed in the following two libraries: 1) Montgomery County Library – Bethesda Branch, 7400 Arlington Road, Bethesda, Maryland 20814; and 2) Montgomery County Library – Little Falls Branch, 5501 Massachusetts Avenue, Bethesda, Maryland 20816. Additionally, as required under DoD NEPA regulations, an electronic version of the draft EA and FONSI as available for public review via the following website: http://www.nab.usace.army.mil/Public%20Notices/Misc.htm.

By the conclusion of the 30 day public review period the following agency and project stakeholders provided comments:

- Harold Pfohl - Glen Echo Heights Citizens' Association President
- Mary Fowler - Local Citizen
- Montgomery County - Rollin Stanley
- Montgomery County - Margaret Rifkin - Environmental Comments
- Montgomery County - Margaret Rifkin - Transportation Comments
- NCPC Comments - David Levy & Jeff Hinkle
- Peter Reinecke - Local Citizen

Copies of the above comments are provided in Appendix A.

2 PROPOSED ACTION

The Proposed Action is redevelopment of the Sumner Site as the ICC-B site by connecting some of the existing structures with construction of a new structure, "The Centrum." Each of the existing structures will also receive renovations and upgrades designed to mitigate AT/FP threat conditions and unify the exterior appearance as one contiguous facility.

2.1 DEVELOPMENT OF THE PROPOSED ACTION

From 27 July 2010 to 29 July 2010, a team of user groups, mission leadership, facilities staff, security, technology and communications consultants, architects and engineers came together as a collaborative Charrette Team to set the foundation for the execution of a successful master plan for the development of the ICC-B on the Sumner campus.

The assumptions, decisions, and recommendations made by the Charrette Team lead to the development of strategies for the following elements:

- Development of an initial building program for the Centrum and New Infill Building (NIB) that includes all functional area requirements.

- Provision for conceptual planning diagrams and three dimensional massing studies for the new facility.

- Development of an initial utilities strategy for serving the new facility with power, cooling, emergency backup systems, and communications.

- Establishment of a framework of utility distribution that can be expanded to serve the growing needs of the ICC-B.

- Determination of the best siting strategy for the new facility, routing of new and existing utilities, and expansion of parking and service road networks.

- Development of retrofit concepts to bring existing buildings into compliance with AT/FP standards, including blast-resistant facades and progressive collapse.

- Development of a sustainable strategy for the site development and construction of the new facility to achieve a minimum United States Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED) certified rating of Silver, with the intent to reach the highest LEED rating feasible for this project.

- Development of a construction strategy that assures mission continuation and maintenance of secure boundaries.

Conclusions developed from the Charrette Team include the following:

- Validation of the program requirements to include construction of the new Centrum structure and NIB to accommodate space for a main lobby, administrative offices, retail, and shared amenities. In addition, provide circulation and efficient campus connectivity between tenants and shared amenities.

- Establishment of a project vision that presents a unified exterior appearance as one contiguous facility. Using the new Centrum structure to create an organizing datum, adjacent buildings will be re-clad to integrate a new high performance glazing; designed to meet Unified Facilities Criteria (UFC) requirements; and, provide a cohesive design aesthetic for the proposed redeveloped campus.

- Development of a framework for phased execution for the redevelopment of the campus beginning with the demolition of Abert Hall, followed by hardening of existing buildings. Construction of a parking garage, NIB, and Centrum structure will be followed by recap and renovation of interiors in existing buildings.

- Plan for a campus population of 3,000 personnel.

References anticipated to be utilized for design and construction include, but are not limited to, the following:

- Americans with Disabilities Act and Architectural Barriers Act Accessibility Guidelines dated July 23, 2004

- Energy Independence and Security Act (EISA) Section 438 and associated U.S. Environmental Protection Agency (USEPA) Technical Guidance

- FEDS 2010 – Facility Engineering Design Standards, December 2009

- National Geospatial-Intelligence Agency Sumner Site, Facility Condition Assessment, July 2009

- UFC 3-210-06A Design: Site Planning and Design

- UFC 4-010-01, DoD Minimum Antiterrorism Standards for Buildings, 8 October 2003 including Change 1, 22 January 2007

In addition to meeting the requirements of the relevant guide manuals, handbooks, and UFCs, the site layout is based on meeting the following objectives:

- Incorporate site layout and organizational recommendations of users

- Design the stormwater system per EISA Section 438

- Incorporate requisite geometric intersection improvements at the site entrance(s) to accommodate current and future traffic loads

- Accommodate access control and vehicle inspection requirements
- Provide sufficient parking and vehicular circulation
- Meet AT/FP standoff and clear zone requirements (where possible)
- Minimize pedestrian circulation distance(s) between site facilities
- Optimize site utility infrastructure and minimizing relocations

2.2 PROJECT ELEMENTS OF THE PROPOSED ACTION

The Planning Charrette held during July of 2010 lead to the concept design addressed as the Proposed Action in this EA. The Sumner campus consists of five buildings: Abert Hall, Emory Hall, Erskine Hall, Roberdeau Hall, and a Visitor Center. Under the proposed redevelopment plan, Erskine Hall, Roberdeau Hall, and Maury Hall would remain, and Emory Hall, Abert Hall, and the Visitor Center would be demolished. Each of the remaining buildings will be utilized by incoming tenants of the campus after existing exterior cladding is replaced to conform to AT/FP requirements. Connecting the remaining buildings will be a two-story NIB and the new five-story Centrum. Upon completion of the new construction, the remaining buildings would be renovated and upgraded in later years.

The recommendation was made to remove Emory Hall and Abert Hall in order to better achieve site objectives for a new unified campus. Personnel space previously allocated to these buildings, and space to accommodate additional personnel, will be accounted for within the Centrum and the NIB. In addition, the existing Visitor's Center will be removed, with a replacement to be located further inside the Sumner Site as required to improve site layout, visitor processing, and vehicle queuing.

The primary architectural objectives for the ICC-B consist of upgrading the existing exterior skins to comply with AT/FP requirements, reconfiguring the existing administrative space to accommodate the staffing requirement for the ICC-B, and connecting the existing campus buildings in a unified, contemporary vision.

Also, it is proposed under the current concept plan that the vehicle access point into the Sumner Site would be relocated from its existing location (at the intersection of Sangamore Road and Sentinel Drive) to the northeast corner of the Sumner Site. Vehicular traffic (privately owned vehicles (POVs) and commercial) will access the campus service road and structured parking (i.e., parking garage) via an access road and Entry Control Facilities distributed along the north edge of the site. The Entry Control Facilities check point would be relocated to the interior of the site, reducing car queuing on Sangamore Road. It is estimated that approximately 40 cars would be able to queue onsite, which would dramatically reduce or eliminate entrance queuing on Sangamore Road. The parking garage will be located in the northwest corner of the Sumner Site in order to maximize open and developable space, and minimize its visual presence in the neighborhood. The parking garage will replace the current surface parking that exists at the

Sumner Site. Roughly nine acres of surface parking will be removed and converted to green space.

Pedestrian paths will connect the parking garage, the Visitor Control Center, and Sangamore Road to the new building entry while also defining landscape areas that screen the mass of the building and double as groundwater recharge zones. The existing vehicular ellipse and monumental flag stand will be preserved as part of a landscape zone created by the removal of the secondary parking lot in the southeast corner of the Sumner Site.

Figures 2-1 and 2-2 provide a site layout and an aerial perspective of the concept plan for the above actions. Figure 2-3 identifies what buildings will be demolished, renovated, and added to accomplish the Proposed Action. Additionally, proposed concept elevations and aerial and perspective renderings can be reviewed in Appendix B.

The conceptual site design is heavily influenced by the following factors:

- Developing a unifying and cohesive site layout that optimizes the various facility features within an overall campus plan
- Meeting the security and AT/FP needs and parameters
- Providing a context-sensitive plan that addresses the concerns of neighboring properties
- Eliminating the surface parking lot and constructing a parking garage to reduce the impervious surface footprint and to increase parking capacity
- Additional consideration is given to minimizing utility relocations (where feasible) and incorporating low impact development (LID) stormwater management.

2.2.1 Centrum and New Infill Building Program

The proposed new construction will include a 170,000 square foot "Centrum" structure to serve as an essential spine and linking element for the future redevelopment campus. Connecting adjacent structures on multiple levels, the design will support shared functions and activities, enhance campus circulation, and encourage informal interaction and communications among varied campus tenants. Additionally, a 60,000 square foot, two-story NIB will accommodate administration space.

2.2.2 Administration Spaces

Initial occupancy of the facility will utilize similar functions and adjacencies as existing occupants. Upon initial occupancy, renovations will be executed to "backfill" the administration spaces with additional amenities and program requirements.

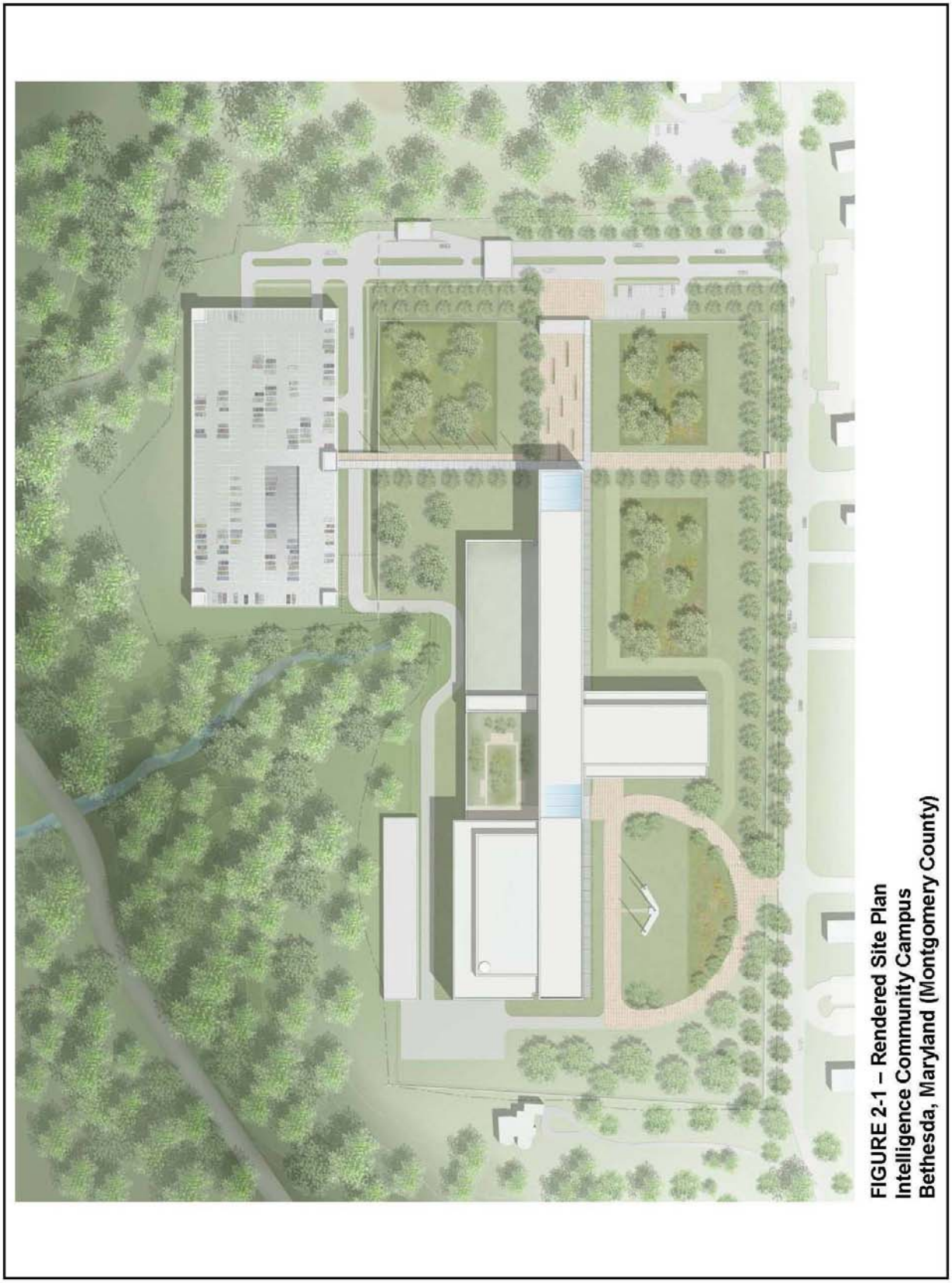

Figure 2-1 : Rendered Site Plan

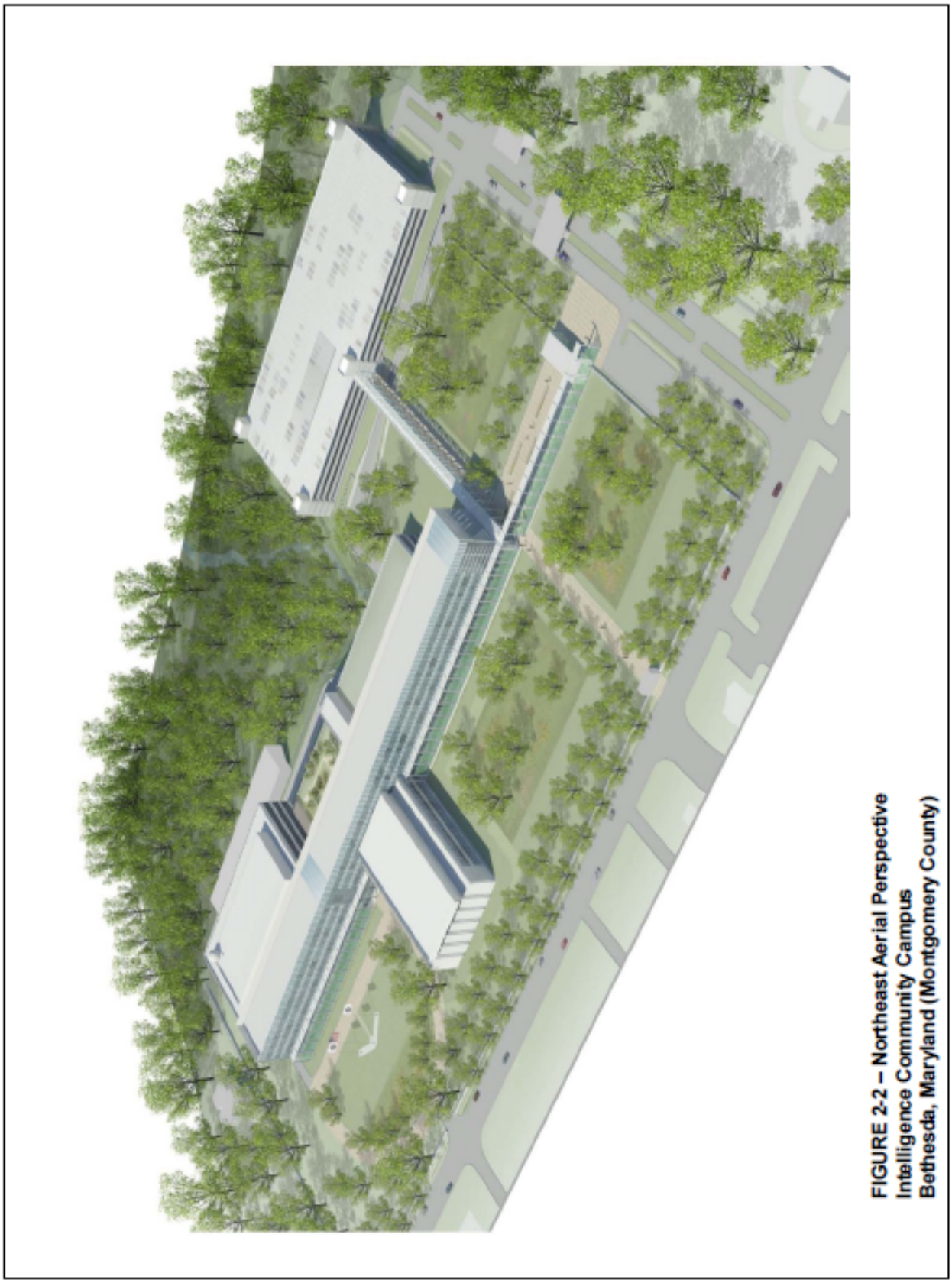

Figure 2-2 : Northeast Aerial Perspective

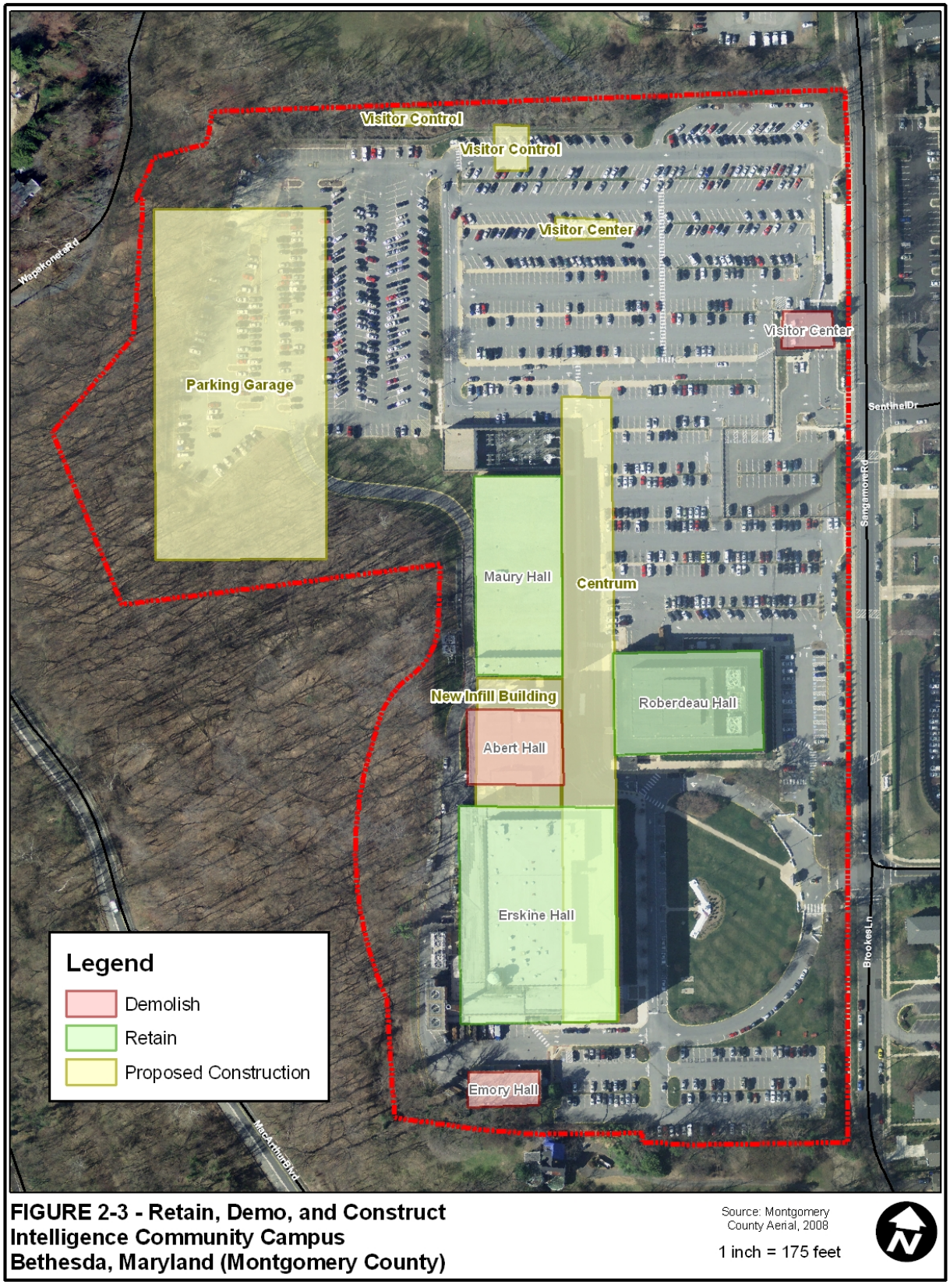

Figure 2-3 : Retain, Demo, and Contruct

2.2.3 Visitor Control Center

Visitors to the ICC-B will be processed through a new proposed Visitor Control Center. This area will screen and badge visitors and include areas for a guard post, interview room, administrative functions, restrooms, and related storage.

2.2.4 Materials Inspection Center

Delivery vehicles to the site will be processed through a new proposed Materials Inspection Center. This center will screen materials delivered to the site and will include areas for administrative functions, K-9 support, restrooms, and related storage.

2.2.5 Entry Control Facilities and Access Control Points

The entry control facilities and access control points will be designed in accordance with UFC 4-022-01. Appropriate Active Vehicle Barriers (AVB) and Passive Vehicle Barriers will provide the required protection for the installation and for the Access Control Point (ACP) users. This will require sufficient delay time for a guard to react and recognize any unauthorized entry and for the barrier to deploy. The Entry Control Facility will be designed to provide the required level of protection in response to the applicable threats.

2.2.6 Parking Requirement

A new parking garage will be planned for a capacity of approximately 2,200 vehicles. The parking garage will replace the existing surface parking lot at the Sumner Site. There are no specific regulatory constraints on the height of the garage; however, sensitivity to community concerns regarding the height of the garage will be addressed through the design process. The proposed location of the parking garage conforms to the current DoD Anti-Terrorism and Force Projection requirements (UFC 4-010-01: DoD Minimum Antiterrorism Standards for Building). The current surface parking lots and their location to the occupied buildings violates UFC 4-010-01.

2.2.7 Protective Design Criteria

An anti-ram perimeter will be provided. An 8-foot-tall anti-personnel fence will be provided around the site. The fence will be topped with one foot of barbed wire for a chain link fence or anti-climb pickets. The use of anti-climb pickets for an ornamental metal fence along Sangamore Road is proposed. Where possible, a 30-foot clear zone free of obstructions will be provided on either side of the fence.

2.2.8 Anti-terrorism/Force Protection

A primary goal of the project is to bring the campus into compliance with the modern AT/FP requirements. The ICC-B campus will be designed to be compliant with the latest version of the UFC AT/FP requirements. These are the minimum requirements for all DoD buildings, and they apply to new construction and to existing buildings undergoing glazing replacement or major modernization. All new buildings will comply with current AT/FP standoff requirements to both the controlled perimeter and to POV parking and vehicular circulation drives and all buildings will meet AT/FP unobstructed space requirements.

2.2.9 Demolition

Demolition will be required including buildings, extensive civil site infrastructure, and a significant portion of the underground utility and storm drainage infrastructure. Building demolition will include Albert Hall, Emory Hall, and Visitor's Center. Civil site infrastructure demolition will include all existing site vehicular entrances (except for the southern-most entrance) and existing surface parking and associated access drives. Underground utility and storm drainage infrastructure demolition will be conducted within the surface parking area.

2.2.10 Civil Infrastructure

All civil infrastructure will be designed and constructed in accordance with applicable codes, UFCs and/or other guidance document(s). Site infrastructure will include:

- Drives
- Parking lots
- Loading, storage and material handling areas
- Pedestrian walkways
- Retaining walls
- Fences, gates and other barriers

2.2.11 Stormwater Management

The stormwater runoff characteristics as well as existing collection and conveyance system(s) will be altered significantly with the final ICC-B site layout. The project is located in Montgomery County, Maryland, and is within the Chesapeake Bay Watershed. The project will be developed to comply with the MDE Stormwater Management Program, Maryland Stormwater Management Guidelines for State and Federal Projects (2010), UFC 3-210-10 – Low Impact Development Manual, and UFC 3-200-10N – Civil Engineering. The Maryland "Stormwater Management Act of 2007" requires implementing Environmental Site Design (ESD) to the maximum extent practicable, and ensuring that structural practices are used only where absolutely necessary. The use of LID stormwater management strategies is required in order to comply with the DoD Policy on Implementing Section 438 of EISA, dated 19 January 2010, and Department of the Navy LID Policy for Stormwater Management, dated 16 November 2007.

The proposed site concept will reduce the overall impervious area from 67 percent (19.6 acres) to 37.7 percent (9.6 acres) for a total reduction of impervious area of approximately 49 percent. At a minimum, runoff will have to be collected from an area equivalent to an additional 1 percent of the existing impervious area and treated for water quality. Site grading will be done in such a way as to provide positive drainage away from the buildings and all roadways and parking areas. The design will ensure grading and associated stormwater runoff do not adversely affect surrounding sites. The ESD stormwater management treatment strategy will utilize permeable paving surfaces, roof drains, and LID practices.

2.2.12 Utilities

All utility systems and services will be laid out and designed in accordance with applicable codes, UFCs, and/or other guidance document(s). Utility mains serving the site are expected to be adequate to serve the future needs of the facility; however, extensive realignment and replacement of service lines is expected.

Water Systems

A looped water system will be designed in accordance with UFC and the American Water Works Association (AWWA) requirements to serve the entire project site, and domestic water and fire protection service lines will be tapped off the looped main. Domestic water service(s) will be tapped from the looped main within the project site. Separate water meters will be installed on each building service line; however, a single service line may serve the primary building complex with individual building services branching from a service main below the Centrum. Fire protection water services will be tapped from the looped main within the project site, and each service line will include a post indicator valve (PIV). A separate fire department connection (FDC) will be provided for each building. Fire hydrants will be laid out as required and tapped from the looped main.

Sanitary Sewer

The sanitary sewer system will utilize an existing 12-inch diameter service main that enters the site from the east and runs along the south side of Roberdeau Hall. Currently, the Erskine Hall sanitary sewer service utilizes gravity flow while both Maury Hall and Roberdeau Hall require injection pump systems. The final configuration of the sanitary sewer system will be dependent on the final building layout and design. If all buildings cannot be served by gravity flow, a single lift station serving all buildings will likely be used.

Natural Gas

Existing natural gas service(s) will be maintained (where possible), and new service(s) will be tapped from the gas main located along Sangamore Road (where required). Separate gas meters will be installed on each building service line; however, a single service line may serve the primary building complex with individual building services branching from a service main below the Centrum.

Electrical/Power Plant

The Sumner Site will continue to receive power from Pepco via two 69,000-volt (V) feeders on site. The two 15,000 kilo-volt-ampere (kVA) transformers that step the voltage down to 13.2 kilo-volt (kV) for high voltage distribution to site buildings will also continue to be operated under the proposed ICC-B. New high voltage feeders will be used to power the Centrum and NIB. Routing of the new feeders will be finalized during the design phase of the project, although the preferred route would be through a new duct bank installed in the possible new utility tunnel. The duct bank will be designed to have adequate space for spare conduits for future use. The feeder, conduit, and duct bank sizes, plus the new building distribution equipment, will be determined during the final design of the Centrum.

Maury, Abert, Roberdeau, and Erskine Halls all have emergency backup generators; however, most of the existing generators are near the end of their useful lives and are loaded to capacity. A desire for a new system-wide back up generation system/plant (N+1) has been stated. As a result, new and larger generators to back up the entire ICC-B facility are required. For planning purposes, it was determined that the new back up load requirement for the proposed ICC-B would require five 2.5-megawatt (MW) generators.

2.2.13 Leadership in Engineering and Environmental Design (LEED)

The project will be designed to a minimum of LEED Silver with a design goal of achieving LEED Gold. LEED Version 2009 New Construction and Major Renovation criteria will be used. The facility will not only be "certifiable," but will be registered with the USGBC and certified by the Green Building Certification Institute (GBCI) upon completion. The project is currently targeting 63 points which would allow the project to achieve a Gold Level certification, but it is expected that as the project progresses some of these points will be removed from consideration due to project constraints or design decisions made. There are also currently 13 credit points which cannot be determined at this time but have the possibility of being added to the point total and Certification Level.

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3 ALTERNATIVES

NEPA requires that an EA evaluate all reasonable alternatives to the Proposed Action, including the No-Action Alternative. The only alternatives identified for this project are the Proposed Action (redevelopment of the Sumner Site for the ICC-B) and No-Action (no redevelopment of the Sumner Site for the ICC-B).

3.1 THE NO-ACTION ALTERNATIVE

NEPA regulations refer to the No-Action Alternative as the continuation of existing conditions of the affected environment without implementation of, or in the absence of, the Proposed Action. Inclusion of the No-Action Alternative is prescribed by CEQ regulations as the benchmark against which Federal actions are evaluated. Under this alternative, the Proposed Action to redevelop the Sumner Site would not occur and the site would remain unused. It is assumed that the site would continue to receive minimal maintenance by the federal government to keep the facilities functional. Such actions would include the mowing of lawns and the use of water, sewer, and electrical utilities to maintain buildings.

3.2 ALTERNATIVES ELIMINATED FROM DETAILED STUDY

During the planning stages, other alternatives were evaluated and eliminated from further consideration as described below. During the Planning Charrette process, several alternatives were eliminated due to cost and/or security issues. The agency could lease space at another location within the general Metropolitan Washington Area; however, the costs are beyond the funding limits of the agency.

3.2.1 Lease Space Alternative

An Economic Analysis was completed to determine if it was more advantageous for the government to renovate the existing Sumner Site or lease a facility or campus site consisting of 870,000 square feet. All lease options would be required to meet all current AT/FP standards; including standoff, hardening, and shielding requirements. The lease building would also need to meet the government requirements for power and cooling, which are 50 percent greater than standard commercial space for intelligence administration use. Due to the current limited availability of intelligence administration lease space within the Washington, D.C., area, finding a facility that meets the required square footage, AT/FP requirements, and power and cooling criteria would be challenging. For the purpose of the Economic Analysis, the lease rate assumed for the required intelligence administration space would be roughly $40 per square foot.

Using a 28-year (25-year mission life + 3-year lead time) period of analysis for the Economic Analysis, it was calculated that the net present value for the proposed renovation and construction at the Sumner Site was roughly $306 million compared to the net present value of leasing alternative, which was roughly $561 million. As a result of the Economic Analysis, the recommended alternative based on cost is the renovation and new construction at the Sumner Site. The renovation and new construction at the Sumner Site has the lowest life cycle cost due in large part to the government already owning the land and the proposed used of existing on-site buildings.

The Economic Analysis concluded that the proposed use of lease space to meet the need of the proposed action is not a viable alternative and should be eliminated from further study in this EA.

3.2.2 Site Layout Concepts at the Sumner Site

During the Planning Charrette held in July 2010, several site layout concepts of the Sumner Site were considered, and the pros and cons of each proposed campus layout concept were discussed and evaluated by the Planning Charrette team. Evaluation of the proposed site layouts throughout the Planning Charrette process took into consideration facility function and impacts to the surrounding community. These discussions and evaluations at the Planning Charrette resulted in the development of the preferred alternative, as presented in Section 2. Additionally, the multiple site layout concepts that were proposed throughout the Planning Charrette did not vary significantly from the Preferred Alternative, and none would have a significantly different impact to the affected environment.

3.3 PREFERRED ALTERNATIVE

The Preferred Alternative is the redevelopment of the Sumner Site for the occupation of the ICC-B site by connecting the existing structures with construction of a new structure, the Centrum, in the middle of the three main existing buildings. Each of the existing structures will also receive renovations and upgrades designed to mitigate AT/FP threat conditions, and unify the exterior appearance as one contiguous facility. The Preferred Alternative is fully discussed in Section 2 and portrayed in Figures 2-1 and 2-2.

4 AFFECTED ENVIRONMENT

This section describes the affected environment and the existing conditions for the natural and socioeconomic resource categories applicable to the area affected by the redevelopment of the Sumner Site for the ICC-B. Each environmental, cultural, and social resource category typically considered in an EA was reviewed for its applicability to the Proposed Action or the No-Action Alternative. Through this analysis, which is summarized in Table 4-1, resource categories clearly not applicable to the alternatives were screened from further evaluation. Only those affected resources applicable to the Proposed Action and/or No-Action are discussed further in this section and in Section 5, Environmental Consequences.

Table 4-1 : Baseline Conditions Screening Matrix

RESOURCE CATEGORY	AFFECTED BY PROPOSED PROJECT?	REASON FOR NON-APPLICABILITY DETERMINATION
Land Use	Yes	Refer to §4.1, §5.1.
Coastal Zone Management	No	The area is not in an area governed by the Coastal Zone Management Act.
Air Quality	Yes	Refer to §4.2, §5.2.
Soils and Geology	Yes	Refer to §4.3, §5.3.
Topography and Drainage	Yes	Refer to §4.4, §5.4.
Stormwater Management	Yes	Refer to §4.5, §5.5.
WATER RESOURCES		
Surface Water Resources (surface water, aquatic life)	Yes	Refer to §4.6, §5.6.
Floodplains	No	There are no floodplains in the project area (FEMA map 24031C0455D)
Groundwater	No	No impacts but this topic is discussed in §4.6, §5.6.
BIOLOGICAL RESOURCES		
Wetlands	No	No wetlands are located within the project area based on site survey and National Wetlands Inventory mapping (USFWS, 2010b)
Vegetation	Yes	Refer to §4.7, §5.7.
Wildlife	Yes	Refer to §4.8, §5.8.
Rare, Threatened or Endangered Species	No	The USFWS indicated in a letter dated January 6, 2011, that no federally listed species are known to occur in the project area (Appendix A). This resource is discussed in §4.8, §5.8.
Prime and Unique Farmlands	No	There are no prime and unique farmland soils located within the project area.
Designated Natural Areas	No	No Wild or Scenic River, natural areas, or National Forests are present (NPS, 2010) (USFWS, 2010a) (Wilderness.net, 2010)
Climate	No	No impacts expected.
CULTURAL RESOURCES		
Architectural Resources	Yes	Refer to §4.9, §5.9.
Archeological Resources	No	No impacts to archeological resources
HAZARDOUS, TOXIC, AND RADIOACTIVE SUBSTANCES		
Contaminated Sites	No	Discussed in §4.10 §5.10

RESOURCE CATEGORY	AFFECTED BY PROPOSED PROJECT?	REASON FOR NON-APPLICABILITY DETERMINATION
Hazardous Material Use, Handling, and Storage and Hazardous Substance Generation	No	Discussed in §4.10 §5.10
Storage Tanks	No	Discussed in §4.10 §5.10
Asbestos Containing Materials (ACM)	Yes	Discussed in §4.10 §5.10
Lead Based Paint (LBP)	No	Discussed in §4.10 §5.10
Polychlorinated Biphenyl (PCB)	No	Discussed in §4.10 §5.10
INFRASTRUCTURE		
Traffic	Yes	Refer to §4.11, §5.11.
Utilities (Water, Sewer, Electric, Gas)	Yes	Refer to §4.12, §5.12.
Solid Waste Management	No	During construction, any solid waste generated by the contractor would be disposed of under its contract. The construction crews would be required to comply with all applicable laws regarding solid waste handling, composting, recycling and/or disposal. Operation is not anticipated to result in the production of any significant amounts of solid wastes; trash generated by site visitors is generally collected in trash bins throughout the site, and collected as part of routine maintenance. No regional increases are expected as the Proposed Action would not create new jobs, just relocated from elsewhere in the area.
SOCIOECONOMIC		
Noise	Yes	Refer to §4.13, §5.13.
Aesthetics	Yes	Refer to §4.14, §5.14.
Recreation	No	No recreation facilities present.
Socioeconomic Conditions	Yes	Refer to §4.15, §5.15.
Environmental Justice	No	Discussed in §4.16 §5.16
Child Health and Safety	Yes	Refer to §4.17, §5.17.

4.1 LAND USE AND ZONING

The 39-acre Sumner Site consists of a mixture of buildings, parking lots, and landscaped areas and has served as the headquarters for the NGA. Historically, activities at this site have included photoprocessing and printing. With the advancement of digital technology in the 1990s, the use changed to a more administrative complex for approximately 3,000 employees at the Sumner Site. The six Sumner Site buildings are generally located on the south side of the site with a large, well-maintained, landscaped area located near the southeast corner of the site in front of Erskine Hall. Large surface parking areas with approximately 1,800 spaces take up much of the property on the north side of the Sumner Site. Some additional surface parking is located along the south side of the site.

Regionally, the area surrounding the site is mainly residential and commercial. To the south of the site, land use is mainly residential, comprised of detached single-family homes. To the

southeast and northeast of the Sumner Site is low-rise multi-family housing (i.e., Sumner Highland Apartments). The Shops at Sumner Place, a retail/commercial development, is located directly east of the Sumner Site. Directly north of the Sumner Site is Sangamore Park, owned and operated by Montgomery County, and the Washington Waldorf School. Directly west of the Sumner is parkland that is transected by the Clara Barton Parkway and MacArthur Boulevard. Figure 4-1 illustrates the various land uses that surround the Sumner Site.

4.2 AIR QUALITY

The Clean Air Act (CAA), which was last amended in 1990, requires the USEPA to set National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment. The CAA established two types of national air quality standards. Primary standards set limits to protect public health, including the health of "sensitive" populations such as asthmatics, children, and the elderly. Secondary standards set limits to protect public welfare, including protection against decreased visibility, damage to animals, crops, vegetation, and buildings. The USEPA Office of Air Quality Planning and Standards has set NAAQS for seven principal pollutants, which are called "criteria" pollutants. They are listed below in Table 4-2 (USEPA, 2010). Units of measure for the standards are parts per million (ppm) by volume, milligrams per cubic meter of air (mg/m^3), and micrograms per cubic meter of air ($\mu g/m^3$).

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

The proposed project area is located in Montgomery County, which is within the Washington Metropolitan Area Air Quality Control Region (AQCR). The county is currently in attainment for carbon monoxide (CO), nitrogen oxides ($NO_{x)}$, sulfur dioxide (SO_2), particulate matter of 10 microns or less (PM_{10}), and lead (Pb). Portions of the Washington Metropolitan Area AQCR, including Montgomery County, are designated as nonattainment for particulate matter of 2.5 microns or less ($PM_{2.5}$) and as moderate nonattainment areas for ozone (O_3). Due to its location in the urbanized east coast of the United States, Montgomery County lies within an Ozone Transport Region (OTR). The OTR has a moderate ozone nonattainment classification by definition.

The CAA Amendments of 1990 state that a federal agency cannot support an activity in a nonattainment area unless the agency determines that the activity will conform to the most recent USEPA-approved SIP within the region of the Proposed Action. The General Conformity Rule covers direct and indirect emissions of criteria pollutants or their precursors that are caused by a federal action, are reasonably foreseeable, and can practically be controlled by the federal agency through its continuing program responsibility. Conformity is demonstrated if the total net emissions expected to result from a Federal action in a nonattainment or maintenance area will not:

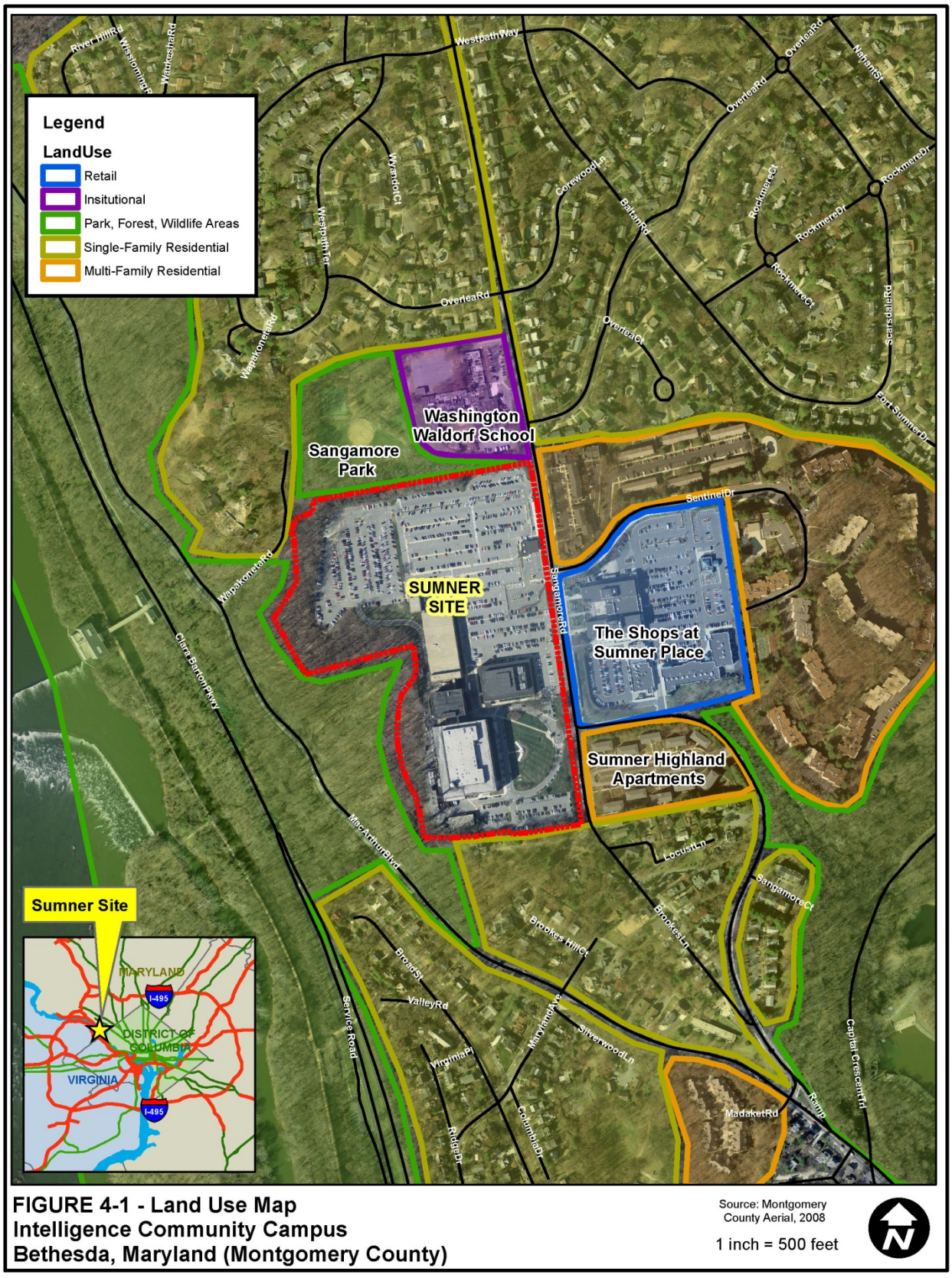

Figure 4-1: Land Use

Table 4-2: National Ambient Air Quality Standards

	Primary Standards		Secondary Standards	
Pollutant	**Level**	**Averaging Time**	**Level**	**Averaging Time**
Carbon Monoxide	9 ppm (10 mg/m^3)	8-hour [1]	None	
	35 ppm (40 mg/m^3)	1-hour [1]		
Lead	0.15 µg/m^3 [2]	Rolling 3-Month Average	Same as Primary	
Nitrogen Dioxide	53 ppb [3]	Annual (Arithmetic Average)	Same as Primary	
	100 ppb	1-hour [4]	None	
Particulate Matter (PM_{10})	150 µg/m^3	24-hour [5]	Same as Primary	
Particulate Matter ($PM_{2.5}$)	15.0 µg/m^3	Annual [6] (Arithmetic Average)	Same as Primary	
	35 µg/m^3	24-hour [7]	Same as Primary	
Ozone	0.075 ppm (2008 std)	8-hour [8]	Same as Primary	
	0.08 ppm (1997 std)	8-hour [9]	Same as Primary	
	0.12 ppm	1-hour [10]	Same as Primary	
Sulfur Dioxide	0.03 ppm	Annual (Arithmetic Average)	0.5 ppm	3-hour [1]
	0.14 ppm	24-hour [1]		
	75 ppb [11]	1-hour	None	

Source: USEPA, 2011: http://www.epa.gov/air/criteria.html

[1] Not to be exceeded more than once per year.

[2] Final rule signed October 15, 2008. The 1978 lead standard (1.5 µg/m^3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

[3] The official level of the annual NO_2 standard is 0.053 ppm, equal to 53 ppb, which is shown here for the purpose of clearer comparison to the 1-hour standard

[4] To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 100 ppb (effective January 22, 2010).

[5] Not to be exceeded more than once per year on average over 3 years.

[6] To attain this standard, the 3-year average of the weighted annual mean PM2.5 concentrations from single or multiple community-oriented monitors must not exceed 15.0 µg/m^3.

[7] To attain this standard, the 3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed 35 µg/m^3 (effective December 17, 2006).

[8] To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.075 ppm. (effective May 27, 2008)

[9] (a) To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.08 ppm.

(b) The 1997 standard—and the implementation rules for that standard—will remain in place for implementation purposes as EPA undertakes rulemaking to address the transition from the 1997 ozone standard to the 2008 ozone standard.

(c) EPA is in the process of reconsidering these standards (set in March 2008).

[10] (a) EPA revoked the 1-hour ozone standard in all areas, although some areas have continuing obligations under that standard ("anti-backsliding").

(b) The standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is ≤ 1.

[11] (a) Final rule signed June 2, 2010. To attain this standard, the 3-year average of the 99th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 75 ppb.

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

On 5 April 2010, the U.S. Environmental Protection Agency (EPA) published in the *Federal Register* (FR) the final rule (75 FR 17254) amending the General Conformity Regulations. These rules implement Clean Air Act (CAA) provisions requiring federal agencies to evaluate emissions from proposed actions that may cause or contribute to violations of the national ambient air quality standards (NAAQS). The revised rule is intended to improve the process federal entities use to demonstrate that their actions will not contribute to a NAAQS violation. It also provides tools to encourage better communication and air quality planning between states and federal agencies, and encourages both the federal agencies and the states to take early actions to ensure that projects will conform to state implementation plans (SIPs) to implement the NAAQS. To meet the General Conformity requirements, federal entities must demonstrate that emissions from their actions will not exceed the emission budgets established in a SIP to attain or maintain the NAAQS. The final rule became effective 6 July 2010.

A federal action is exempt from applicability of the General Conformity Rule requirements if the action's total annual net emissions are below the *de minimis* levels specified in the rule (Table 4-3) and are not regionally significant (i.e., the emissions represent 10 percent or less of nonattainment or maintenance area's total emission inventory of that pollutant) or are otherwise exempt per 40 CFR 93.153.

Table 4-3: *De Minimis* Exemption Levels for Conformity Determinations in Nonattainment Areas

Pollutant	Nonattainment Classification	Emissions (tpy)
Ozone (VOCs and NOx)	Serious	50
	Severe	25
	Extreme	10
	Other ozone nonattainment areas outside an ozone transport region	100
	Marginal and moderate nonattainment areas inside an ozone transport region:	
	VOC	50
	NOx	100
CO	All nonattainment areas	100
SO_2 or NO_2	All nonattainment areas	100
$PM_{2.5}$	All nonattainment areas	100
PM_{10}	Moderate nonattainment areas	100
	Serious nonattainment areas	70
Pb	All nonattainment areas	25

Source 40 CFR 93.153(bXl)

CO: carbon monoxide
NO_x: nitrogen oxides
NO_2: nitrogen dioxide
$PM_{2.5}$: particulate matter 2.5 micrometers or less
PM_{10}: particulate matter 10 micrometers
SO_2: sulfur dioxide
VOCs: volatile organic compounds
tpy: tons per year

The NEPA process must consider impacts from mobile sources and indirect emissions related to the project, such as commuting and vehicle travel around the project area. Table 4-4 lists county-wide emissions for Montgomery County as compiled by the USEPA in its National Emissions Inventory, last updated in 2002 (USEPA, 2002). The 2002 National Emissions Inventory contains estimates of annual emissions for stationary and mobile sources of air pollutants in each county.

Table 4-4: Air Emissions Inventory Montgomery County, Maryland Calendar Year 2002

Montgomery County, Maryland	Pollutants (tpy)				
	CO	VOC	NO_x	SO_x	$PM_{2.5}$
Stationary Sources	509	123	8,702	34,038	3,058
Mobile Sources and Non-Point Source	1,017	30,761	22,793	4,053	4,289

Source: USEPA, 2002.
Key:
CO = carbon monoxide
NO_x = nitrogen oxides
PM_{10} = particulate matter with a diameter of less than 10 microns
SO_x = sulfur oxides
tpy = tons per year
VOC = volatile organic compound

Air construction permits are required prior to installation of new stationary sources, or modification of existing stationary sources. A Stationary Source is defined as *"Any building, structure, facility or installation which emits any air pollutant subject to regulation under the Act"*. Any stationary sources such as emergency generators would require air permits.

Maryland's Air and Radiation Management Administration (ARMA) has several applicable state regulations (Code of Maryland Regulations [COMAR]) for stationary sources:

- COMAR 26.11.02: Permits, Approvals, and Registration
  This regulation requires stationary sources of emissions to obtain an air construction permit from ARMA. Emergency generators greater than 500 brake horsepower (BHP) are required to obtain air construction permits.

- COMAR 26.11.09: Control of Fuel-Burning Equipment, Stationary Internal Combustion Engines, and Certain Fuel-Burning Installations
  This regulation lists the control and compliance requirements for internal combustion engines. Emergency generators can only be operated during emergencies and for regularly scheduled maintenance and testing purposes. This regulation also stipulates that owners or operators of emergency generators may not operate the engine for testing and engine maintenance purposes between 12:01 a.m. and 2 p.m. on any day on which the ARMA forecasts that the air quality will be a code orange, code red, or code purple unless the engine fails a test and engine maintenance and a re-test are necessary.

- COMAR 26.11.15: Toxic Air Pollutants and COMAR 26.11.16: Procedures Related to Requirements for Toxic Air Pollutants

  These regulations require all affected facilities to demonstrate compliance with air toxic regulations for the emissions of Class I and Class II toxic air pollutants (TAPs). This regulation may exempt fuel burning equipment from demonstrating compliance with this regulation. It is recommended that the ARMA be consulted for concurrence.

- COMAR 26.11.17: Nonattainment Provisions for Major New Sources and Modifications

  Major source nonattainment new source review (NNSR) will be applicable if the potential emissions of pollutants subject to nonattainment regulations are emitted at levels greater than the major source thresholds. Major source threshold for volatile organic compounds (VOCs) and NO_x is 25 tons per year (tpy). Major source threshold for direct $PM_{2.5}$ emissions is 100 tpy. NNSR major source review would require implementation of lowest achievable emission rate (LAER), and the purchase of offsets or emission reduction credits for the nonattainment pollutant exceeding the major source threshold.

In addition, Maryland COMAR 26.11.26.09: General Conformity requires a conformity review when a Federal action generates air pollutants in a region that has been designated a nonattainment or maintenance area for one or more criteria pollutants. For Montgomery County, the pollutants of concern are NO_x and VOCs. Emissions from construction, demolition of all buildings, and operation of emergency engine generators will need to be included as part of a screening process to compare against the conformity de minimis threshold of 100 tpy each for NO_x and $PM_{2.5}$ emissions, and 50 tpy for VOC emissions.

4.3 SOILS AND GEOLOGY

The Sumner Site is located in the upland portion of the Piedmont Plateau Province and is comprised of the remnants of hard igneous and metamorphic rocks and unconsolidated material derived from sedimentary rocks. The bedrock in the area consists of schist, gneiss, gabbro, and other highly metamorphosed sedimentary and igneous rocks of probable volcanic origin.

The Soil Survey for Montgomery County, Maryland, identifies five soils within the site: Gaila silt loam, Glenelg silt loam, Glenelg-Urban land complex, Brinklow-Blocktown channery silt loam, Blocktown channery silt loam, and Urban land (NRCS, 2007). Figure 4-2 shows the soil mapping at the Sumner Site.

The Gaila series consists of very deep, well drained soils on nearly level to strongly sloping uplands. These soils formed in material weathered from quartz muscovite schist. Permeability is moderately rapid. Slope ranges from 3 to 25 percent.

The Glenelg series is similar to the Gaila series and consists of very deep, well drained soils on nearly level to strongly sloping uplands in the northern part of the Piedmont Province. These soils formed in residuum derived from phyllite and micaceous schist. Permeability is moderate. Slope ranges from 0 to 15 percent. As part of this series, the Glenelg-Urban land complex can be found in areas where the soil material is highly disturbed, and many of the original soil characteristics have been altered.

The Brinklow series consists of moderately deep, well drained soils on broad ridgetops and side slopes in the uplands on the Piedmont Province. These soils formed in material weathered from acid crystalline rocks. Permeability is moderately slow. Slope ranges from 8 to 35 percent. The Brinklow series is often found in association with the shallower Blocktown series.

The Blocktown series consists of shallow, well drained soils on uplands of the Piedmont Province. These soils formed in material weathered from phyllite and schist. Permeability is moderate. Slope ranges from 3 to 65 percent.

The Urban land series is on uplands. The soil material in this unit is highly disturbed, and many of the original soil characteristics have been altered. The cut and fill material is 1 foot to more than 20 feet thick. In places the map unit includes 10 to 20 percent soils from adjoining map units

Most of these soils have been previously disturbed over the years as the site has been developed. No sensitive soils or soils classified as Prime or Unique Farmland soils are present in the proposed project area.

4.4 TOPOGRAPHY AND DRAINAGE

The Piedmont Province is generally characterized by gently rolling to hilly topography separated by drained fertile valleys and narrow stream valleys. Streams are generally low to moderate gradient and are composed of coarser bed material, such as gravel or cobble. Relief in the Piedmont Province ranges from 200 to 570 feet above mean sea level (AMSL).

The existing site is developed with several buildings and numerous large surface parking lots. Almost 70 percent of the site consists of impervious ground cover. The highest point is located in the northeast corner of the Sumner Site and is 270 feet AMSL. Generally, the site slopes from one to four percent from east to west with a low point located near the center of the west property line. The site is bounded by several features. The northern side of the site is bounded by an ephemeral stream that starts at the northeast corner of the site and meanders on and off of the property until it connects with another stream at the northwest corner of the site. The western edge of the site is bounded by two large and steep wooded hills sloping downward at 25 percent onto NPS property. Between the two hills and directly behind Maury Hall is a creek that collects stormwater runoff from approximately 37 percent of the site. The southern edge of the site is bordered by a wooded residential lot. The eastern portion of the site is bordered by Sangamore Road which is elevated above most of the site. The southeastern corner of the site is constructed on fill above Sangamore Road. Figure 4-3 shows the existing topography. Additional elevation maps can be found in Appendix B.

A review of current Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) panel number 24031C0455D indicates that the site is not located within a floodplain (FEMA, 2006).

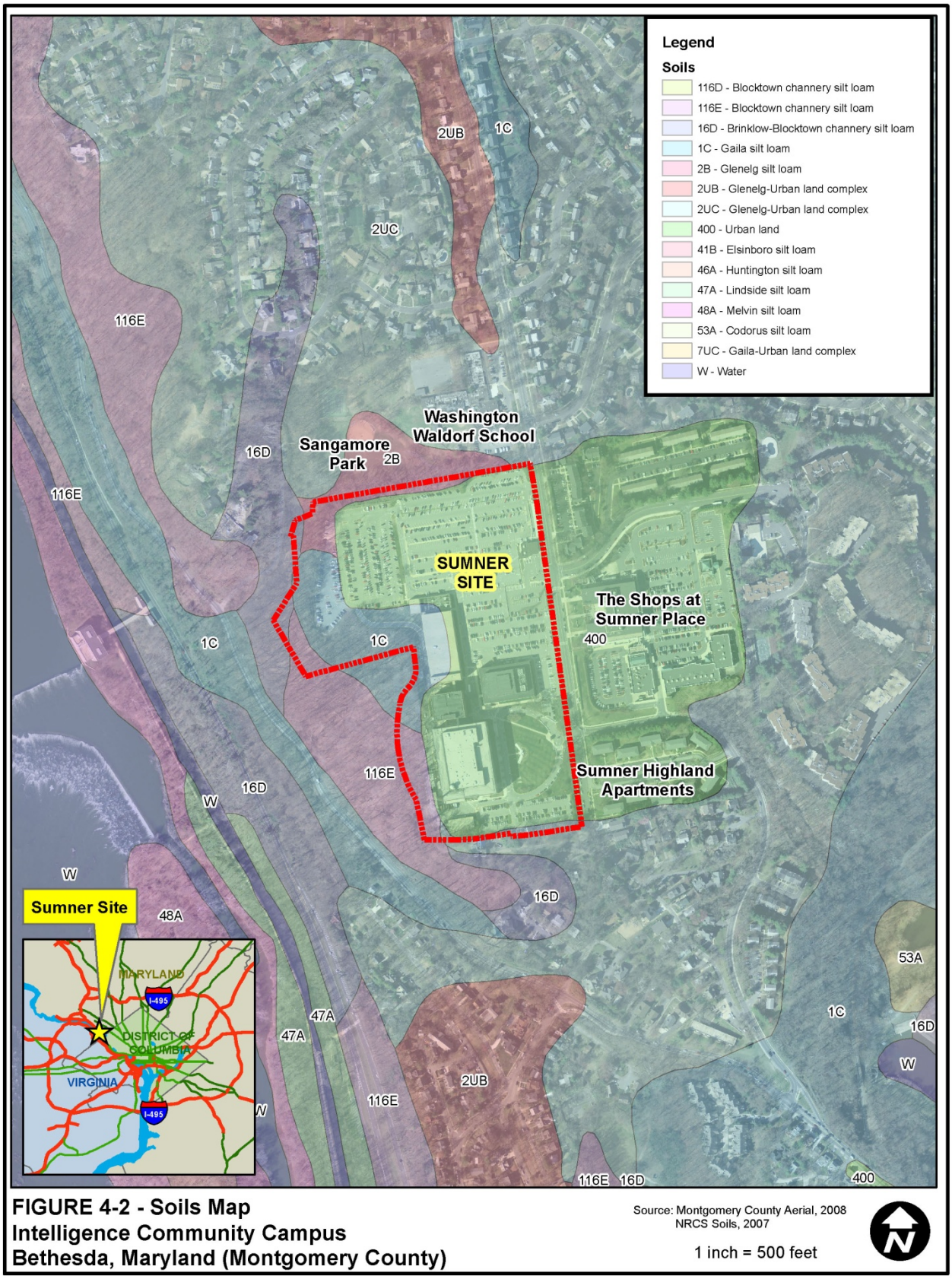

Figure 4-2: Soils

4.5 STORMWATER

In February 2011, a Stormwater Drainage Engineering Study was conducted (USACE, 2011c) to identify applicable stormwater laws and regulations, analyze the hydrologic conditions of the site, determine parameters for the design of new stormwater systems, and confirm downstream channel capacity. The information in the report will be used to develop a comprehensive stormwater management design for the proposed development of the site. The findings of the existing conditions are summarized below.

The existing 39-acre site is developed with several large buildings and surface parking lots. The northern side of the site is bounded by an ephemeral stream channel that starts at the northeast corner of the site and meanders on and off of the property until it connects with a creek at the northwest corner of the site. The western edge of the site is composed of two large, steeply wooded hills sloping downward at a 25 percent slope. Between the two hills and directly behind Maury Hall is a westward flowing ephemeral stream channel which collects stormwater runoff from approximately 37 percent of the site. Both ephemeral stream channels are normally dry. The southern edge of the site is bordered by a wooded residential lot. The eastern portion of the site is bordered by Sangamore Road which is elevated above most of the site. The southeastern corner of the site is constructed on fill above Brookes Lane. Existing grades within the campus are slight, mostly 5 percent or less, and are engineered to provide positive drainage of existing development.

Currently, the site is fully developed with nearly 70 percent impervious hardscape. The rolling topography and development of the site created six distinct drainage areas that convey stormwater off of the property (Figure 4-4). The six drainage areas do not include a total of six acres of discontinuous undisturbed areas where stormwater naturally sheet flows off the property.

Drainage Areas A and B discharge to the ephemeral stream north of the site. Drainage Area A primarily consists of an asphalt parking lot with a 4.5 percent slope. Stormwater is collected through a network of inlets and discharges to the ephemeral stream. Drainage Area B primarily consists of an asphalt parking with a 1.0 percent slope. Stormwater is collected through a network of inlets and collected in an underground detention facility. From the underground detention facility water flows through a storm filter and discharges to the ephemeral stream. The creek is severely eroded immediately downstream of the outfall of Drainage Area B. The bank erosion has created a deeply entrenched channel which may require restoration.

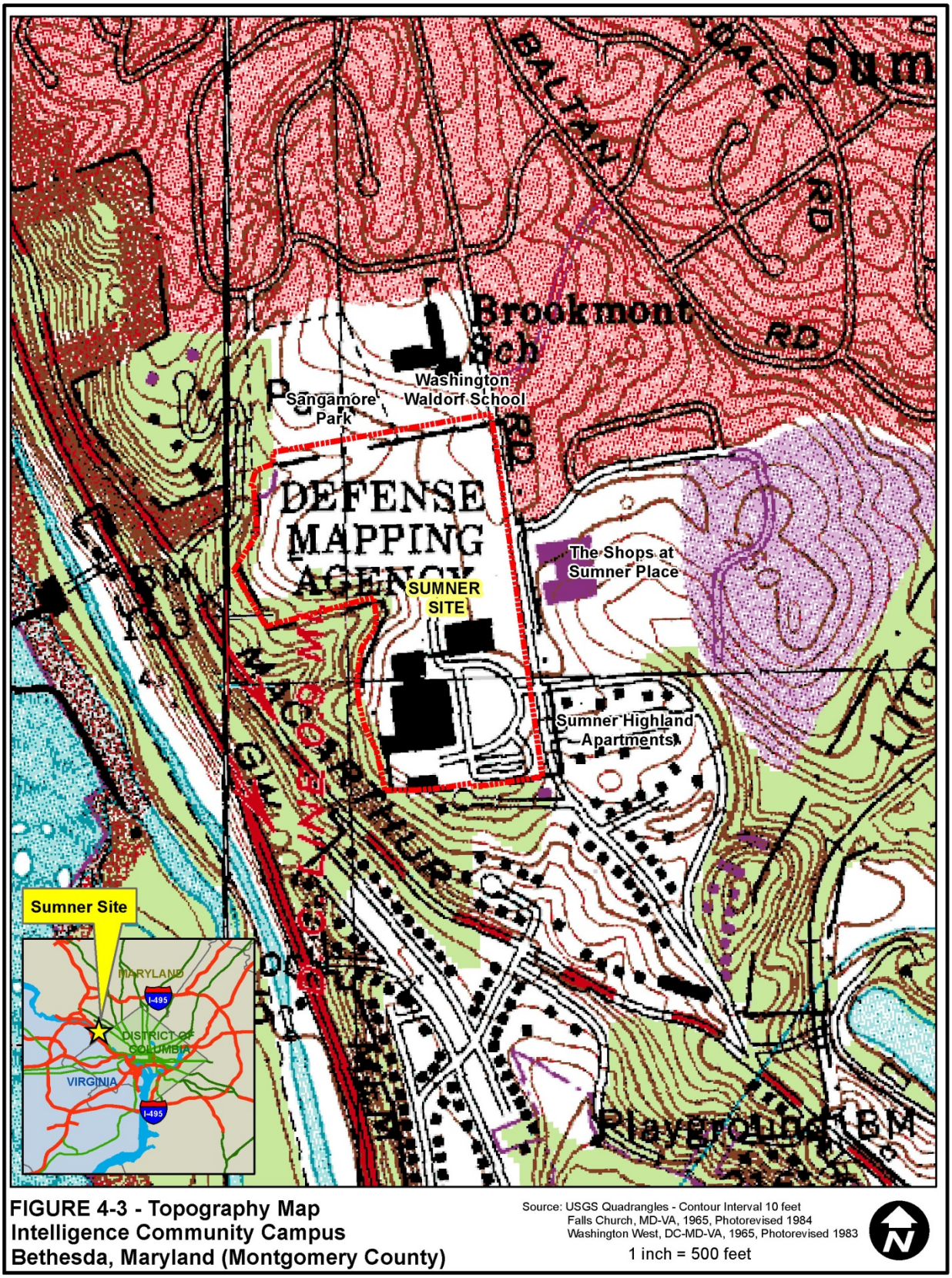

Figure 4-3: Topography

Figure 4-4: Stormwater and Surface Water

Drainage Areas C and F discharge to the creek behind Maury Hall. Drainage Area F consists of a steeply sloped hillside (32 percent), a steeply sloped asphalt access road (7.4 percent), a substation, Maury Hall and the alley between Maury Hall and Abert Hall. Stormwater is collected through a series of inlets and roof drains and conveyed to a stormwater management structure directly behind Maury Hall. The concrete detention structure has a capacity of 6,000 cubic feet, a 3 feet by 3 feet drop structure and 18-inch square vertical orifice which discharges directly to the creek. Drainage Area C consists of Abert Hall, portions of Erskine Hall and Roberdeau Hall, the Visitor Control Center, an asphalt access road (slopes 1 percent - 12 percent) and a parking lot (5 percent slope). Stormwater is collected through an extensive series of inlets and discharges directly to the creek behind Maury Hall. The creek exhibits very little evidence of erosion.

Drainage Area D drains to the hillside on the southwest portion of the site. Drainage Area D consists of Emory Hall and its asphalt parking lot, portions of Erskine Hall and the loading area and access road south of Erskine Hall. Slopes of paved areas are between one and two percent. Stormwater is collected through a series of inlets and discharges directly to the hillside to convey off property.

Drainage Area E drains to the southeast corner of the site where it discharges into an existing municipal system adjacent to Sangamore Road. Drainage Area E consists of a portion of Roberdeau Hall and the parking lot adjacent to it, the semicircular landscaped area and the parking lot south of the landscaped area. Slopes range between one percent and two and a half percent. Stormwater is collected in a network of inlets and discharges to the municipal system via a 15-inch reinforced concrete pipe.

4.6 SURFACE WATER AND GROUNDWATER RESOURCES

The Sumner Site is located on palisades overlooking the valley carved by the Potomac River approximately 0.3 miles away. Steep wooded slopes separate the site from the river. There are no perennial streams located on the site. Figure 4-4 shows surface water and storm drainage at the site.

The northern side of the site is bounded by an ephemeral stream channel that starts at the northeast corner of the site and meanders on and off of the property until it connects with a creek at the northwest corner of the site. This stream is severely eroded immediately downstream of the outfall and has created a deeply entrenched channel which may require restoration. The western edge of the site is composed of two large, steeply wooded hills sloping downward at a 25 percent slope. Between the two hills and directly behind Maury Hall is a westward flowing ephemeral stream channel which collects stormwater runoff from approximately 37 percent of the site. The channel exhibits very little evidence of erosion. Both ephemeral stream channels are normally dry. These two channels drain to the Potomac River.

Regional groundwater movement is influenced by the crystalline rocks of the Piedmont Province that yields little water to wells. Groundwater movement is controlled largely by fractures in the rock. Monitoring of wells installed in 1988 indicated that the water table ranges from 15 to 40 feet below surface level (NGA, 2008). These wells were used to monitor groundwater

contamination from a damaged fuel line at the Sumner Site. An oil recovery system was installed and by 1997, the wells were found to be clean and the site was closed out by the MDE. No wells are used for water supply at this site.

A Subsurface Geotechnical Investigation (USACE, 2011d) found groundwater in Borings B-1, B-3, B-5, B-8, and B-9. The groundwater elevations from the investigation are shown in Table 4-5. The information indicates the groundwater elevation was variable across the site. At the time of the investigation, the groundwater encountered in the proposed Centrum Building (B-1 and B-3) location was below the proposed basement floor elevation at 236 feet above mean sea level (AMSL). The groundwater elevation in Boring B-8 was above the proposed lower level of the parking garage structure at elevation 214 feet AMSL. Groundwater was not encountered in Boring B-6 and B-7 within the proposed parking garage structure. Groundwater was encountered below the proposed foundation elevation in the Visitor Control Center and the Vehicle Inspection Station.

Table 4-5: Groundwater Elevation in Borings

Boring	Location	Surface Elevation (ft AMSL)	Groundwater Elevation (ft AMSL)	Depth to Groundwater (ft)
B-1	Centrum Building	250.2	223.0	27.2
B-3	Centrum Building	244.4	217.0	27.4
B-5	Visitor Control Center	251.0	233.5	17.5
B-6	Parking Garage Structure	241.6	NE	NE
B-7	Parking Garage Structure	248.0	NE	NE
B-8	Parking Garage Structure	245.4	221.0	41.9
B-9	Vehicle Inspection Station	246.5	236.5	10.0
B-10	Entrance Drive	266.9	NE	NE

NE = Not Encountered

4.7 VEGETATION

The Sumner Site is located within a depleted area of mixed latitude deciduous forest once populated by tall oaks, hickories, poplars, maples, and understory vegetation. This can still be seen within the wooded slopes to the west of the site. Within the Sumner Site, the vegetation reflects the landscaped nature of the site with mowed lawns other typical landscape bushes and trees.

4.8 WILDLIFE RESOURCES

The maintained landscaped nature of the site and the extensive parking and building areas have resulted in minimal ecological value of biological resources present within the project area. Wildlife consists of those species adapted to life in an urban environment. Typical species include eastern gray squirrel, eastern cottontail rabbit, raccoon, opossum, fox, and deer. Birds such as robin, blue jay, mockingbird, cardinal, Carolina chickadee, and crow can be found throughout the area as well as occasional transient hawks and Bald eagles.

In a letter dated January 6, 2011, the USFWS indicated that except for occasional transient individuals, no federally proposed or listed endangered species or threatened species are known to exist within the project area. The letter does indicate that any action should comply with the National Bald Eagle Management Guidelines in the event that Bald eagles should be in the project area.

4.9 CULTURAL RESOURCES

Cultural resources include archaeological or cultural sites, standing structures, and other historic properties considered to be eligible for or listed in the National Register of Historic Places (NRHP). Section 106 of the National Historic Preservation Act mandates that Federal agencies consider the impact of their undertakings on historic properties within the project's Area of Potential Effect (APE). If adverse effects on historic, archaeological, or cultural properties are identified, then agencies must attempt to avoid, minimize, or mitigate these impacts to resources considered important in our nation's history.

Previous cultural resource investigations have been conducted at the Dalecarlia and Sumner Sites, including the ICC-B project's APE. In 2004, a cultural resource investigation of the NGA's Dalecarlia and Sumner sites was completed by TAMS Consultants, Inc. The 2004 investigation included an assessment of the potential for significant archaeological and architectural properties to be located at the Sumner Site.

4.9.1 Archaeological Resources

The 2004 TAMS investigation included an archaeological survey of the Sumner Site. The archaeological survey determined that, due to previous ground disturbance in the project area, there are no potential archaeological historic properties in the project's APE.

4.9.2 Architectural Resources

The 2004 cultural resource investigation of the NGA's Dalecarlia and Sumner Sites identified the National Register-eligible AMS Historic District, which includes resources at both the Dalecarlia and Sumner Site. The AMS Historic District possesses historic significance at the national level because it is related to the history of military involvement in World War II, which had significant impacts on affairs of the nation. The period of significance of the district spans from the establishment of AMS in 1942 to the post-World War II years concluding in 1951.

At the Sumner Site, contributing resources to the AMS historic district include Erskine Hall, the former headquarters of the World War II-era AMS, and a flagpole and globe memorial (described below). The National Register boundary for the AMS Historic District encompasses 4.2 acres (1.7 hectares) at the Sumner Site. The other four buildings located at the Sumner Site, including Abert, Emory, Maury, and Roberdeau Halls, as well as other modern ancillary buildings including the Visitors Center and guardhouses, are ineligible for listing in the NRHP. There are no significant interior spaces in any of the buildings, as renovations have greatly altered the original design.

Erskine Hall (1945): Designed by the US Engineers Office, the building was completed in 1946 and was a 15-bay-long, 11-bay-wide, 328,000-square foot (30,471-square meter) five-story brick building pierced by multi-pane windows accented by limestone sills. Decorative features included door canopies and concrete entry blocks embellished with an ornamental pattern. Original USACE plans indicate that an exterior stairway was constructed from the west façade of the building, extending down a steep slope to the Cabin John streetcar line located west of MacArthur Boulevard. Provision of these steps, which are now abandoned, indicates that many employees used the trolley to commute to work. The building functioned as headquarters of AMS, US Army Topographic Command, and Defense Mapping Agency Hydrographic/Topographic Command after World War II. It continues to play a major administrative role as the headquarters of NGA. Exterior renovations include changing main entrances, alterations to the current entrance, addition of a walkway to the adjacent building, and blocking windows.

Flagpole and Globe Memorial (ca. 1945): The flagpole installation at the Sumner Site supports three flags on a triangular-shaped concrete base. Landscaping surrounds the flagpoles, which are set within a semi-circular grass panel. The flagpole, located directly east of Erskine Hall, was constructed to emphasize the important role that AMS played as the primary mapping agency for the US Army. The globe memorial, installed adjacent to the flagpole in 1969, is considered part of the contributing flagpole installation.

Other historic properties located in the vicinity of the project include the National Register-listed Clara Barton Parkway, a component of the NPS's George Washington Memorial Parkway; and portions of the USACE, Baltimore District's, National Historic Landmark, the Washington Aqueduct.

4.10 HAZARDOUS MATERIAL

An Environmental Baseline Survey (EBS) was conducted in December 2004 and updated in November 2008 to assess the environmental conditions at the Sumner Site. The EBS reviewed the site for hazardous substances including asbestos, polychlorinated biphenyls (PCBs), radon, and lead-based paint (LBP), as well identifying underground storage tanks (USTs) and aboveground storage tanks (ASTs). The findings are summarized below.

4.10.1 Asbestos

The EBS indicated that at the time of the report, NGA personnel estimated that approximately 99 percent of all friable asbestos at the Sumner Site had been removed. Asbestos may be present in portions of some buildings in the form of 9 by 9 inch vinyl asbestos floor tiles under carpets and in storage/service areas. Erskine Hall has been identified as a facility that contains these tiles. No asbestos is present in Abert Hall, Emory Hall, Roberdeau Hall, or Maury Hall.

4.10.2 Radon, PCBs and LBP

There are no known PCBs in any of the facilities at the Sumner Site. Based upon sampling within the general vicinity of the area, radon may be present at the Sumner Site. No radon sampling has been conducted at the site, but given the quality of construction at the Sumner Site

and interviews with site personnel, no radon is thought to be present indoors. LBP has been identified on handrails of the stairwell at Erskine Hall.

4.10.3 Storage Tanks

A total of five ASTs were installed at the Sumner Site to contain fuel oil. Two of the tanks have been removed. Three of the tanks remain in use and are regularly inspected. These tanks are: one 250-gallon tank at Erskine Hall, one 250-gallon tank at Roberdeau Hall, and one 275-gallon tank at Abert Hall. No leaks from any of these tanks have been found.

Historically, a total of eleven USTs were installed at the Sumner Site. Four of the tanks were abandoned in place and three were removed. Four active USTs remain at the Sumner Site and are used for holding fuel oil. The four tanks are: two 48,000-gallon USTs at Erskine Hall, one 285-gallon UST at Maury Hall, and one 550-gallon UST at Maury Hall.

In the late 1980's a contractor hit a fuel line leading to one of the abandoned in-place USTs at Erskine Hall. Oil from the line contaminated groundwater within the area, but was cleaned up in the mid 1990s. The MDE determined the site to be clean and closed it out in 1997.

4.11 TRAFFIC

A traffic impact study was conducted in December 2010 (Black & Veatch, 2010) to assess the existing and proposed conditions at the Sumner Site. The Sumner Site is located at 4600 Sangamore Road, south of Overlea Road and north of Brookes Lane in Bethesda, Maryland. The entrance to the Sumner Site is aligned with Sentinel Drive making a four legged, all-way stop intersection with Sangamore Road. The existing site entrance forms a four legged intersection with Sangamore Road and Sentinel Drive. The site entrance is a two lane access road which has a tight 90 degree curve to the north once on the site, which passes motorists through an ID check area and an always deployed denial barrier (See Figure 4-5). If the credentials of the motorist are approved, the active vehicle barrier is then lowered to allow them access to the employee parking lot. Sangamore Road is a two lane collector street with a posted speed limit of 35 miles per hour (mph). Sentinel Drive is two lane local access street with a speed limit of 30 mph. Parallel on-street parking is allowed along Sentinel Drive in this area as well as Sangamore Road on the east side of the street just south of the intersection. A bus/shuttle stop is located on the west side of Sangamore Road several hundred feet south of the intersection.

Traffic volume varies considerably during the course of a 24-hour day, usually with the periods of maximum volume occurring during the morning and evening "rush" hours. These highest hourly volumes are referred to as peak hours and are used for design and operational analysis. The peak hour factor (PHF) is a relationship between hourly volume and the maximum rate of flow within the hour. Higher values of the PHF mean the volume of traffic is fairly consistent throughout the peak hour, while lower values signify a greater degree of variation in the flow during the hour. Typical PHF values range from 0.75 to 0.95. PHFs for each leg of the intersection are shown in Table 4-6 for the morning and afternoon peak hours.

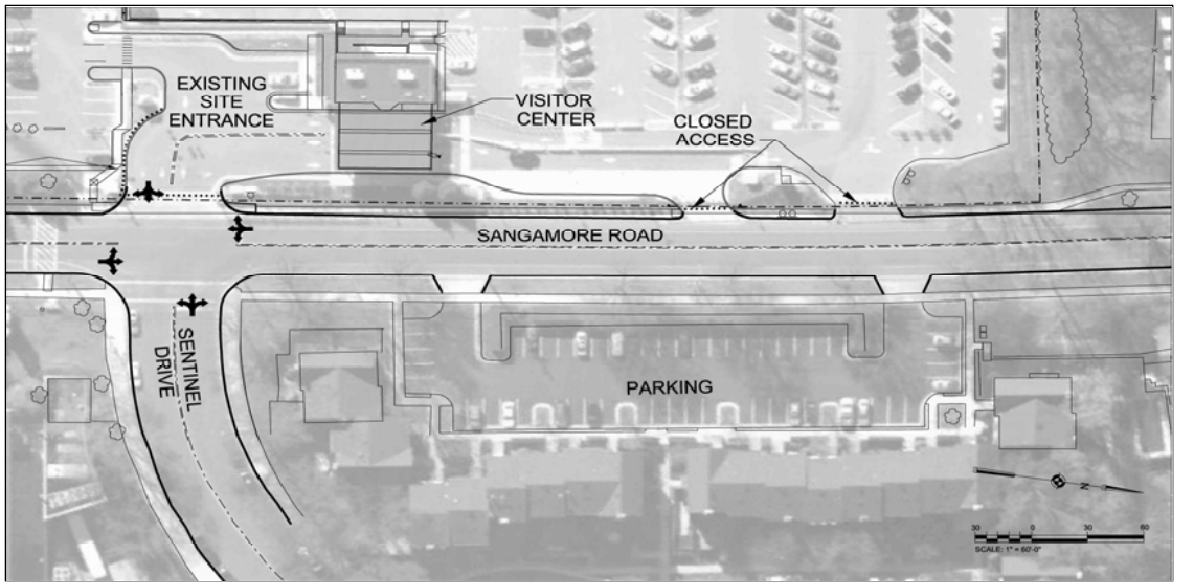

Figure 4-5: Existing Traffic Conditions

Table 4-6: Detailed Summary of Manual Traffic Count Data (Existing Conditions)

	AM PEAK HOUR					PM PEAK HOUR				
Intersection Leg	Peak Hour	LOS	PK HR Volume	PK HR Factor	% Heavy Trucks	Peak Hour	LOS	PK HR Volume	PK HR Factor	% Heavy Trucks
Sangamore Road NB	7:30 – 8:30	B	320	0.87	0%	4:30 – 5:30	C	267	0.92	0%
Sangamore Road SB	7:30 – 8:30	C	482	0.87	2%	4:30 – 5:30	C	303	0.88	2%
Sentinel Drive WB	7:30 – 8:30	B	115	0.72	0%	4:30 – 5:30	C	257	0.90	0%
Site Entrance EB	7:30 – 8:30	A	21	0.58	0%	4:30 – 5:30	C	268	0.81	0%

Intersection level of service (LOS) refers to the adequacy or the ability of the intersections in the study area to accommodate the peak hour traffic volumes. Motorists making movements through unsignalized intersections are required to wait for gaps in the opposing traffic stream, and the LOS is a measurement of that delay experienced. The Highway Capacity Manual (HCM) by the Transportation Research Board dated 2000, defines six levels of service which are shown in Table 4-7.

Table 4-7: Level of Service (LOS) Defined for Intersections

LOS	Delay per vehicle (seconds)		Expected delay
	Signalized	Unsignalized	
A	0-10	0-10	Little or no delay
B	10-20	10-15	Short traffic delays
C	20-35	15-25	Average traffic delays
D	35-55	25-35	Long traffic delays
E	55-80	35-50	Very long traffic delays
F	greater than 80	greater than 50	Congestion

All of the data collected and existing geometry was input into McTrans Highway Capacity Software (version HCS+T7F) (2010). The results indicate that the existing intersection operates very well as indicated by LOS A through LOS C for each of the approaches (Table 4-6). For communities with populations over 25,000, the Traffic Engineering Handbook by the Institute of Transportation Engineers (ITE), (1999), states the acceptable LOS is LOS D. In addition, traffic volumes associated with LOS D and LOS E are tolerated in these dense urban areas, especially for side streets movements (i.e. left turns out of an access drive from a facility).

Currently the number of lanes (inbound and outbound) approaching the site are one in each direction and at the second ID check area under the canopy the number of inbound lanes become two. The existing peak hour of traffic entering the facility is 522 vehicles during the time period 0545 – 0645. Note that the morning peak period of traffic entering the facility does not coincide with the peak hour of the intersection, which is from 0730 – 0830. This is a desirable situation because the majority of site generated traffic enters the facility prior to the peak hour of traffic for the surrounding roadways. In addition to the automated counts at the gate itself, manual counts of the number of cars in queue waiting to be processed through the gate were also noted. There were 6 vehicles in queue at the end of the peak hour of inbound traffic.

Based mainly on 24-hour traffic data collected, the existing intersection was further analyzed in a Traffic Signal Warrant Analysis. This analysis was performed to determine if a traffic signal is a viable option for traffic control at this intersection. The existing all-way stop intersection performs very well due to a fairly even distribution of traffic by approach to the intersection during the peak periods of traffic. Therefore, the installation of a traffic signal based on the existing traffic volumes is not justified for this intersection.

4.12 UTILITIES (WATER, SEWER, ELECTRIC, GAS)

4.12.1 Water Systems

The majority of the water systems throughout the Sumner Site were built between the 1940s and 1960s. Water is provided by the Washington Aqueduct Reservoir and the Washington Suburban Sanitary Commission (WSSC). Various service lines enter the site from different locations. (USACE, 2011a).

Currently there are multiple exterior fire hydrants on the campus. The ICC-B campus is located in the Chevy Chase District of Montgomery County, which provides emergency response services to the site.

4.12.2 Sanitary Sewer

Portions of the Sumner Site sanitary sewer collection system were constructed in the early- to mid-1900s. Many system expansions and upgrades have occurred since they were initially installed. The current sanitary sewer system consists of mostly vitrified clay (VC) pipe that conveys the site sewage (by gravity) towards a gravity sewer main. Sanitary sewer services in this neighborhood are provided by the WSSC (USACE, 2011a).

4.12.3 Natural Gas and Fuel

Washington Gas is the provider for the natural gas supply. Also, fuel storage is provided on site to power emergency backup generators if needed (USACE, 2011a).

4.12.4 Electrical/Power Plant

The Sumner Site receives power from Pepco via two 69,000V feeders on site. Two 15,000 kVA transformers step the voltage down to 13.2 kV for high voltage distribution to site buildings (USACE, 2011b).

4.13 NOISE

Noise is traditionally defined as any unwanted sound. Magnitudes of sounds, whether wanted or unwanted, are usually described by sound pressure. The two primary types of sources of sound generate noise: stationary and transient. Sounds produced by these sources can be intermittent or continuous. A stationary source is usually associated with a specific land use or site, such as construction activities or operation of generators. Transient sound sources such as vehicles are sounds that move through the area. The loudness of sound as heard by the human ear is measured on the A-weighted decibel (dBA) scale. Examples of common sound levels can be found in Table 4-7. The main source of noise at the Sumner Site and the surrounding area is vehicular traffic. Other sources of noise come from maintenance operations such as lawn mowers, service vehicles, and leaf blowers.

Table 4-7 : Common Noise Levels

Source	Decibel Level	Exposure Concern
Soft Whisper	30	Normal safe levels.
Quiet Office	40	
Average Home	50	
Conversational Speech	65	
Highway Traffic	75	May affect hearing in some individuals depending on sensitivity, exposure length, etc.
Noisy Restaurant	80	
Average Factory	80-90	
Pneumatic Drill	100	
Automobile Horn	120	
Jet Plane	140	Noises at or over 140 dBA may cause pain.
Gunshot Blast	140	

Source: USEPA Pamphlet, "Noise and Your Hearing," 1986.

4.14 AESTHETICS, VIEWSHEDS, AND LIGHTING

The 39-acre Sumner Site consists of a mixture of buildings, parking lots, and landscaped areas. Roughly 27 acres (70 percent) of the 39-acre site are developed with impervious hardscape. All the buildings on the site on have a red-brick façade. For security proposes, several windows have been bricked in or contain interior blocking. Surrounding Sumner is a mixture of woodlands, residential, and commercial development providing a well diverse aesthetic setting.

Due to the Sumner Site's location directly adjacent to Sangamore Road, the amount of impervious hardscape, and the existing building heights, the current Sumner campus is highly visible from residential and commercial land uses directly east, north, and south of Sangamore Road (Figure 4-6).

Figure 4-7 provides a view of the Sumner Site from MacArthur Boulevard. This photograph was taken during the winter with no leaf coverage on the woodland area directly west of the site. Due to the topography and woodlands, visibility from MacArthur Boulevard of the Sumner Site is limited.

Figure 4-8 provides a view of the Sumner Site from the Potomac River overlook located directly off the George Washington Memorial Parkway. The distance between the overlook location and the Sumner Site is roughly two miles. From the overlook, the following features located on the southern face of the Sumner Site are somewhat visible: the smoke stack and Erskine Hall.

Due to topography and heavy woodlands, the Sumner Site is not visible from the Chesapeake & Ohio (C&O) Canal or the Clara Barton Parkway.

Exterior lighting at the Sumner Site is largely associated with the site's large amount of surface parking. Several light poles are used to illuminate the surface parking. Additionally, overhead lighting is also used for the operation of the vehicle checkpoint and Visitor Center located directly adjacent to Sangamore Road. Overhead parking lot lighting and overhead lighting associated with the vehicle checkpoint are depicted in Figure 4-6. Exterior lighting on the buildings is limited.

4.15 SOCIOECONOMICS

The U.S. Census Bureau shows that two census tracts are in the affected project area: 7057.02 and 7058.00 (US Census, 2011). These tracts cover approximately 4.7 square miles (Figure 4-9). In 2000, the population of the two tracts was 10,338. By 2007 the number increased slightly to 10,447. The 2000 demographics showed that Caucasian population was 9,478, African American was 172, Native American was 24, Asian was 482, and Hispanic was 428. Males accounted for 4,935 people and females 5,403. The main occupations include professional technical services, lawyers, physicians, and educational services.

Figure 4-6: View of the Sumner Site from Sangamore Road

Figure 4-7: View of the Sumner Site from MacArthur Boulevard

Figure 4-8: View of the Sumner Site from Potomac River Overlook on the George Washington Memorial Parkway

4.16 ENVIRONMENTAL JUSTICE

In February 1994 President Clinton signed Executive Order (EO) 12898, entitled, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations." This EO directs Federal agencies "to make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of programs, policies, and activities on minority populations and low income populations in the United States…" The purpose of this order is to avoid the disproportionate placement of adverse environmental economic, social, or health impacts from Federal actions and policies on minority and low-income populations. In order to prevent the potential for discrimination and disproportionately high and adverse effects on specific populations, a process must identify minority and low-income populations that might be affected by the implementation of a proposed action or alternatives.

As defined by the "Environmental Justice Guidance Under NEPA" (CEQ, 1997), "minority populations" includes persons who identify themselves as Asian or Pacific Islander, Native American or Alaskan Native, black (not of Hispanic origin), or Hispanic. Race refers to Census respondents' self-identification of racial background. Hispanic origin refers to ethnicity and language, not race, and may include persons whose heritage is Puerto Rican, Cuban, Mexican, Central or South American.

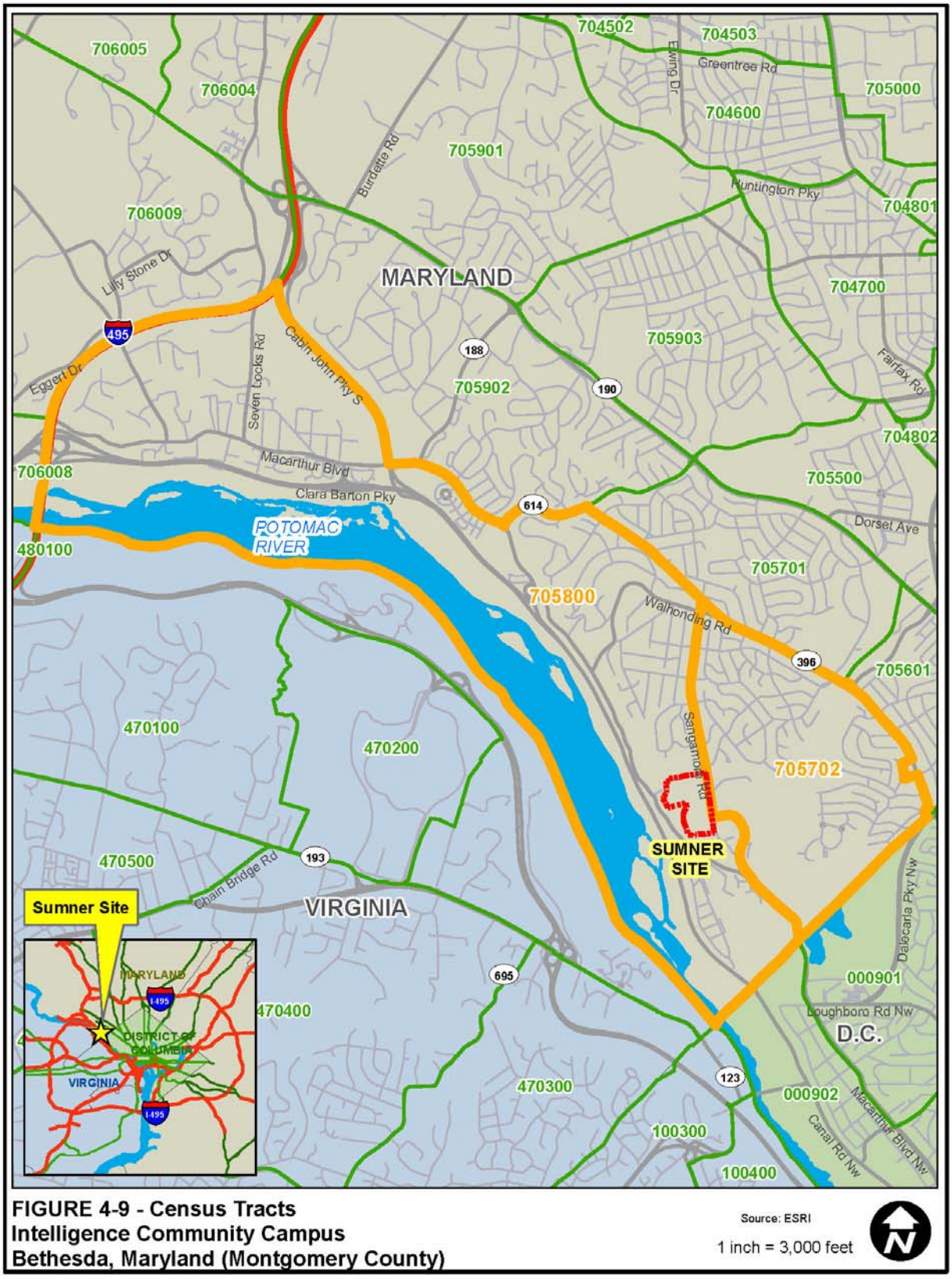

Figure 4-9: Census Tract Map (Tracts 7057.02 and 7058.00)

A minority population exists where the percentage of minorities in an affected area either exceeds 50 percent or is meaningfully greater than in the general population. Low-income populations are identified using the Census Bureau's statistical poverty threshold, which is based on income and family size. The Census Bureau defines a "poverty area" as a census tract with 20 percent or more of its residents below the poverty threshold and an "extreme poverty area" as one with 40 percent or more below the poverty level.

As of the census of 2000 (US Census, 2011), the population of the two affected census tracts was 10,338. The racial makeup of was 91.7 percent White, 1.7 percent African American, 0.2 percent Native American, 4.7 percent Asian, and 4.1 percent Hispanic. In 2000, the median income for a household was $118,631, and the median income for a family was $142,360. The per capita income was $61,509. Approximately 1.9 percent of the population was below the poverty level in census tract 7058.00 and approximately 1.5 percent of the population was below the poverty level in census tract 7057.02.

4.17 CHILD HEALTH AND SAFETY

Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks, requires Federal agencies to (1) make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children and (2) ensure that its policies, programs, activities and standards address disproportionate risks to children that result from environmental health risks and safety risks.

There are no children located at the Sumner Site. However, the Washington Waldorf School is located directly north and residential areas mostly surround the site. Children would be expected at these neighboring locations. As of 2007, the two affected census tracts had 579 of children under the age of 5, and another 2,001 young people between the ages of 5 and 17 (US Census, 2011).

5 ENVIRONMENTAL CONSEQUENCES

This section of the EA identifies and evaluates the anticipated environmental consequences or impacts associated with the Proposed Action and the No-Action alternative. The terms "impact" and "effect" are used interchangeably in this section. Impacts may be discussed as positive, negative, significant, or minor as appropriate to the resource area. Positive impacts occur when an action results in a beneficial change to the resource. Negative impacts result when an action results in a detrimental change to the resource. Significant impacts occur when an action substantially changes or affects the resource. A minor impact occurs when an action causes impact, but the resource is not substantially changed. Impacts are also discussed as short- and long-term impacts, and are not associated with rigid time frames but relative time frames as the direct result of the action. This section is organized by resource area following the same sequence as in the preceding Section 4.0. However, this section is concluded with discussions on cumulative impacts, irretrievable commitment of resources, and summary of environmental consequences.

5.1 LAND USE

Proposed Action

The proposed land use of the project area would be consistent with the overall land use of the Sumner Site. The Proposed Action will not change current land use and zoning. The Proposed Action is consistence with the National Capital Planning Commission's (NCPC) Comprehensive Plan for the National Capital with regards to policies for locating federal workplaces. These policies encourage the reuse of existing facilities and resources. Specifically, the Comprehensive Plan states that the federal government should consider the modernization, repair, and rehabilitation of existing federally owned facilities for federal workspaces before developing new facilities. The modernization and reuse of the Sumner Site is consistent with this policy.

Additionally, the Proposed Action is consistence with NCPC's Comprehensive Plan for the National Capital with regards to policies on parks and open space that requires the management of lands along the Potomac River in a manner that encourages the enjoyment and recreational use of the water resources, while protecting the scenic and ecological value of the waterway; and ensuring that development does not intrude through the ridge and tree lines on natural terrain.

No-Action Alternative

Under the No-Action alternative there would be no change to the existing land use. Existing structures and landscaping would remain.

5.2 AIR QUALITY

Proposed Action

It is anticipated that implementing the Proposed Action would have short-term and possible long-term minor adverse impacts on local air quality. The primary impact would result from direct emissions related to the generation of dust and equipment emissions at and around the project area during construction activities. Generation of fugitive dust would be minimized through the use of appropriate dust control measures (i.e., wetting the surfaces and through the

planting of disturbed areas as soon as possible). In addition, indirect vehicle emissions would be expected during construction as construction workers commute to and from the site. Minor long-term impacts adverse to local air quality could result from the installation and use of back-up generators and the commuting of workers to the site. These long-term impacts would not be expected to be significantly more than the emissions currently produced at the site from the existing workforce and the existing boilers and generators.

Air emissions were calculated for construction activities as required under the CAA General Conformity provisions (Appendix C). The conformity requirements were evaluated for the pollutants that are in nonattainment ($PM_{2.5}$ and NO_x).

Typically, annual emissions are calculated and compared with the *de minimus* thresholds to determine whether the annual emissions from direct and indirect sources for each pollutant exceed the *de minimus* thresholds. Estimated annual emissions did not exceed the threshold limits. Table 5-1 shows the summary of projected annual direct and indirect emissions for the Proposed Action based upon an expected construction period of 60 months over a six year period (all figures have been rounded to the nearest 0.01). The direct emissions calculated reflect the estimated equipment use and emissions during the construction period. Indirect emissions during this construction period reflect estimated commuting traffic and vehicle emissions for the construction workers over the 60 month construction period. The highest direct sources for $PM_{2.5}$ and NO_x for the Proposed Action occur in the second year of construction and result in a predicted annual release of 4.66 tons of $PM_{2.5}$ and 72.15 tons of NO_x. Emissions of VOCs were insignificant compared to NO_x and were not reported in the emission summary. The *de minimis* level for VOCs for a moderate nonattainment area inside an OTR is 50 tpy. Adding in the indirect emissions from those calculated above, the highest predicted annual emission for $PM_{2.5}$ (4.66 tpy + 0.01 tpy) is 4.67 tpy. The highest estimated annual emission for NO_x (72.15 tpy + 0.70 tpy) is 72.85 tpy.

Table 5-1 : Summary of Estimated Construction Emissions

Construction period	**$PM_{2.5}$**				**NO_x**			
60 months	**Direct**		**Indirect**		**Direct**		**Indirect**	
First Year- partial	2.53	tpy	0.01	tpy	38.03	tpy	0.46	tpy
Second Year	4.66	tpy	0.01	tpy	72.15	tpy	0.70	tpy
Third Year	2.10	tpy	0.01	tpy	32.15	tpy	0.70	tpy
Fourth Year	1.63	tpy	0.01	tpy	25.39	tpy	0.70	tpy
Fifth Year	0.85	tpy	0.01	tpy	13.24	tpy	0.70	tpy
Sixth year--partial	0.07	tpy	0.01	tpy	1.521	tpy	0.23	tpy
Estimated total emissions	11.74	tons	0.06	tons	182.47	tons	3.49	tons

After the site is occupied, the estimated annual operating emission for $PM_{2.5}$ (0.15 tpy direct + 0.35 tpy indirect) is 0.47 tpy. The estimated annual operating emission for NO_x (3.67 tpy direct + 20.11 tpy indirect) is 23.78 tpy.

To calculate the annual cumulative emissions, the estimated annual operating emissions and the highest estimated construction emissions (second year) were added. The estimated cumulative annual emission for $PM_{2.5}$ (0.47 tpy + 4.67 tpy) is 5.14 tpy. The estimated cumulative annual emission for NO_x (23.78 tpy + 72.85 tpy) is 96.63 tpy. These numbers represent the worse case as it is not expected that the maximum operating emissions would occur the same year as the estimated construction emissions.

Since the potential to emit for $PM_{2.5}$ and ozone are less than the *de minimis* levels, there is no requirement to do a conformity analysis. The emissions from the Proposed Action would not be regionally significant as they are only a small fraction of the over 30,000 tpy of NO_x and 72,000 tpy of $PM_{2.5}$ produced annually in Montgomery County (USEPA 2002). As a result, a Record of Non-Applicability (RONA) for the Proposed Action is also provided in Appendix C.

As part of the ICC-B Project, emergency engine generators are being planned for providing back-up power to the campus. The emergency engine generators will be installed in two phases. In the first phase, a single 1750 kilowatt (kW) emergency engine generator will be installed within the next four to five years for providing emergency back-up power to the communications equipment and life-safety support equipment. There are two options proposed for the second phase to be executed towards the latter half of this decade: Option 1 would be to install five 2,000 kW emergency engine generators; and Option 2 would be to install or six 1,600 kW emergency generators.

In 2011 an air permit assessment was conducted (USACE, 2011e) for the construction of the proposed emergency generators. The emergency engine generators would be considered as stationary sources of air emissions and would be required to obtain air construction permits from Maryland's ARMA. These permits are required prior to initiation of construction of the emergency engine generators. Since construction permits are valid typically for 18 months, air permit applications would be filed within one year of the scheduled date for the start of construction for the engine generators. Two air permit applications will be needed, one for each construction phase.

The air permitting strategy for the project will need to ensure that the project can be permitted as a minor source. While the ability to obtain an air construction permit as a minor source is dependent on annual emissions from the project, ARMA may request ICC-B to demonstrate compliance with the NAAQS for SO_2 1-hour and NO_2 1-hour limits prior to issuance of the construction permit (for each phase). The emergency engine generators will also require a waiver from the Public Service Commission (PSC). This waiver is also called a Certificate of Public Convenience and Necessity (CPCN) waiver and is available for emergency generators with a capacity that does not exceed 70 MW and which do not export any electricity to the distribution system.

A screening level dispersion modeling analysis was used to project ambient pollutant concentrations against which the applicable NAAQS are compared. The model-predicted air impacts for the two phases and the two options in the second phase are presented in Table 5-2. The air dispersion modeling has indicated that there may be some concern in obtaining

Table 5-2: Stationary Source Model Predicted Impacts

Pollutant	Averaging Period	SCREEN3 Maximum Impact		NAAQS
		All Unit Operating	One Unit Operating	
Phase 1: one 1,750 kW emergency generator				
PM2.5	24-hour	32.97	--	35
	Annual	0.04	--	15
NO2	1-hour	2637.91	--	188
	Annual	1.25	--	100
SO2	1-hour	3.04	--	196
Phase 2: Option 1 five 2,000kW emergency generators				
PM2.5	24-hour	188.42	37.68	35
	Annual	0.22	0.04	15
NO2	1-hour	15073.78	3,014.76	188
	Annual	7.16	1.43	100
SO2	1-hour	17.38	3.48	196
Phase 2: Option 2 six 1,600 kW emergency generators				
PM2.5	24-hour	180.89	36.18	35
	Annual	0.21	0.04	15
NO2	1-hour	14,470.83	2894.17	188
	Annual	6.87	1.37	100
SO2	1-hour	16.68	3.34	196

compliance with the NO_2 1-hour NAAQS. The screening level analysis also results in some concern for compliance with the $PM_{2.5}$ 24-hour NAAQS.

The NO_2 1-hour maximum model-predicted impact exceeds the NAAQS for all three options even without the addition of the background concentration. Also, for both options of Phase 2, a permit restriction may be required that would limit the generators from not operating at the same hour. Discussions with the permitting agency would be necessary to discuss any issues with the NAAQS prior to obtaining a permit for this Project.

Minor long-term impacts to air quality could result from the installation and use of back-up generators if the NAAQS thresholds cannot be met. However, during the permitting process restrictions could be imposed upon testing of the generators to ensure compliance and minimize any potential air quality impacts.

No-Action Alternative

Implementation of this alternative would be expected to have a minor short-term and long-term beneficial impact to the air quality conditions in the project area. It is anticipated that while the site remains unoccupied, that minimal maintenance would still be conducted at the site to keep

the facility in operational condition. Therefore, the existing boilers and generators would still be used, albeit to a somewhat lesser extent than required during full occupancy of the buildings. There would also a minor local benefit from the reduction of indirect emissions associated with employees traveling to the site. On a regional basis these indirect emissions effects would insignificant as these same employees would be traveling to an alternate workplace.

5.3 SOILS AND GEOLOGY

Proposed Action

Short-term and long-term minor adverse impacts to soils, typical of construction projects, would be expected from the Proposed Action. The work includes the disturbance of up to approximately 30 acres of soil. The soils in the proposed project area are previously disturbed soils and would be excavated, mixed, backfilled, and re-graded. The impacts are unavoidable.

The Proposed Action would disturb much of the site and would require a National Pollution Discharge Elimination System (NPDES) permit for stormwater discharges from the construction site. This permit would require the preparation and approval of a Stormwater Pollution Prevention Plan (SWPPP) and an Erosion Control Plan (ECP). The permit and approvals would be obtained prior to the start of construction. Best management practices would be employed to ensure that impacts to soils would be minimized. These would include stabilization of soil stockpiles, and the seeding and stabilization of finished areas quickly.

No impacts to geology of the site would be anticipated from the work.

No-Action Alternative

Under the No-Action Alternative there would be no change to the currently existing conditions and soils and geology would remain unchanged. Long-term minor adverse impacts to soils in the existing ephemeral channel along the northern boundary would continue as the channel erodes from the stormwater flows from the Sumner Site.

5.4 TOPOGRAPHY AND DRAINAGE

Proposed Action

The Proposed Action would include performing earthmoving activities. The result of these actions would be a change in both topography and drainage at the Sumner Site. Short-term and long-term impacts would be expected from the altering of the terrain and drainage.

Short-term impacts to the drainage would result from the temporary collection of stormwater to meet approved erosion control practices during construction, and the stockpiling of soils during construction. These impacts would cease with the end of construction activities. A NPDES permit for stormwater discharges from the construction site would be required for this work. This permit would include the preparation and approval of a SWPPP and an ECP. These permits and approvals would be obtained prior to the start of construction.

Long-term changes in topography as a result of the Proposed Action would be minor given the previously developed nature of the site. The proposed development will utilize the existing site

grading while removing some of the impervious areas. The site topography would remain largely unchanged except for the addition of the parking garage which will include features to significantly reduce runoff associated with the existing surface parking area. Grading would improve drainage in and around the site, and LID would be employed to enhance drainage and stormwater runoff treatment, resulting in long-term benefits to the drainage of the area. The placement of the parking garage structure would have long-term impacts on steep slopes located on the western section of the site; however, due to current DoD Anti-Terrorism and Force Protection requirements (UFC 4-010-01: DoD Minimum Antiterrorism Standards for Buildings) the parking garage cannot be located closer to the occupied buildings on the Sumner Site. The current parking lots associated with the Sumner Site are in violation of UFC 4-010-01 due to their proximity to the occupied buildings.

No-Action Alternative

The No-Action Alternative would not alter the existing topographic and drainage conditions at the Sumner Site. There would be no impacts to topography. However, the existing drainage conditions would continue to cause erosion in an off-site channel, resulting in long-term minor adverse impacts.

5.5 STORMWATER SYSTEMS

Proposed Action

USACE (2011c) modeled hydrologic conditions of the site for predevelopment conditions, existing conditions, and the proposed site design. As part of this analysis, existing stormwater infrastructure on site was analyzed to determine its suitability for inclusion in any proposed stormwater design. It was determined that portions of the existing systems could be repurposed for the proposed development. Further investigation into specific structures will be required to ensure they are suitable for inclusion in proposed systems.

All storm drainage will be demolished and removed with the exception of structures and piping in good condition which connect to the municipal stormwater system in Sangamore Road near the southeast corner of the site and the stormwater detention structure located behind Maury Hall.

Short-term minor adverse impacts to stormwater could result from the construction activities associated with this project. A SWPPP to account for construction-phase runoff in accordance with NPDES would be required and Best Management Practices (BMPs) would be used to minimize stormwater pollution during construction.

Long-term benefits to stormwater management are expected from the Proposed Action as the design would comply with the latest edition of the Maryland Stormwater Design Manual provided by the Water Management Administration of the MDE. The design will also comply with all requirements for obtaining LEED 2009 for New Construction Silver Certification from the USGBC. Stormwater management will also address requirements of Presidential EO 13508 pertaining to restoration and protection of the Chesapeake Bay region.

The State of Maryland defines redevelopment as any construction, alteration, or improvement performed on sites where the existing land use is commercial, industrial, institutional, or multifamily residential and existing site impervious area exceeds 40 percent. The site area to be within the limits of the project is 30 acres and is currently approximately 67 percent impervious (19.6 acres). This will qualify the project as redevelopment for the purposes of stormwater management. As such the stormwater management must meet the following criteria: reduce existing impervious area within the limit of disturbance (LOD) by at least 50 percent or implement Maryland ESD practices to provide water quality treatment for at least 50 percent of existing impervious area within the LOD; or use a combination of impervious area reduction and ESD implementation for at least 50 percent of existing impervious areas.

The proposed development will utilize the existing site grading while removing some of the impervious areas. The site topography will be similar to the existing topography except for the addition of the parking garage which will reduce runoff associated with the existing parking area. A map of the proposed drainage areas is included in Figure 5-1. These redeveloped areas are labeled Drainage Areas V, W, X, Y and Z.

Proposed Drainage Area V (formerly Drainage Areas A and B) discharges to the drainage channel north of the site. Drainage Area V consists of the existing utility yard, the proposed Entry Plaza, part of the Centrum, the Access Control Point and the parking garage. Also included are portions of the entry road (slope 3.3 percent - 8 percent) and a grassy landscaped area (slopes 2 percent - 5 percent) which includes two stormwater bioretention basins.

Drainage Area W is separated into two discontinuous drainage areas connected by a stormwater network. Drainage Area W consists of a large landscaped area behind Roberdeau Hall extending to the Visitor Center parking lot. Slopes average between 5 percent and 8 percent and there are two proposed bioretention basins. Drainage Area W also includes portions of the entrance road (3.3 percent to 8 percent slopes), the Visitor Center parking lot (2 percent slope) and the road to the lower level of the garage (5 percent slope). Adjacent to the east entrance of the parking garage, Drainage Area W includes a steeply sloped, grassy hillside with a slope of approximately 33 percent and a bioretention basin. Rooftop drainage includes portions of Roberdeau Hall and the Centrum. Stormwater is collected through a network of inlets, pipes and bioretention basins and discharged to the channel behind Maury Hall downstream of the structure for existing Drainage Area F.

Proposed Drainage Area X is very similar to existing Drainage Area F and discharges to the same location. Drainage Area X consists of Maury Hall, the alley between Maury Hall and the Utility Yard and the access road west of Maury Hall. The access road west of Maury Hall is relatively flat but has one steep section (10 percent slope) behind Maury Hall. Stormwater is proposed to be collected in a network of inlets, discharged to the existing stormwater management structure west of Maury Hall and released to the existing channel west of Maury Hall.

Proposed Drainage Area Y is similar to a portion of existing Drainage Area C and discharges to the same location. Drainage Area Y consists of the mechanical equipment and associated buildings behind Erskine Hall, the New Infill Building and portions of the Centrum.

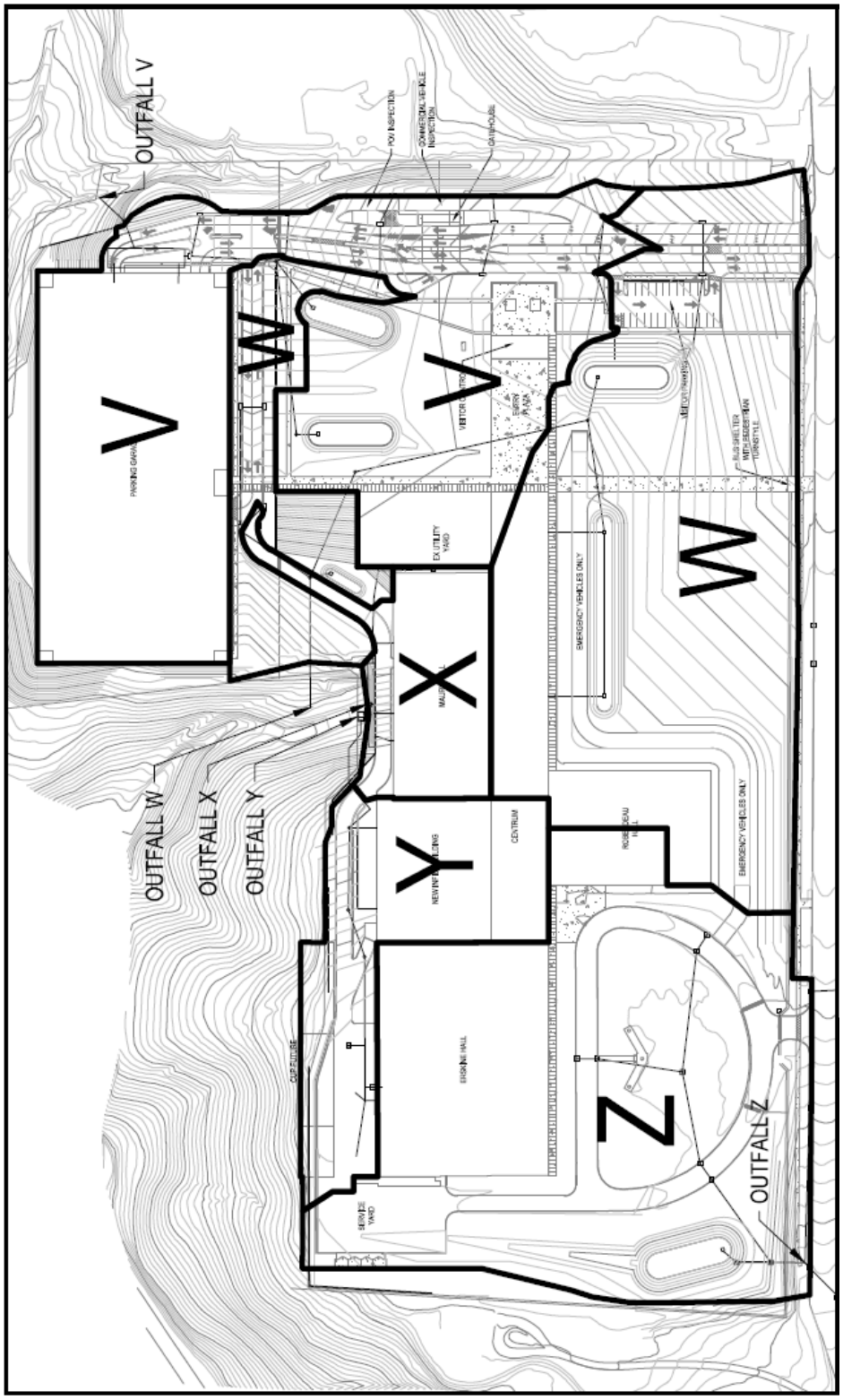

Figure 5-1: **Proposed Stormwater Management**

Also included is the access road west of Erskine Hall and the New Infill Building. The asphalt access road adjacent to Erskine Hall is relatively level (1 percent to 2 percent slopes) but behind the New Infill Building the access road has an 8 percent slope. Stormwater will be collected through the existing stormwater network and discharged directly to the channel west of Maury Hall.

Proposed Drainage Area Z is similar to the combination of existing Drainage Areas D and E. Drainage Area Z discharges to the existing municipal system at the southeast corner of the site. Drainage Area Z consists of Erskine Hall and portions of Roberdeau Hall, the sidewalk between the two buildings, the service yard southwest of Erskine Hall and the existing semicircular landscaped area east of Erskine Hall. The service yard and roads have slopes between 1 percent and 2 percent. Stormwater is collected through portions of the existing network and new inlets. A bioretention basin is proposed for this area from which the stormwater will discharge to the existing municipal system.

Stormwater is proposed to be collected through a network of pipes and conveyed to bioretention and an underground detention vault north of the proposed parking garage. Proposed Drainage Areas W, X, and Y discharge to the channel behind Maury Hall.

The proposed site layout will reduce the overall impervious area from 67 percent (19.6 acres) to 37.7 percent (9.6 acres) for a total reduction of impervious area of approximately 49 percent. At a minimum, runoff will have to be collected from an area equivalent to an additional 1 percent of the existing impervious area and treated for water quality.

Site grading will be done in such a way as to provide positive drainage away from the buildings and all roadways and parking areas. The design will ensure grading and associated stormwater runoff do not adversely affect surrounding sites. The ESD stormwater management treatment strategy will utilize alternative surfaces (porous pavement), non-structural practices, and microscale practices:

Alternative Surfaces - The emergency vehicle access road that provides access to the front side to the building will be built using a permeable pavement system with a perforated underdrain to allow for overflow into the stormwater sewer network. This practice will account for approximately 0.4 acres of impervious area, which is 2 percent of the existing impervious area.

Non-structural Practices - Roof drains from the southern and eastern sides of the building will daylight to the surface with splash blocks. The grade adjacent to the building will be sloped to route water towards nearby stormwater quality BMPs. This practice will account for approximately 2 acres of impervious area, which is 10 percent of the existing impervious area.

Microscale Practices - A portion of the new rooftop runoff will be harvested for use within the building mechanical systems to divert the first flush, filter, store, and treat the stormwater runoff as necessary for use. This practice will account for approximately 1 acre of impervious area, which is 5 percent of the existing impervious area.

Stormwater runoff from the loading docks, entry road, access control point and walkways will be collected and routed to bioretention filters. This practice will account for approximately 2 acres of impervious area, which is 10 percent of the existing impervious area.

Landscape infiltration will be incorporated into other practices as described above. This practice will account for approximately 3.4 acres of impervious area, which is 17 percent of the existing impervious area.

Other Stormwater Management - Stormwater runoff from the parking structure will be collected and routed to a detention structure at the north end of the structure. The detention facility will outfall into the existing ephemeral stream that follows the north boundary of the site. The existing stream has been badly eroded and will require restoration of the banks along the length that is currently receiving parking lot runoff from the site.

An assessment of existing downstream stream channel conditions was performed to ensure adequate channels are available for the proposed development. Downstream structures include the channel north of the site, the channel west of Maury Hall and the municipal stormwater drainage system adjacent to Brookes Lane.

Long-term benefits to stormwater management are expected as a result of this project. The stormwater runoff characteristics as well as existing collection and conveyance system(s) will be altered significantly with the final ICC-B site layout. Although the overall impervious area and the resulting peak runoff are expected to decrease from existing conditions, a comprehensive stormwater management plan will be developed in order to reestablish the predevelopment hydrology of the site with regard to rate, volume, duration, and temperature of runoff flow. The stormwater management plan will incorporate LID and construction techniques and will include a SWPPP to account for construction-phase runoff in accordance with the NPDES. These actions should provide long-term benefits to stormwater management at the Sumner Site. The stormwater management plan will follow MDE guideline and will ultimately require MDE approval.

Proposed Drainage Area Z will discharge to the existing municipal stormwater system adjacent to Brookes Lane. The point of discharge will be where the existing site stormwater system is connected. Peak runoff from proposed Drainage Area Z will not exceed the capacity of the existing site connection in order to reduce any impacts to the municipal system.

The channel west of Maury Hall and the channel on the north side of the site were modeled to assess the downstream capacity of both channels. The channel west of Maury Hall starts behind an existing stormwater structure at an elevation of 196 feet. For the first 100 feet the channel averages 18 feet wide and has a slope of around 5 percent. The channel is lined with gravel and bordered with larger rocks. Past the initial 100 feet, the channel narrows to between four and eight feet and the slope increases to 14 percent. The channel is in good condition and exhibits little sign of erosion. The channel is capable of handling at least 300 cubic feet of water per second. The channel is adequate for conveying large volumes of water and will be more than adequate for the proposed development.

The channel on the north side of the site begins approximately 175 feet west of Sangamore Road and parallels the property line for approximately 670 feet to the discharge point of existing Drainage Area B. Between the beginning of the channel and this point, the channel is overgrown and filled with debris. Near the discharge point for Drainage Area B, the channel becomes very deep and eroded. From this point, the channel travels down an 11-percent slope for approximately 170 feet to an intersection with another channel. The capacity of the channel is at least 140 cubic feet of water per second. This channel has experienced erosion from high volumes of runoff which will need to be addressed during site design. A more detailed study of the channel will be completed during the design development phase. The study will include an erosion and sedimentation assessment of the current condition of the channel and propose options for improving the condition to a natural state that can adequately handle proposed runoff without damaging downstream channels.

No-Action Alternative

Under the No-Action alternative there would be no change to the existing stormwater drainage and collection systems. The site area within the limits of the project is 30 acres and is currently approximately 70 percent impervious. The existing stormwater flows have caused severe erosion and a deeply incised streambed in the drainage channel located along the north boundary of the site. This erosion would continue under the No-Action alternative, resulting in long-term minor adverse impacts.

5.6 SURFACE WATER AND GROUNDWATER RESOURCES

Proposed Action

There are no permanent streams onsite. Any sediment runoff from the site during construction could have short-term minor impacts to offsite water quality. These impacts would be minimized through BMP for erosion and sediment control as described in Sections 5.3 and 5.5 above. No long-term impacts to water quality would be expected from this work due to the implementation f a SWMP.

The channel west of Maury Hall is in good condition and exhibits little sign of erosion. The proposed action would have no impact in this ephemeral stream.

The ephemeral channel on the north side of the site has experienced erosion from high volumes of runoff which will need to be addressed during site design to include options for improving the condition to a natural state that can adequately handle proposed runoff without damaging downstream channels. Short-term impacts to surface water could result from the work to stabilize the eroded ephemeral stream. BMPs would be used to reduce these impacts, including but not limited to, erosion control fencing, riprap, and diverting water from entering the site during construction. Long-term benefits would result from stabilizing the channel and reducing erosive flows in the channel.

No impacts to groundwater are anticipated from the proposed work. However, the possibility of groundwater level fluctuations should be considered when developing the design and construction plans for the project. Interbedded bedrock formations will be exposed within the cut slopes at the parking garage excavation. Additional drainage measures may be required to

intercept and divert groundwater flow from the slope. The extent and location of the collection drains should be established in the field during construction.

No-Action Alternative

Implementation of this alternative would not impact the current groundwater conditions in the project area. The current stormwater collection and outfall into a highly eroded ephemeral channel along the northern boundary of the site would continue, resulting in continued flashy, erosive flows and increased turbidity in any water that could be present in the channel. These impacts would be long-term and minor.

5.7 VEGETATION

Proposed Action

Short-term minor impacts to vegetation, including removal or injury, would be expected from the Proposed Action. The Proposed Action includes the clearing of approximately 3 acres of mainly lawn vegetation. Less than 2 acres of wooded land would be impacted along the western portion of the site for the construction of the proposed parking garage structure. The proposed location of the parking garage conforms to the current DoD Anti-Terrorism and Force Projection requirements (UFC 4-010-01: DoD Minimum Antiterrorism Standards for Building). As a result, the parking garage cannot be located closer to the occupied buildings on the Sumner Site. The current parking lots associated with the Sumner Site are in violation of UFC 4-010-01 due to their proximity to the occupied buildings.

Tree protection areas in the vicinity of proposed excavation and proposed stock pile areas would be established to preserve those locations and prevent injury. Disturbed areas would be temporarily seeded following construction, and permanently seeded when growth is more likely to establish itself.

The Maryland Forest Conservation Act (FCA) requires identifying and protecting forests as part of the development process. The primary areas targeted for protection include forests adjacent to streams or wetlands, located on steep slopes, or within or adjacent to forest blocks or wildlife corridors. Because the project area exceeds 40,000 SF, it is subject to the FCA and a Forest Conservation Plan may be required. The Forest Conservation Plan would include a map and narrative that describes how existing forested and sensitive areas will be protected, if afforestation would be required, and how any replanted trees would be protected.

Long-term minor benefits would result from the creation of approximately six acres of green space consisting mainly of lawn and lightly wooded landscape planted with native vegetation. In addition, the planting of native trees along Sangamore Road would provide a visual screen to the site as well as wildlife habitat.

No-Action Alternative

The No-Action Alternative would not include any construction activities and would not be expected to have an impact on vegetation.

5.8 WILDLIFE RESOURCES

Proposed Action

Short-term, minor, adverse impacts to wildlife in the project area would be expected from this project. These impacts would be mainly in the form of noise and removal of vegetation which would disturb wildlife during the construction phase. Implementation of the Proposed Action would not affect wildlife in the area by displacement or loss because the project area contains minimal wildlife habitat and is of relatively low quality compared to the adjacent woods.

Long-term, minor benefits to wildlife could result once construction is complete and the site has been stabilized. The final redeveloped site is anticipated to create additional green space and provide for a planting of native trees along Sangamore Road that would encourage local wildlife use.

No-Action Alternative

The No-Action Alternative would not impact local urban wildlife species near the project area.

5.9 CULTURAL RESOURCES

There are architectural historic properties located within the project area that are eligible for listing on the NRHP. There are additional historic properties in the vicinity of the project area. In compliance with Section 106 of the National Historic Preservation Act (NHPA), the effects of the proposed project on all historic properties must be considered. Based upon existing information and data regarding cultural resources (archeological, architectural, viewsheds, and landscapes) on and adjacent to the Project area, potential impacts and possible mitigation for anticipated adverse effects to historic properties are discussed below.

Proposed Action

The Baltimore District has consulted with the Maryland State Historic Preservation Office (Maryland SHPO); the NPS; the National Capitol Planning Commission (NCPC); and Montgomery County, Maryland under Section 106 of the NHPA. The Baltimore District has determined that implementation of the ICC-B project will have an adverse effect upon Erskine Hall, a contributing resource to the AMS National Register Historic District. The adverse effect will result from the removal of Erskine Hall's historic façade, thereby diminishing the integrity of the AMS District's design, materials, and workmanship, and resulting in the physical destruction of part of the property that contributes to its significance.

The Baltimore District, in consultation with the Maryland SHPO, has determined that the ICC-B project will have no adverse effect upon NPS's National Register-listed Clara Barton Parkway or the Baltimore District's Washington Aqueduct. Although located in the vicinity of the project area, proposed new construction at the Sumner Site will not introduce any adverse visual effects to these historic properties. The Baltimore District and the Maryland SHPO further agree that the proposed project will have no affect on archaeological resources.

In order to take into account the ICC-B project's adverse effect, the DIA, the Maryland SHPO, the NPS, NCPC, and Montgomery County will enter into a Memorandum of Agreement (MOA).

The MOA will insure that the project is implemented in accordance with certain stipulations that take into account the effect of the undertaking on historic properties. Potential stipulations include: Retention of Erskine Hall (minus façade) and the Flagpole and Globe Memorial; including associated Landscape Plan: Documentation of Erskine Hall Façade; Amendment of the Maryland Inventory of Historic Properties (MIHP) Form for the Army Map Service Historic District to include the information gathered on the façade of Erskine Hall; Public Interpretation.

No-Action Alternative

The No-Action alternative would have a long-term benefit to cultural resources by retaining the historic façade of Erskine Hall.

5.10 HAZARDOUS MATERIAL

Proposed Action

The Proposed Action is not anticipated to result in a facility that would generate additional hazardous wastes or store additional hazardous substances. Existing facilities maintenance requirements include the storage of light bulbs, batteries, fuels, and oils. These practices would continue with the Proposed Action.

Hazardous materials would be used and wastes generated as part of the maintenance and fueling of equipment that is utilized during construction activities. During construction, any waste would be disposed of according to State and Federal regulations. This would be a short-term minor impact.

Asbestos may be present in Erskine Hall in the form of 9 by 9 inch vinyl asbestos floor tiles under carpets and in storage/service areas. Asbestos inspections would be conducted prior to demolition or renovation activities at this building, and regulated asbestos-containing materials would be removed and disposed in an off-post permitted facility in accordance with regulatory and DoD protocol. A minor long-term beneficial impact would result with the permanent removal of asbestos.

In Maryland, all regulated buildings must comply with the National Emission Standards for Hazardous Air Pollutants set by the USEPA. To meet these standards, a certified inspector must inspect the building prior to any demolition or renovation activities. The amount and types of asbestos present must be reported to the USEPA along with any plans to control emissions. If the amount of regulated asbestos-containing material is greater than 260 linear feet, 160 square feet, or 35 cubic feet, then written notification must be submitted at least ten working days before any demolition or renovation is begun. All of the regulated asbestos-containing material must be removed from the building before any activities occur that could potentially damage or disturb the material. All work would be performed by a Maryland state licensed asbestos professional.

No-Action Alternative

The No-Action alternative would not be expected to result in any changes to the existing conditions. The facilities would still require maintenance, though to a lesser degree than with tenants. Existing facilities maintenance requirements include the storage of light bulbs, batteries,

fuels, and oils. Possible long-term minor adverse impacts could result from the presence of asbestos within the floor tiles in sections of Erskine Hall.

5.11 TRAFFIC

Proposed Action

Short-term, minor, adverse impacts to traffic during the construction and renovation of the Sumner Site would involve three primary elements: 1) Traffic Control along Sangamore Road during Construction; 2) On Site Traffic Control during Construction; and 3) On Site Parking during Construction. Additionally, based on the relocation of the Sumner Site's access point along Sangamore Road and the proposed improvements to Sanagemore Road, the Proposed Action could result in long-term benefits to traffic in and around the Sumner Site.

Traffic Control along Sangamore Road during Construction

Traffic control along Sangamore Road during access improvements will conform to the Federal Highway Administration's (FHWA) Manual on Uniform Traffic Control Devices (MUTCD) requirements and is expected to be comprised of a partial lane closure while the west lane is added between Sentinel Drive and the north end of the site. During construction, the west sidewalk and bike lane(s) in this area will be closed, and pedestrian and bicycle traffic will be rerouted to the east sidewalk. However, two-way traffic is expected to be maintained throughout the majority of construction.

On Site Traffic Control during Construction

On site traffic control during construction will conform to FHWA's MUTCD requirements and is expected to be comprised of segregating three primary groups: the initial, existing building occupants, the new and existing building contractors, and the parking garage and entry road contractors. To the greatest extent possible, the existing surface parking will be maintained until the parking garage and entrance road are complete. A portion of this parking is expected to be used by one or both of the contractor groups and the remainder will be used by building occupants. Construction fencing and vehicle barriers will be used to define the construction zones.

On Site Parking during Construction during Construction

Onsite parking (for both building occupants and contractors) during construction will be the primary construction-phase traffic control issue until the parking garage is completed. As noted above, the existing surface parking will be maintained where feasible, and offsite parking and shuttling will be utilized as necessary. However, due to the occupancy phasing, at no point prior to the completion of the parking garage is the combined number of onsite personnel (both building occupants and contractors) expected to exceed the current occupancy and/or available parking.

Operation of the Renovated Sumner Site

Renovations to site access could result in long-term benefits to traffic flow in and around the Sumner Site. The current parking capacity at Sumner accommodates 1,800 spaces. After the improvements, the parking capacity will be increased to approximately 2,200 spaces – an increase of 44 percent. Therefore, since the traffic accessing this increased parking area uses the

site entrance road, the site generated traffic for the proposed condition will increase proportionally at the same rate as the parking capacity (44 percent).

Based upon the traffic analysis conducted in December 2010 by Black & Veatch, et al., (Appendix D) the recommended option relocates the site entrance approximately 350 feet north of the existing intersection and provides for two three legged offset intersections. Figure 5-2 shows the proposed new traffic plan for the site. Stop signs will be eliminated along Sangamore Road in this area, while stop signs will remain for eastbound (EB) traffic exiting the site and westbound (WB) traffic on Sentinel Drive. Sangamore Road between Sentinel Drive and the site entrance will be widened by one lane to create a dedicated left turn lane for southbound (SB) motorists turning onto Sentinel Drive and northbound (NB) motorists turning onto the site entrance road. The high volume of left turning vehicles within a stream of traffic that is not controlled by a stop sign or traffic signal warrants the dedicated left turn lane.

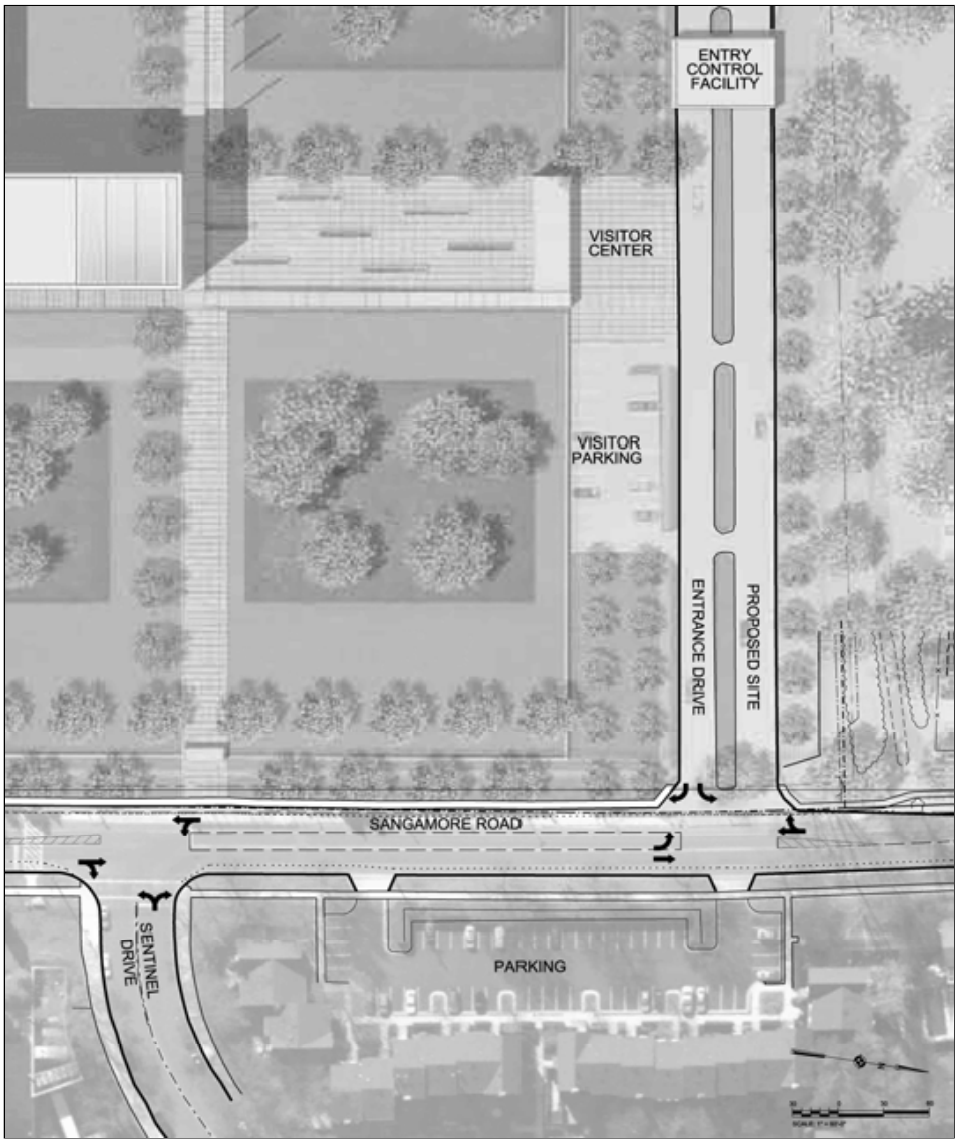

Figure 5-2: Proposed Traffic Plan

This option improves the LOS for motorists on Sangamore Road due to the elimination of stop signs on the street in this area. The Sangamore NB approach improves from a LOS B/C to a LOS A/A and the SB approach improves from a LOS C/C to LOS B/C. The only adverse impact to traffic not associated with the facility is a slight reduction in LOS on Sentinel Drive in the morning from a LOS B to a LOS C. This impact is well within the desirable limits of LOS and no mitigation is required. This reduction of WB LOS is the result of more traffic on Sangamore Road and the fact that Sangamore Road no longer has stop signs, which reduces the available gaps for traffic turning left from Sentinel Drive onto Sangamore Road. The evening peak hour

LOS of Sentinel Drive improves from a LOS C to LOS A. Therefore, the impact to traffic for this option is for site-generated traffic exiting the facility. The morning LOS for the site entrance road is reduced from a LOS A to LOS E. This decrease is felt by only 30 vehicles exiting the site as compared to the 892 other vehicles at the intersection which received a benefit of an increased LOS. The LOS during the evening peak hour for traffic exiting the site was reduced from a LOS C to LOS D. The reason for this decrease of LOS on the site entrance road is primarily due to the fact that Sangamore Road does not have stop signs and motorists exiting the site have to wait longer for available gaps in traffic. Again, the other motorists at this intersection achieved better or the same LOS as compared to the existing conditions at this site.

Additionally, in an effort to further reduce single-occupant vehicles commuting to and from the Sumner Site a Transportation Management Plan (TMP) was prepared by the project proponent. The TMP documents the project proponent's active program to foster more efficient employee commuting patterns. The plan includes specific strategies to encourage change in employee travel modes, trip timing, frequency and length, and travel routes to reduce traffic congestion and improve air quality. Also, the TMP outlines the goals and strategies to meet federal parking ratios as established by the NCPC's Comprehensive Plan. The main purpose of the TMP is provide a document that communicates the project's proponent's commitment to reduce the demand for parking spaces and encourage employees to select alternative commuting modes. Consistent with the goals and objectives that were established in the TMP, Table 5-3 identifies all implementation milestones that were established in the TMP for 2011 and 2013.

No-Action Alternative

The No-Action Alternative would be expected to have a short-term minor beneficial impact the existing traffic, roadways, or transportation systems as no workers would be accessing the site. If the site is not redeveloped and no tenants use this site, peak hour traffic flow along Sangamore Road could see some minor long-term improvements.

5.12 UTILITIES (WATER, SEWER, ELECTRIC, GAS)

Proposed Action

All utility systems and services will be laid out and designed in accordance with applicable codes, UFCs and/or other guidance document(s). Utility mains serving the site are expected to be adequate to serve the future needs of the facility; however, extensive realignment and replacement of service lines is expected, resulting in short-term minor adverse impacts to service during the construction phase. No long-term impacts to utilities are expected.

Table 5-3: TMP Milestones for 2011-2013

Milestone	Description	Responsible Party
DC-1:	Design proposed road and pedestrian improvements along Sangamore Road	Site Design Agent/Owner
DC-2:	Design multiple occupant vehicle and alternative fuel vehicle site amenities	Site Design Agent/Owner
DC-3:	Design bicycle, pedestrian and alternative transport facilities into site and buildings, i.e. lockers, etc.	Site Design Agent/Owner
DC-4:	Design employee amenities on site to reduce off-site vehicle trip needs	Site Design Agent/Owner
OP-1:	Develop Car and Van Pool Operations Guide and Policy to promote usage	Owner
OP-2:	Develop regional ride share program guide for employees	Owner
OP-3:	Establish Tax-Exempt Transit benefit option for employee payroll	Owner
OP-4:	Implement IT based commuting options system for employees	Owner
OP-5:	Establish a Transportation Liaison Officer (TLO)	Owner
OP-6:	Establish a local real estate and relocation directory to promote local home ownership	Owner
OP-7:	Establish employee incentive program to promote carpooling and alternative commuting options	Owner
OP-8:	Implement a no-idling policy for vehicles	Owner
OP-9:	Develop IT message boards and transit information displays for employees and visitors	Owner
OP-10:	Track commuter data and implement schedule adjustments to reduce traffic peaks	Owner

Notes: DC Milestones relate to design and construction features incorporated in the ICC-B site redevelopment plan.
OP Milestones relate to operational practices to be incorporated in long-term site management practices.

Water Systems

Water service is sufficient to the site and only short-term impacts associated with relocation and tapping new lines are expected during construction. A looped water system will be designed in accordance with UFC and AWWA requirements to serve the entire project site, and domestic water and fire protection service lines will be tapped off the looped main. Upon coordination with WSSC and Dalecarlia water providers and ICC-B facilities personnel, it was determined that both the eight inch WSSC supply and the twelve inch Dalecarlia supply are capable of providing domestic service to all existing buildings on site.

Fire hydrants will be laid out as required and tapped from the looped main. The use of storage tanks or booster pumps will be determined based on available volume and pressure provided by the municipal water utility. WSSC states that the minimum fire flow rate for non-residential land uses is 1500 gpm during maximum-day demand conditions between two adjacent hydrants.

Fire protection in excess of 50 gpm may require on site storage and pumping, depending on the determination from the Montgomery County Fire Marshal.

WSSC requires submission of a System Planning Forecast (SPF) to receive information regarding available capacity. This requires 30 to 120 days to obtain design information. This SPF was submitted for the concept phase and design information should be available for the next phase of design.

Coordination with and approval from both water suppliers will be required during the design of the water system. The design of the water systems would ensure that all pipes would allow adequate water supply to the site. No impacts to the supply would result from the proposed project.

Sanitary Sewer

The proposed sanitary system will comply with the regulations and design criteria of the WSSC. The proposed sanitary sewer system will be designed to convey the peak wastewater flow (demand load), which is calculated by estimating the base sanitary flow, average wastewater flow (which accounts for infiltration and inflow) and a peak factor.

The proposed system will have 850 linear feet (LF) of 8-inch PVC gravity pipes, 100 LF of 4-inch PVC gravity pipe, and five manholes. A 150 LF 1-1/4-inch PVC force main and duplex grinder pump will be needed to convey the sanitary flow from the Gatehouse location to the proposed sanitary system. The existing 4-inch PVC force main will need to be rerouted to convey the sanitary flow from Maury Hall to the proposed sanitary system in the underground utility tunnel. Sanitary flow collected from parts of the Centrum, New Infill Building, Erskine Hall, and Maury Hall will be conveyed in an 8-inch PVC pipe in the Underground Utility Tunnel.

The final configuration of systems will be dependent on the final building layout. No long-term impacts are associated with this action.

Natural Gas & Fuel Oil

Existing natural gas service(s) will be maintained (where possible) and new service(s) will be tapped from the gas main located along Sangamore Road (where required). The gas service line(s) will be sized based on available volume and pressure provided by the private gas utility. Short-term minor disruptions to this service could be encountered during construction. No long-term impacts are expected.

The gas service will be upsized as the proposed demand will be double the existing service. The pipe will be placed in the same location as the existing pipe, and the existing pipe will be removed. The meter will also be upsized and placed in the same location as the existing meter. A Gas Load Letter was submitted to Washington Gas to determine available capacity to the site. Design of pipe and meter sizing will be completed by representatives from Washington Gas.

The fuel oil tanks and piping will remain unchanged. The existing capacity is 96,000 gallons of available fuel. The boilers require 87,500 gallons of storage to run for two weeks. With restricted

domestic water heating, only 58,000 gallons of storage would be required for two weeks of usage. Because this is an emergency service, it is not determined that additional capacity will be required.

Electrical

Electrical service to the site is adequate for the proposed facility. The Sumner Site will continue to receive power from Pepco via two 69,000 V feeders on site. The two 15,000 kVA transformers that step the voltage down to 13.2 kV for high voltage distribution to site buildings will also continue to be operated under the proposed ICC-B. New high voltage feeders will be used to power the Centrum and NIB. Routing of the new feeders will be finalized during the design phase of the project although the preferred route would be in a new duct bank installed in the possible new utility tunnel. Short-term minor disruptions to this service could be encountered during construction. No long-term impacts are expected.

No-Action Alternative

Under the No-Action alternative, no construction would occur. Therefore, there would be no disruption or change to the existing utilities to and within the project area. The existing utility systems are adequate for the current facility.

5.13 NOISE

Proposed Action

The Proposed Action would result in minor, short-term, local increases in noise production during the construction period. This noise would result from the use of heavy machinery and equipment for demolition of existing structures, clearing vegetation, grading, paving, and construction of the proposed building. Typical noise levels for vehicles are listed in Table 5-4. The construction crews would be required to comply with all applicable laws regarding noise, including time of day restrictions and maximum decibel levels issued by Montgomery County (Montgomery County 2011):

Table 5-4: Typical Noise Levels of Principal Construction Equipment

Construction Vehicle Type	dBA
Front End Loader	80
Backhoe	72-93
Concrete Truck	85
Roof Saw	76
Crane	75-77
Pick-Up Truck	83-94
Delivery Truck	83-94

Source: USEPA (2011)

(1) A person must not cause or permit noise levels from construction activity that exceed the following levels:

(A) From 7 a.m. to 5 p.m. weekdays:

(i) 75 dBA if the Department has not approved a noise-suppression plan for the activity; or

(ii) 85 dBA if the Department has approved a noise-suppression plan for the activity.

(B) The level specified in Section 31B-5 at all other times.

(2) Construction noise levels must be measured at the location, at least 50 feet from the source, on a receiving property where noise from the source is greatest.

Subsequent operation of the proposed building is not anticipated to result in the production of any significant amounts of noise; visitors and employees may produce noise including human voices, vehicles, and lawn maintenance equipment that is different from the current noise levels produced at the site.

No-Action Alternative

The No-Action Alternative is not anticipated to result in any noise impacts beyond those associated with daily activities at the facility for maintenance such as lawn mowing.

5.14 VISUAL AND AESTHETIC VALUE

Proposed Action

The proposed project would alter the visual and aesthetic environment of the site both in the short-term and long-term. Short-term disruptions to the area's aesthetics would result from the presence of construction traffic and the associated activities of demolition, site clearing, and construction.

Long-term impacts to the visual environment would include the changes in site access, landscaping, demolition, and construction. While not all of the impacts would be considered to be adverse, they all would alter the visual presence of the site. Designs would incorporate features to minimize long-term impacts to views from the NPS property and local neighborhoods. For example, the use of vegetative green screening on the north, west, and south sides of the parking garage has been proposed to camouflage the views from NPS property, the surrounding community, and MacArthur Boulevard. Based on the current concept plan no proposed construction would exceed the height of Erskine Hall. As a result, minor long-term beneficial impacts are anticipated from the view associated with the NPS overlook located off of the George Washington Memorial Parkway. Additionally, the proposed concept plan includes the conversion of roughly nine acres of impervious parking surface to green space and the planting of native trees between the campus fencing and the sidewalk located on the western side of Sangamore Road. These features will improve the view of the facility from neighboring land uses to the north, east, and south of Sangamore Road.

Anti-personnel fencing would be constructed around the Sumner Site and be at least eight feet tall and where obtainable, have a 30-foot clear space on each side of the fence. The clear space would be limited to the north and south of the property due to adjacent landowners and limited along the western side due to the steep topography. Any tree removal for this work would be addressed in the Forest Conservation Plan, should one be required. To minimize the impacts where the fencing constitutes the "face" of the property and is visible by the public, an ornamental metal fence with anti-climb pickets would be constructed.

Green features would be incorporated into the design, including forest conservation, landscaping, green roofs, and other landscape features. Landscaping will be constructed in accordance with UFC 3-201-02, *Landscape Architecture* and all applicable LEED 2009 requirements. The eastern frontage of the site will be developed as a landscaped buffer between the site and the surrounding residential community. Landscaping will include trees, shrubs, groundcovers and sod for all disturbed areas.

Lighting of the proposed parking lot would utilize lighting that would only illuminate the parking structure itself. No overhead lights would be installed on the upper level of the parking lot. The goal of the design of the lighting to meet LEED silver status is to ensure no light pollution leaves the Sumner Site.

No-Action Alternative

The No-Action alternative would not be expected to result in any changes to the existing visual and aesthetic values.

5.15 SOCIOECONOMIC CONDITIONS

Proposed Action

The construction proposed under the Proposed Action would most likely be performed by local construction contractors with the appropriate skills to complete the project. Therefore, the implementation of the Proposed Action would contribute to the local economy via construction company profits and employee wages. The redevelopment of the Sumner Site would make the site usable for an anticipated workforce of approximately 3,000 people relocated to the site. The localized benefits of the relocated workforce to this area would be offset by an equal adverse impact to areas that the workforce is coming from.

No-Action Alternative

Under the No-Action alternative, the site would not be immediately redeveloped. As a result the ICC-B and the associated workforce of approximately 3,000 people would not be relocated to this location. This could result in a loss of commerce for the local businesses in the area, and possibly encourage some residents to move to locations closer to their workplace. The No-Action alternative could have a negative impact on the socioeconomic conditions within the area. These impacts would be offset by the continued socioeconomic conditions at the existing workplaces for the employees that would be relocated under the Proposed Action.

5.16 ENVIRONMENTAL JUSTICE

As discussed in Section 4.16, the project area is not considered to be an area of concentrated minority population or an area of concentrated poverty. The Proposed Action would not result in an impact to these populations of concern.

5.17 CHILD HEALTH AND SAFETY

Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks, requires Federal agencies to (1) make it a high priority to identify and assess

environmental health risks and safety risks that may disproportionately affect children and (2) ensure that its policies, programs, activities and standards address disproportionate risks to children that result from environmental health risks and safety risks.

Proposed Action:
The Proposed Action could impact children's health and safety through the increase in traffic during construction. While exact figures are not available, it has been assumed that construction could last for approximately 60 months and construction personnel could account for approximately 80 vehicles accessing the site each day. Access to the Sumner Site is closely monitored and no public access is permitted. Children are not expected to be able to enter the site.

No-Action Alternative:
The No Action alternative would have no impacts to children's health and safety within the project area.

5.18 CUMULATIVE IMPACTS

A cumulative impact is defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present, or reasonably foreseeable future action regardless of what agency (Federal or non-Federal) or person undertakes such other actions" (40 CFR 1508.7). Such impacts can result from individually minor but collectively significant actions taking place over a period of time. Evaluations of cumulative impacts include consideration of the Proposed Action with known past and present actions, as well as reasonably foreseeable future actions.

Proposed Action
Evaluations of cumulative impacts include consideration of the Proposed Action with past and present actions, as well as reasonably foreseeable future actions. Compliance with all applicable Federal, state, local, regulations would assist in ensuring that implementation the Proposed Action would minimize the incremental impacts of past, present, and future actions.

There are no known other past, present or future actions in the project area that would create significant impacts when considered in conjunction with the proposed project. The Sumner Site and the area around it have been developed to the extent possible. This development has permanently altered the local environment. The Proposed Action will occur completely within the existing developed footprint of the Sumner Site so there will be no cumulative impact except beneficial decrease in impervious surface.

No-Action Alternative
Implementation of the No-Action alternative would not result in any cumulative environmental impacts at the project area.

5.19 SUMMARY

Short-term, minor, adverse impacts from the proposed project include dust, air emissions, and noise from earthmoving and construction activities. Short-term impacts to soils, surface waters, drainage, and stormwater as well as aesthetics, vegetation and wildlife would also be expected. Other short-term, minor, adverse impacts include disruption of water, electrical, and natural gas services, increased construction traffic, and increased child safety risks from the presence of a construction site in a residential neighborhood and the use of hazardous materials associated with construction. Long-term minor adverse impacts to air quality, cultural resources, and soils would result from the redevelopment of the Sumner Site. Long-term benefits to surface waters, drainage, stormwater management, vegetation, wildlife, and traffic are expected. Long-term changes to the visual aesthetics of the site would be made. These changes would be a mixture of adverse and beneficial effects. Short-term and long-term minor benefits to socioeconomics are expected. Table 5-5 summarizes the level of compliance of the Proposed Action with environmental protection statutes and other environmental requirements. Table 5-6 summarizes the degree of impact, if any, expected from the Proposed Action and the No-Action alternative for all resource categories.

Table 5-5 : Compliance of the Proposed Action with Environmental Protection Statutes and Other Environmental Requirements	
Federal Statutes	**Level of Compliance[1]**
Anadromous Fish Conservation Act	N/A
Archeological and Historic Preservation Act	Pending
Clean Air Act	Full
Clean Water Act	Full
Coastal Barrier Resources Act	N/A
Coastal Zone Management Act	N/A
Comprehensive Environmental Response, Compensation and Liability Act	Full
Endangered Species Act	Full
Estuary Protection Act	N/A
Federal Water Project Recreation Act	N/A
Fish and Wildlife Coordination Ac	Full
Land and Water Conservation Fund Act	N/A
Magnuson-Stevens Act	N/A
Marine Mammal Protection Act	N/A
Migratory Bird Act	N/A
National Historic Preservation Act	Pending
National Environmental Policy Act	Full
Resource Conservation and Recovery Act	Full
Rivers and Harbors Act	N/A
Watershed Protection and Flood Prevention Act	N/A
Wild and Scenic Rivers Act	N/A
Executive Orders (EOs), Memoranda, etc.	
Protection and Enhancement of Cultural Environment (EO 11593)	Pending
Floodplain Management (EO 11988)	Full
Protection of Wetlands (EO 11990)	Full
Prime and Unique Farmlands (Memorandum, CEQ, 11 August 1980	Full
Environmental Justice in Minority and Low-Income Populations (EO 12898)	Full
Protection of Children from Health and Safety Risks (EO 13045)	Full

[1]*Level of Compliance*

Full Compliance – (Full)
Partial Compliance – (Partial)
Non-Compliance – (NC)
Not Applicable (N/A)

Table 5-6: Summary Of Impacts of the Proposed Action and the No-Action Alternative		
Resource Area	**Proposed Action**	**No Action**
Land Use	No Impacts	No Impacts
Coastal Zone Management	No Impacts	No Impacts
Air Quality	Short term minor adverse impacts and possible long-term minor adverse impacts	Short-term and long-term minor benefits
Soils and Geology	Short-term and long-term minor adverse impacts to soils	Long-term minor adverse impacts
Topography and Drainage	Short-term minor adverse impacts and long-term beneficial impacts	Long-term minor adverse impacts
Stormwater Management	Short-term minor adverse impacts and long-term beneficial impacts	Long-term minor adverse impacts
Water Resources		
Surface and groundwater	Short-term minor adverse impacts and long-term beneficial impacts	Long-term minor adverse impacts
Floodplains	No Impacts	No Impacts
Biological Resources		
Wetlands	No Impacts	No Impacts
Vegetation	Short-term minor adverse impacts and long-term minor beneficial impacts	No Impacts
Wildlife Resources	Short-term minor adverse impacts and long-term minor beneficial impacts	No Impacts
Rare, Threatened, or Endangered Species	No Impacts	No Impacts
Prime and Unique Farmland	No Impacts	No Impacts
Wild and Scenic River	No Impacts	No Impacts
Cultural Resources		
Architectural Resources	Long-term adverse impacts	Long-term benefits
Archeological Resources	No Impacts	No Impacts
Hazardous, Toxic, and Radioactive Substances		
Contaminated Sites	No Impacts	No Impacts
Hazardous Materials	Short-term minor impacts	No Impacts
Storage Tanks	No Impacts	No Impacts
Asbestos Containing Materials (ACM)	Long-term minor beneficial impacts	Long-term minor adverse impacts
Lead Based Paint (LBP)	No Impacts	No Impacts
Polychlorinated Biphenyl (PCB)	No Impacts	No Impacts
Infrastructure		
Traffic	Short-term minor adverse impacts and long-term beneficial impacts	Short-term and possible long-term benefits
Utilities (Water, Sewer, Electric, Gas)	Short term minor adverse impacts	No Impacts
Solid Waste Management	No Impacts	No Impacts
Socioeconomic		
Socioeconomics	Short-term and long-term localized minor beneficial impacts and offsetting long-term regional adverse impacts.	Possible localized long-term minor adverse impacts and offsetting regional

		benefits
Noise	Short term minor adverse impacts	No Impacts
Aesthetics	Short-term minor adverse impacts and long-term beneficial impacts	No Impacts
Recreation	No Impacts	No Impacts
Children's Health and Safety	Short term minor adverse impacts	No Impacts

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6 CONCLUSIONS

The NGA is preparing NEPA documentation for the proposed redevelopment of the ICC-B site. The NGA's secured administrative workspace is currently headquartered on the proposed site of the ICC-B, and will be vacated and available for a new tenant in the fall of 2011.

The Proposed Action will focus on connecting the existing structures with construction of a new structure, "The Centrum", in the middle of the four main existing buildings. Each of the existing structures will also receive renovations and upgrades designed to mitigate AT/FP threat conditions, and unify the exterior appearance as one contiguous facility.

Short-term, minor, adverse impacts from the proposed project include dust, air emissions, and noise from earthmoving and construction activities. Short-term impacts to soils, surface waters, drainage, and stormwater as well as aesthetics, vegetation and wildlife would also be expected. Other short-term, minor, adverse impacts include disruption of water, electrical, and natural gas services, increased construction traffic, and increased child safety risks from the presence of a construction site in a residential neighborhood and the use of hazardous materials associated with construction. Long-term minor adverse impacts to air quality, cultural resources, and soils would result from the redevelopment of the Sumner Site. Long-term benefits to surface waters, drainage, stormwater management, vegetation, wildlife, and traffic are expected. Long-term changes to the visual aesthetics of the site would be made. These changes would be a mixture of adverse and beneficial effects. Short-term and long-term minor benefits to socioeconomics are expected.

Culturally, implementation of the ICC-B project will have an adverse effect upon Erskine Hall, which is eligible for listing in the National Register Historic District. The DIA, the Maryland State Historic Preservation Office (SHPO), the National Park Service (NPS), National Capital Planning Commission (NCPC), and Montgomery County will enter into a Memorandum of Agreement (MOA) that will insure that the project is implemented in accordance with certain stipulations that take into account the effect of the undertaking on historic properties.

Permitting required for this work includes, but is not limited to: an ECP, NPDES permit, and a traffic control permit. Air permits for the construction of emergency generators would also be required. All permits and approvals would be obtained prior to the start of construction.

Based on the evaluation of environmental impacts described in Section 5.0 and summarized in Table 5-5, no significant impacts would be expected from the Proposed Action, and a FONSI will be prepared as a result.

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APPENDIX A

AGENCY CORRESPONDENCE

Summary of Agency Coordination

A Public Notice was distributed on 12 November 2010 to inform the public that the U.S. Army Corps of Engineers, Baltimore District, (the Corps) is preparing an Environmental Assessment (EA) for the Defense Intelligence Agency (DIA) Intelligence Community Campus (ICC) project in Bethesda, Maryland. This project proposes the development of an ICC on the existing site of the National Geospatial-Intelligence Agency (NGA) Sumner Site. In addition, the Corps requested that the Clearinghouse & Communication Department of the Maryland Department of Planning distribute the same information in a letter dated 12 November 2010.

The Clearinghouse notified the Corps in a letter dated 15 November 2010 to whom they had sent this information. The Clearinghouse set a response deadline of 24 November 2010 for those notified in their letter.

The Maryland Department of Planning, Maryland Historical Trust (Trust) responded to the Corps in a letter dated 22 November 2010. The Trust will be involved in the Section 106 review process of this project. The Trust has requested that the following information be forwarded to them for review, once it becomes available:

- More detailed plans of the proposed facility, with particular emphasis on any changes and alterations proposed for the contributing historic resources, as well as the location of improvements to the site, parking areas and access, and any associated ancillary actions such as stormwater management. The site plan should illustrate existing as well as proposed improvements.

- Existing condition photos of the area in question.

- Copies on any comments concerning cultural resources issues that the Corps receives from other agencies, interested parties, and the public.

In a letter dated 23 November 2010, the Clearinghouse notified the Corps that they had extended the response date for the Maryland-National Park and Planning Commission in Montgomery County to 8 December 2010.

In a letter (unsigned) dated 24 November 2010, the Washington Waldorf School (WWS) requesting that they be included in all future notifications regarding this proposed action. The entire southern boundary of the WWS abuts the ICC site.

In a letter dated 26 November 2010, Steven C. Salop and Judith R. Gelman, residents of 6665 MacArthur Boulevard, requested that their three concerns be taken into account in the planning of this project. First, the impacted wooded area is part of the habitat of wildlife, including hawks and several bald eagles. Second, cutting down the trees and opening up the view of the Campus from the park would diminish the enjoyment of the site. Third, the (cutting of the) wooded area along Wapakoneta Road would reduce the park-like feel of the neighborhood and diminish the property values.

In an undated letter, but postmarked envelope of 24 November 2010, Jesse L. Goodman and Nicole Lurie, residents of 6655 MacArthur Boulevard, sent a strong objection to the project entitled "Registration of Strong Objection to Process, Difficulty of Understanding Proposal, and Objection to Apparent Environmental and Community Damage." Their objections included environmental, security and safety issues. Their conclusion states, "These types of issues demand not surreptitious notice and minimal discussion but a complete Environmental Impact Study with full transparency, adequate opportunity and time to study and comment on an actual proposal and the examination of possible options – both to meet the Intelligence Community's needs elsewhere and, most important, to use this opportunity to improve the environment and community and not to degrade them. It must be a study and process that is inclusive of broader audiences concerned with both the neighborhood (and adjoining communities) and the environment including the Potomac River and the region."

In a letter dated 1 December 2010, the Sumner Village Community Association (SVCA) President Kay Bowman outlines their concerns:

- Any new or renovated structures on the campus should be low rise, no taller than the five-story buildings there now.
- All parking for ICC related individuals (employees, visitors, contractors, etc.) should be on-site. Consider putting some levels of parking underground in order to lower the height of the parking structure.
- We support the proposed setback of the entry security building, as the current one - located very close to Sangamore Road - is large, not particularly attractive and not in keeping with the residential nature of the neighborhood. We are concerned about the proposed mid-block entrance on Sangamore, which will need stop signs or signals to facilitate vehicle entry and egress. This would add a third stop point in a short distance along Sangamore between Sentinel Drive (stop sign) and Overlea Road (signals), a major inconvenience for residents who must use Sangamore to enter and exit the community.
- The proposed landscaping, instead of pavement, on the northern half of the site and especially along Sangamore would be a most welcome, attractive transformation. If enclosing the perimeter continues to be necessary for security, dark green instead of black fencing would be more attractive. Locating the fencing further back from Sangamore would permit landscaping between the sidewalk and the fence, further enhancing the appearance of the site.
- In addition, we ask that a public meeting be held for interested residents of the Sumner area to explain the purpose of the ICC, the entities that will be located there and further details of the planned site renovations.
- The SVCA Board of Directors and the Sumner Village Condominiums request to be placed on the project distribution list.

The National Park Service (NPS) submitted their comments via email on 8 December 2010. Their concerns included regarding the viewshed from both sides of the Potomac River and the C&O Canal, specifically concerning the parking facility in the western edge of the campus. They are also concerned with maintaining the integrity of the Historic walkway below that parking facility. NPS would also like to review the stormwater management plans associated with this project, and finally, NPS would like to be a consulting party to the 106 process for this project.

In a letter dated 9 December 2010, the Glen Echo Heights Citizens Association President, Harold W. Pfohl, outlines their concerns. Their concerns are focused on the effect of the project on their environment, traffic, cell phones, impact on the mall, etc. They also requested that a public meeting be held regarding the proposed reuse of the NGS site.

In a letter dated 9 December 2010, the Maryland Department of the Environment (MDE) provided a list of persons to be contacted for specific programs regulated by the State. These include the above ground and underground storage tanks, solid waste disposal, hazardous waste disposal, lead paint abatement, and MDE's Brownfields program. Also included with their letter was information specific to the Science Services Administration concerning issues regarding water quality standards.

In a letter dated 6 January 2011, the U.S. Fish and Wildlife Service (USFWS) indicated that except for occasional transient individuals, no federally proposed or listed endangered species or threatened species are known to exist within the project area. The letter does indicate that any action should comply with the National Bald Eagle Management Guidelines and ensure that there would be no loss of wetlands.

A Notice of Availability was distributed on 3 June 2011 to inform the public that the draft EA and FONSI for the Intelligence Community Campus (ICC) project in Bethesda, Maryland was ready for review. The public comment period on the draft EA and FONSI concluded on 5 July 2011. Comments were received from the following agencies and stakeholders:

- Harold Pfohl - Glen Echo Heights Citizens' Association President
- Mary Fowler - Local Citizen
- Montgomery County - Rollin Stanley
- Montgomery County - Margaret Rifkin - Environmental Comments
- Montgomery County - Margaret Rifkin - Transportation Comments
- NCPC Comments - David Levy & Jeff Hinkle
- Peter Reinecke - Local Citizen

Copies of the above comments are provided in this appendix.

US Army Corps
of Engineers
Baltimore District

Public Notice

Environmental Assessment
Intelligence Community Campus
Bethesda, Maryland (Montgomery County)

All Interested Parties: The U.S. Army Corps of Engineers, Baltimore District (the Corps) is preparing an Environmental Assessment (EA) for an Intelligence Community Campus (ICC) project in Bethesda, Maryland. The Proposed Action to be evaluated in the EA is a master plan for the development of an Intelligence Community Campus on the existing site of the National Geospatial-Intelligence Agency (NGA) Sumner Site in Bethesda, Maryland. The current NGA operations at the Sumner Site will be relocated to NGA's new facility currently under construction at Fort Belvoir, Virginia. The Sumner site is located at 4600 Sangamore Road, Bethesda, Maryland, 20816 in Montgomery County, Maryland, on property leased from the Department of the Army. Figure 1 is a location map (Enclosure 1) showing the existing conditions at the Sumner Site. Figure 2 is a map (Enclosure 2) showing the proposed renovation concept for the conversion of the NGA Sumner Site to the ICC.

The Master Plan for the ICC includes several changes to the existing NGA Sumner Site to address Anti-Terrorism, Force Protection, and Structural Engineering requirements, to obtain Leadership in Engineering and Environmental Design (LEED) Silver rating, and to meet the requirements of the ICC tenants.

The EA will be prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended, and will document potential impacts to the natural and human environment from the proposed renovation of NGA Sumner Site for the ICC. It includes an assessment of environmental, socioeconomic, and infrastructure impacts resulting from the Proposed Action and a no action alternative. Upon completion of the Draft EA, the Corps will prepare a Notice of Availability which will be distributed to the same individuals as this Public Notice.

Interested parties are invited to submit written comments for consideration within 15 days of this notice. Any comments received will be considered in the preparation of the EA. This Public Notice is being sent to organizations and individuals known to have an interest in this project (Enclosure 3). Please bring this matter to the attention of any other organizations or individuals with a similar interest. Comments must be submitted within 15 days of the date of this notice to: U.S. Army Corps of Engineers, Baltimore District, ATTN: CENAB-PL-E (Michael Schuster), P.O. Box 1715, Baltimore, Maryland 21203-1715.

RJ Mardaga
for Lawrence D. Eastman
Chief, Planning and Environmental
Services Branch
Date: 12 Nov 2010

Enclosures

Intelligence Community Campus
Bethesda, Maryland (Montgomery County)

Enclosure 1
Location & Existing Conditions Map

US Army Corps of Engineers
Baltimore District

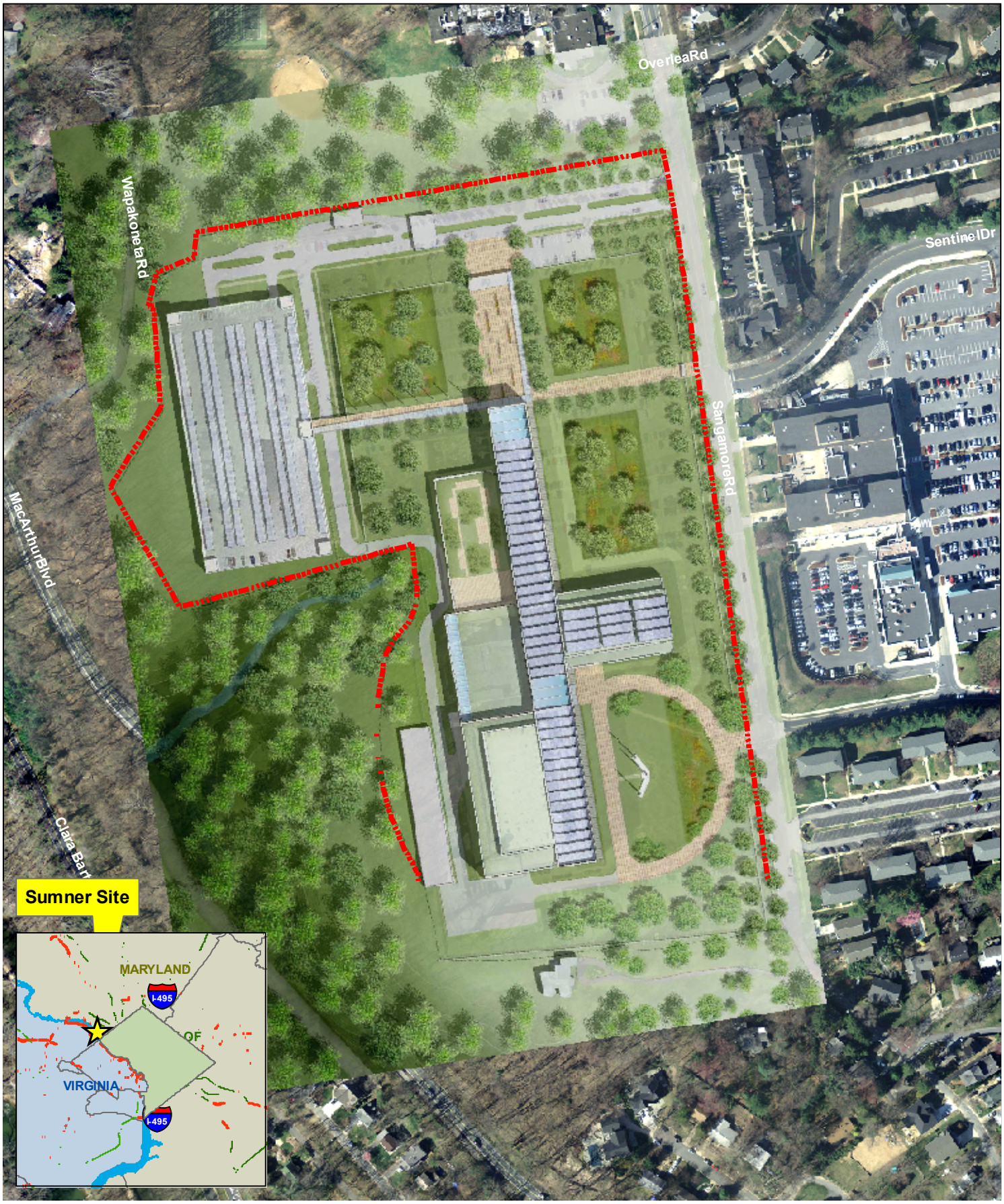
BUILDING STRONG®

Source: Montogmery County Aerial, 2008

1 inch = 500 feet

Intelligence Community Campus
Bethesda, Maryland (Montgomery County)

Enclosure 2
Proposed Action Map



US Army Corps of Engineers
Baltimore District

BUILDING STRONG®

Source: Montogmery County Aerial, 2008

1 inch = 250 feet

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Enclosure 3
Environmental Assessment
Intelligence Community Campus
Bethesda, Maryland (Montgomery County)
Public Notice Mailing List

I. FEDERAL AGENCIES

Mr. Bill Arguto
Environmental Review Coordinator
U.S. Environmental Protection Agency
Region 3
1650 Arch Street
Philadelphia, PA 19106

Mr. Leopoldo Miranda
Field Supervisor
U.S. Fish and Wildlife Service
Chesapeake Bay Field Office
177 Admiral Cochrane Dr.
Annapolis, MD 21401

Peggy O'Dell, Regional Director
National Park Service
National Capital Region
1100 Ohio Drive, SW
Washington D.C. 20242

II. STATE OF MARYLAND AGENCIES

Mrs. Linda C. Janey, J.D., Manager
Maryland State Clearinghouse
Maryland Office of Planning, Room 1104
301 West Preston Street
Baltimore, MD 21201-2365

Mr. J. Rodney Little
Department of Housing and Community Development
Maryland Historical Trust
Office of Preservation Services
100 Community Place
Crownsville, Maryland 21032

III. REGIONAL OFFICES

David Levy, Director
Urban Design and Plan Review Division
401 9th Street, NW
North Lobby, Suite 500
Washington, DC 20004

Karl Berger
Senior Environmental Planner
Metropolitan Washington Council oc Governments
777 North Capitol Street, NE, Suite 300
Washington, DC 20002

Bill Barron, Team Leader
South Central Transit Corridor
MNCPPC - Montgomery County Planning Department
8787 Georgia Ave
Silver Spring, MD 20910

DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, CORPS OF ENGINEERS
P. O. BOX 1715
BALTIMORE, MARYLAND 21203-1715

REPLY TO
ATTENTION OF

Planning Division

12 November 2010

Mrs. Linda C. Janey, J.D., Assistant Secretary
Clearinghouse & Communication
Maryland Department of Planning, Room 1104
301 West Preston Street
Baltimore, MD 21201-2305

SUBJECT: Coordination Letter for the proposed Intelligence Community Campus (ICC) Master Plan for the National Geospatial-Intelligence Agency (NGA) Sumner Site in Bethesda, Maryland

Dear Mrs. Janey,

The U.S. Army Corps of Engineers, Baltimore District (the Corps) is preparing an Environmental Assessment (EA) an Intelligence Community Campus (ICC) project in Bethesda, Maryland. The Proposed Action to be evaluated in the EA is a master plan for the development of an Intelligence Community Campus on the existing site of the National Geospatial-Intelligence Agency (NGA) Sumner Site in Bethesda, Maryland. The current NGA operations at the Sumner Site will be relocated to NGA's new facility currently under construction at Fort Belvoir, Virginia. The Sumner site is located at 4600 Sangamore Road, Bethesda, Maryland, 20816 in Montgomery County, Maryland, on property leased from the Department of the Army. Figure 1 is a location map (Enclosure 1) showing the existing conditions at the Sumner Site. Figure 2 is a map (Enclosure 2) showing the proposed renovation concept for the conversion of the NGA Sumner Site to the ICC.

The Master Plan for the ICC includes several changes to the existing NGA Sumner Site to address Anti-Terrorism, Force Protection, and Structural Engineering requirements, to obtain Leadership in Engineering and Environmental Design (LEED) Silver rating, and to meet the requirements of the ICC tenants.

The purpose of this letter is to initiate coordination so that all requirements are met as part of our NEPA documentation. To assist us in identifying environmental issues that may affect the implementation of this project, please provide written comments within 15 days from

the date of this letter via mail to Mr. Michael Schuster, U.S. Army Corps of Engineers, Baltimore District, ATTN: CENAB-PL-CPD, P.O. Box 1715, Baltimore, Maryland 21203-1715, via e-mail to Michael.j.schuster@usace.army.mil or via fax to 410-962-2948. You may contact Mr. Schuster at (410) 962-8160 if you have any questions regarding this matter.

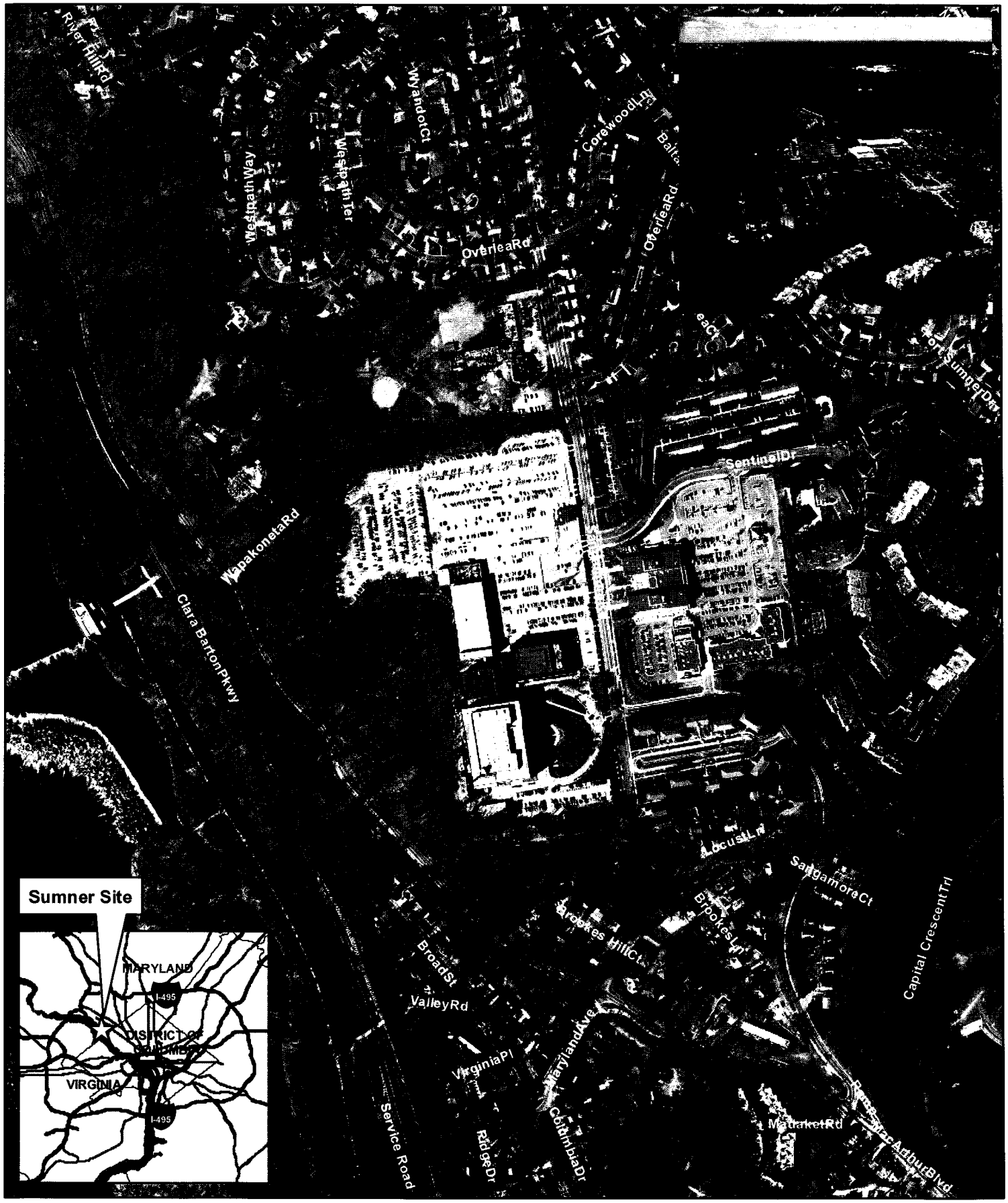
Sincerely,

RJ Mardaga

for LARRY EASTMAN
Chief, Planning and Environmental
Services Branch

Defense Intelligence Agency – Intelligence Community Campus
Bethesda, Maryland (Montgomery County)

Location & Existing Conditions Map



US Army Corps of Engineers
Baltimore District

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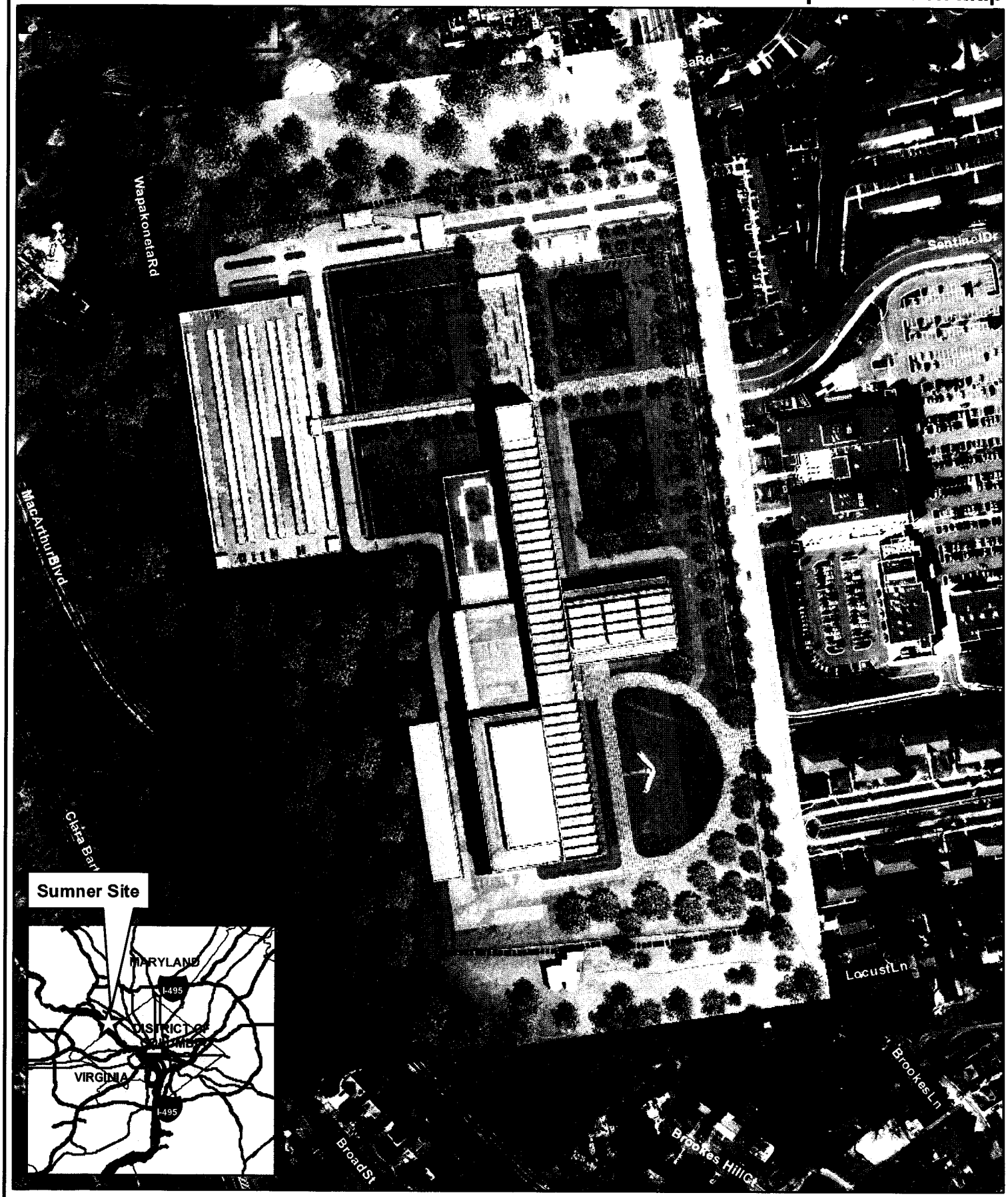
Source: Montogmery County Aerial, 2008

1 inch = 500 feet

Defense Intelligence Agency – Intelligence Community Campus
Bethesda, Maryland (Montgomery County)

Proposed Action Map



US Army Corps of Engineers
Baltimore District

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Source: Montogmery County Aerial, 2008

1 inch = 250 feet

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Maryland Department of Planning

Martin O'Malley
Governor
Anthony G. Brown
Lt. Governor

Richard Eberhart Hall
Secretary
Matthew J. Power
Deputy Secretary

November 15, 2010

Mr. Michael Schuster
Project Manager, ATTN: CENAB-PL-CPD
Department of the Army
P.O. Box 1715
Baltimore, MD 21203-1715

STATE CLEARINGHOUSE REVIEW PROCESS

State Application Identifier: MD20101115-1021
Reviewer Comments Due By: November 24, 2010
Project Description: Scoping: prior to preparation of E.A.: proposed Intelligence Community Campus: planned Master Plan to evaluate new construction on the site of the existing National Geospatial-Intelligence Agency
Project Address: Sumner site, 4600 Sangamore Road, Bethesda, MD 20816
Project Location: County of Montgomery
Clearinghouse Contact: Bob Rosenbush

Dear Mr. Schuster:

Thank you for submitting your project for intergovernmental review. Participation in the Maryland Intergovernmental Review and Coordination (MIRC) process helps ensure project consistency with plans, programs, and objectives of State agencies and local governments. MIRC enhances opportunities for approval and/or funding and minimizes delays by resolving issues before project implementation.

The following agencies and/or jurisdictions have been forwarded a copy of your project for their review: the Maryland Departments of Housing and Community Development, the Environment, Transportation, Natural Resources; the Maryland Military Department, the Governor's Office of Homeland Security; the County of Montgomery; the Maryland-National Capital Park and Planning Commission in Montgomery County; and the Maryland Department of Planning; including the Maryland Historical Trust. They have been requested to contact your agency directly by **November 24, 2010** with any comments or concerns and to provide a copy of those comments to the State Clearinghouse for Intergovernmental Assistance. Please be assured that after **November 24, 2010** all MIRC requirements will have been met in accordance with Code of Maryland Regulations (COMAR 34.02.01.04- .06). The project has been assigned a unique State Application Identifier that should be used on all documents and correspondence.

If you need assistance or have questions, contact the State Clearinghouse staff noted above at 410-767-4490 or through e-mail at brosenbush@mdp.state.md.us. Thank you for your cooperation with the MIRC process.

Sincerely,

Linda C. Janey

Linda C. Janey, J.D., Assistant Secretary
for Clearinghouse and Communications

LCJ:BR
Enclosures
cc: Lawrence Leone – MILT*
Hara Wright-Smith – DHCD*
Joane Mueller – MDE*
Margaret Carlisle – MDOT*
Roland Limpert – DNR*
Andrew Lauland – GOHS*
Diane Jones – MTGM*
John Carter – M-NCPPCM*
Steve Allan - MDPL*
Beth Cole – MHT*

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Maryland Department of Planning
Maryland Historical Trust

Martin O'Malley
Governor

Anthony G. Brown
Lt. Governor

Richard Eberhart Hall
Secretary

Matthew J. Power
Deputy Secretary

November 22, 2010

Mr. Michael Schuster
Planning and Environmental Services Branch
U.S. Army Corps of Engineers, Baltimore District
P.O. Box 1715
Baltimore, Maryland 21203-1715

Re: Proposed Intelligence Community Campus (ICC)
Master Plan for the Geospatial-Intelligence Agency (NGA) Sumner Site in Bethesda, Maryland
Montgomery County, Maryland
State Clearinghouse No. MD20101115-1021
Section 106 Review

Dear Mr. Schuster:

Through the Maryland State Clearinghouse for Intergovernmental Assistance, the Maryland Historical Trust (Trust) received notification of the above-referenced project, for review and comment. We appreciate the initiation of early consultation on the development of a master plan for the Sumner Site.

The Trust, Maryland's State Historic Preservation Office, will be involved in the review of the project for its effects on historic properties, pursuant to Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended. The Corps' scoping process for the Environmental Assessment should include appropriate consideration of cultural resources and address Section 106 consultation requirements. We offer the following preliminary comments regarding historic preservation issues for this project and request further information on the proposed undertaking.

Project Description: According to your letter, the Corps is preparing an Environmental Assessment for the development of an Intelligence Community Campus on the existing site of the National Geospatial-Intelligence Agency (NGA) Sumner Site in Bethesda, Maryland. The current NGA operations will be relocated to Fort. Belvoir, Virginia. We understand that the plan for the ICC facility includes changes to the Sumner Site to address anti-terrorism, force protection, structural engineering, LEED, and other tenant requirements.

Historic Properties: The NGA conducted cultural resources investigations of the Sumner Site in 2004, in consultation with the Trust, to identify and evaluate its historic and archeological resources. The results of those investigations are documents in a report (TAMS Consultants, Inc. 2004) and on inventory forms filed in the Trust's Maryland Inventory of Historic Properties. NGA and the Trust determined that the Sumner Site (M: 35-134) is eligible for inclusion in the National Register of Historic Places as part of the Army Map Service Historic District (M: 35-133 & 134). The district is significant under Criteria A and C for its association and role as a leader in military mapping during World War II. The Sumner Site includes two contributing resources, Erskine Hall and the Flagpole/Globe Memorial located within the semi-circular lawn east of Erskine Hall, and two non-contributing guardhouses to the historic district.

Archeological investigations conducted as part of the 2004 study demonstrated that the Sumner Site has been extensively disturbed and is not likely to contain archeological resources eligible for the National Register. Further archeological investigations are not warranted for the development of the proposed facility.

Additional details regarding the proposed development are needed in order to make an informed assessment of the project's effects, if any, on historic properties, as noted below.

Section 106 Review: In order to continue our review of the proposed undertaking and provide informed comments on the project's effects on historic and archeological properties, we request that the Corps provide us with the following information when it becomes available in the project planning process:

- More detailed plans of the proposed facility, with particular emphasis on any changes and alterations proposed for the contributing historic resources. As well as the location of improvements to the site, parking areas and access, and any associated ancillary actions such as storm water management. The site plan should illustrate existing as well as proposed improvements.
- Existing condition photos of the area in question.
- Copies of any comments concerning cultural resources issues that the Corps receives from other agencies, interested parties, and the public.

Once we have received the additional information requested in this letter, the Trust will continue its review of the undertaking and provide appropriate comments and recommendations.

We look forward to working with the Corps, NGA, and other involved parties to successfully complete the Section 106 review of proposed undertakings, as development of the master plan progresses. If you have questions or require further assistance, please contact Amanda Apple (for historic built environment) at 410-514-7630 / aapple@mdp.state.md.us or Beth Cole (for archeology) at 410-514-7631 / bcole@mdp.state.md.us.

Thank you for providing us this opportunity to comment during scoping.

Sincerely,

Michael K. Day
Deputy State Historic Preservation Officer
Chief, Office of Preservation Services
Maryland Historical Trust

MKD/EJC/ARA/201004944

cc: Scott Watson (Corps of Engineers)
Bob Rosenbush (MDP)
Scott Whipple (M-NCPPC/Montgomery Co.)

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Chesapeake Bay Field Office
177 Admiral Cochrane Drive
Annapolis, Maryland 21401
http://www.fws.gov/chesapeakebay

January 5, 2011

Lawrence Eastman
US Army Engineer District, Baltimore
P.O. Box 1715
Baltimore, MD 21203-1715

RE: Environmental Assessment Intelligence Community Campus Bethesda, Maryland (Montgomery County)

Dear Mr. Eastman:

This responds to your letter, received, November 12, 2010, requesting information on the presence of species which are federally listed or proposed for listing as endangered or threatened within the vicinity of the above reference project area. We have reviewed the information you enclosed and are providing comments in accordance with section 7 of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*).

Except for occasional transient individuals, no federally proposed or listed endangered or threatened species are known to exist within the project impact area. Therefore, no Biological Assessment or further section 7 Consultation with the U.S. Fish and Wildlife Service is required. Should project plans change, or if additional information on the distribution of listed or proposed species becomes available, this determination may be reconsidered.

This response relates only to federally protected threatened or endangered species under our jurisdiction. For information on the presence of other rare species, you should contact Lori Byrne of the Maryland Wildlife and Heritage Division at (410) 260-8573.

Effective August 8, 2007, under the authority of the Endangered Species Act of 1973, as amended, the U.S. Fish and Wildlife Service (Service) removed (delist) the bald eagle in the lower 48 States of the United States from the Federal List of Endangered and Threatened Wildlife. However, the bald eagle will still be protected by the Bald and Golden Eagle Protection Act, Lacey Act and the Migratory Bird Treaty Act. As a result, starting on August 8, 2007, if your project may cause “disturbance” to the bald eagle, please consult the “National Bald Eagle Management Guidelines” dated May 2007.

If any planned or ongoing activities cannot be conducted in compliance with the National Bald

Eagle Management Guidelines (Eagle Management Guidelines), please contact the Chesapeake Bay Ecological Services Field Office at 410-573-4573 for technical assistance. The Eagle Management Guidelines can be found at: **http://www.fws.gov/migratorybirds/issues/BaldEagle/NationalBaldEagleManagementGuidelines.pdf.**

In the future, if your project can not avoid disturbance to the bald eagle by complying with the Eagle Management Guidelines, you will be able to apply for a permit that authorizes the take of bald and golden eagles under the Bald and Golden Eagle Protection Act, generally where the take to be authorized is associated with otherwise lawful activities. This proposed permit process will not be available until the Service issues a final rule for the issuance of these take permits under the Bald and Golden Eagle Protection Act.

An additional concern of the Service is wetlands protection. Federal and state partners of the Chesapeake Bay Program have adopted an interim goal of no overall net loss of the Basin's remaining wetlands, and the long term goal of increasing the quality and quantity of the Basin's wetlands resource base. Because of this policy and the functions and values wetlands perform, the Service recommends avoiding wetland impacts. All wetlands within the project area should be identified, and if construction in wetlands is proposed, the U.S. Army Corps of Engineers, Baltimore District, should be contacted for permit requirements. They can be reached at (410) 962-3670.

We appreciate the opportunity to provide information relative to fish and wildlife issues, and thank you for your interests in these resources. If you have any questions or need further assistance, please contact Devin Ray at (410) 573-4531.

Sincerely,

Leopoldo Miranda
Supervisor

MARYLAND DEPARTMENT OF THE ENVIRONMENT

1800 Washington Boulevard • Baltimore, Maryland 21230
410-537-3000 • 1-800-633-6101 • http://www.mde.state.md.us

Martin O'Malley
Governor

Anthony G. Brown
Lieutenant Governor

Robert M. Summers, Ph.D
Acting Secretary

December 9, 2010

Mr. Michael Schuster
ATTN: CENAB-PL-CPD
Department of the Army
P.O. Box 1715
Baltimore, MD 21203

RE: State Application Identifier: MD20101115-1021
Project: Proposed Intelligence Community Campus

Dear Mr. Schuster:

Thank you for the opportunity to review the above referenced project. The document was circulated throughout the Maryland Department of the Environment (MDE) for review, and the following comments are offered for your consideration.

1. Any above ground or underground petroleum storage tanks that may be utilized must be installed and maintained in accordance with applicable State and federal laws and regulations. For demolition, any aboveground or underground petroleum storage tanks that may be on site must have the contents and tanks removed. Contact the Oil Control Program at (410) 537-3442 for additional information.

2. Underground storage tanks must be registered and the installation must be conducted and performed by a contractor certified to install underground storage tanks by the Waste Management Administration in accordance with COMAR 26.10. Contact the Oil Control Program at (410) 537-3442 for additional information.

3. Any solid waste including construction, demolition and land clearing debris, generated from the subject project, must be properly disposed of at a permitted solid waste acceptance facility, or recycled if possible. Contact the Solid Waste Program at (410) 537-3318 for additional information.

4. The Hazardous Waste Program should be contacted directly at (410) 537-3343 by those facilities which generate or propose to generate or handle hazardous wastes to ensure these activities are being conducted in compliance with applicable State and federal laws and regulations.

5. The Hazardous Waste Program should be contacted at (410) 537-3343 prior to construction activities to ensure that the treatment, storage or disposal of hazardous wastes and low-level radioactive wastes at the facility will be conducted in compliance with applicable State and federal laws and regulations.

6. Any contract specifying "lead paint abatement" must comply with Code of Maryland Regulations (COMAR) 26.16.01 – Accreditation and Training for Lead Paint Abatement Services. If a property was built before 1950 and will be used as rental housing, then compliance with COMAR 26.16.02 – Reduction of Lead Risk in Housing; and Environment Article Title 6, Subtitle 8, is required. Additional guidance regarding projects where lead paint may be encountered can be obtained by contacting the Environmental Lead Division at (410) 537-3825.

7. The proposed project may involve rehabilitation, redevelopment, revitalization, or property acquisition of commercial, industrial property. Accordingly, MDE's Brownfields Site Assessment and Voluntary Cleanup Programs (VCP) may provide valuable assistance to you in this project. These programs involve environmental site assessment in accordance with accepted industry and financial institution standards for property transfer. For specific information about these programs and eligibility, please contact James Carroll, Program Administrator, Land Restoration Program at (410) 537-3437.

Additional information from the Science Services Administration is enclosed.

Again, thank you for giving MDE the opportunity to review this project. If you have any questionsor need additional information, please feel free to call me at (410) 537-4120.

Sincerely,

Joane D. Mueller
MDE Clearinghouse Coordinator
Office of Communications

Enclosure
cc: Bob Rosenbush, State Clearinghouse

Scoping Prior to EA Intelligence Community Campus Project

Maryland Department of the Environment - Science Services Administration

REVIEW FINDING: R1 Consistent with Qualifying Comments (MD2010_1115-1021)

The following additional comments are intended to alert interested parties to issues regarding water quality standards. The comments address:

A. Water Quality Impairments: Section 303(d) of the federal Clean Water Act requires the State to identify impaired waters and establish Total Maximum Daily Loads (TMDLs) for the substances causing the impairments. A TMDL is the maximum amount of a substance that can be assimilated by a waterbody such that it still meets water quality standards.

Planners should be aware of existing water quality impairments identified on Maryland's 303(d) list. The Project is situated in the Potomac River MO Cnty watershed, identified by the MD 8-digit code 02140202 which is currently impaired by several substances and subject to regulations regarding the Clean Water Act.

Planners may find a list of nearby impaired waters by entering the 8-digit basin code into an on-line database linked to the following URL: http://www.mde.state.md.us/programs/Water/TMDL/Integrated303dReports/Pages/303d.aspx.

This list is updated every even calendar year. Planners should review this list periodically to help ensure that local decisions consider water quality protection and restoration needs. **Briefly, the current impairments that are relevant to the Project include the following:**

Potomac River MO County (02140202):

Nutrients:	**Non-tidal. A TMDL is pending development.**
Sediment:	**Non-tidal. A TMDL is pending development.**
Toxics:	**Non-tidal. A TMDL for PCBs is pending development.**
Biological:	**Non-tidal. A TMDL is pending development.**

B. TMDLs: Development and implementation of any Plan should take into account consistency with TMDLs developed for the impaired waterbodies referenced above. Decisions made prior to the development of a TMDL should strive to ensure no net increase of impairing substances. TMDLs are made available on an updated basis at the following web site:

http://www.mde.state.md.us/programs/Water/TMDL/CurrentStatus/Pages/Programs/WaterPrograms/TMDL/Sumittals/index.aspx

Special protections for high-quality waters in the local vicinity, which are identified pursuant to Maryland's anti-degradation policy;

C. Anti-degradation of Water Quality: Maryland requires special protections for waters of very high quality (Tier II waters). The policies and procedures that govern these special waters are commonly called "anti-degradation policies." This policy states that "proposed amendments to county plans or discharge permits for discharge to Tier II waters that will result in a new, or an increased, permitted annual discharge of pollutants and a potential impact to water quality, shall evaluate alternatives to eliminate or reduce discharges or impacts." These permitted annual discharges are not just traditional Point Sources, it can include all discharges such as Stormwater.

Currently, Tier II waters are not present in the area surrounding the town of the project.

Planners should be aware of legal obligations related to Tier II waters described in the Code of Maryland Regulations (COMAR) 26.08.02.04 with respect to current and future land use plans. Information on Tier II waters can be obtained online at: http://www.dsd.state.md.us/comar/getfile.aspx?file=26.08.02.04.htm and policy implementation procedures are located at http://www.dsd.state.md.us/comar/getfile.aspx?file=26.08.02.04-1.htm

Planners should also note that since the Code of Maryland Regulations is subject to periodic updates. A list of Tier II waters pending Departmental listing in COMAR can be found, with a discussion and maps for each county, at the following website: http://www.mde.state.md.us/programs/researchcenter/EnvironmentalData/Pages/researchcenter/data/waterqualitystandards/antidegradation/index.aspx

ADDITIONAL COMMENTS

Chesapeake Bay TMDL

With the completion of the Chesapeake Bay TMDL, the Chesapeake Bay Program Office (CBPO) will be able to provide loading data at a more refined scale than in the past. MDE will be able to use the CBPO data to estimate pollution allocations at the jurisdictional level (which will include Federal Facilities) to provide allocations to the Facilities. These allocations, both Wasteload (WLA) and Load Allocation (LA) could call for a reduction in both Point Sources and Nonpoint Sources.

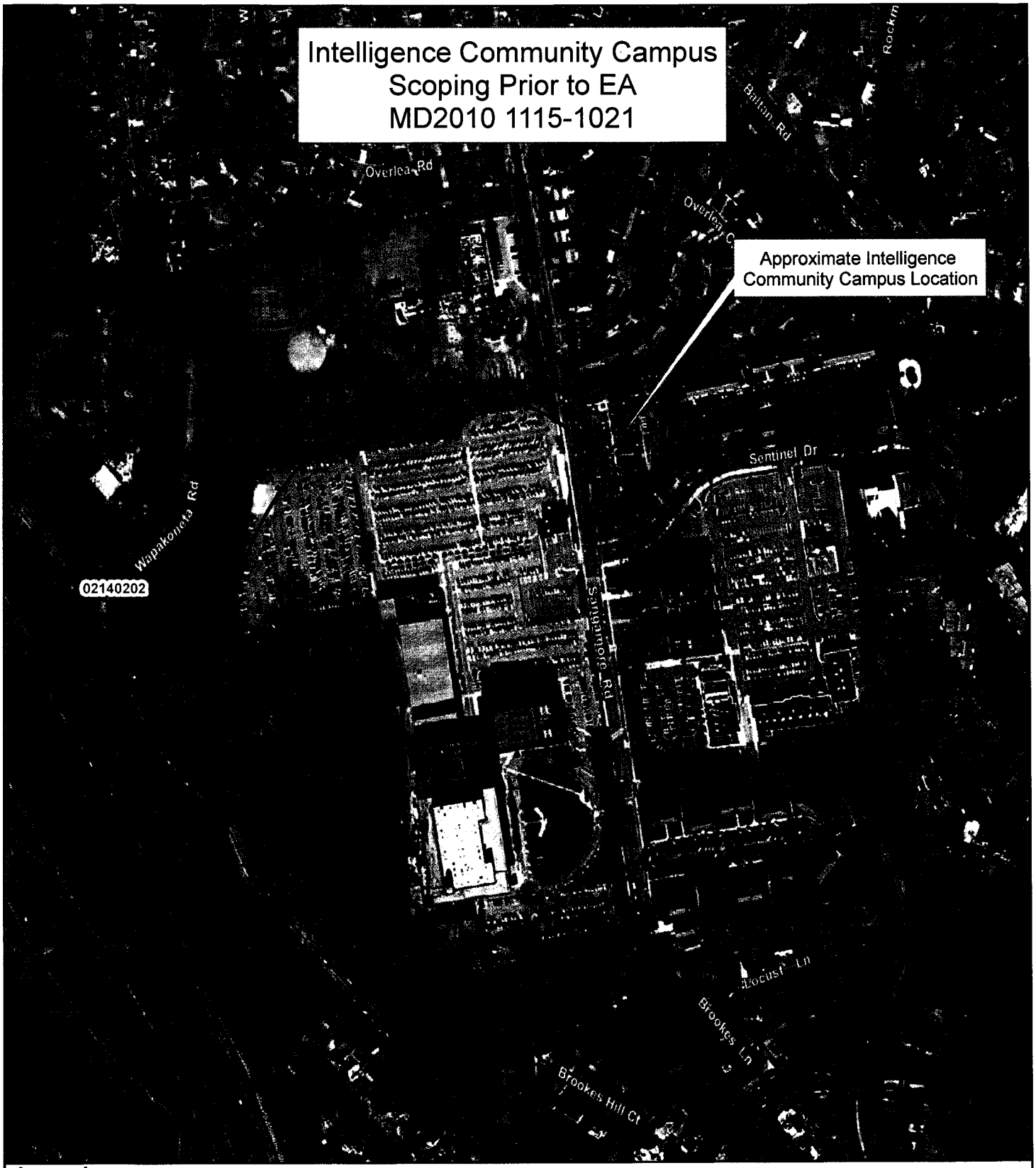
Stormwater

The project should consider all Maryland Stormwater Management Controls. Site Designs should consider all Environmental Site Design to the Maximum Extent Practicable and "Green Building" Alternatives. Designs that reduce impervious surface and BMPs that increase runoff infiltration are highly encouraged.

Further Information:
http://www.mde.state.md.us/programs/Water/StormwaterManagementProgram/Pages/Programs/WaterPrograms/SedimentandStormwater/swm2007.aspx

Environmental Site Design (Chapter 5):
http://www.mde.state.md.us/programs/Water/StormwaterManagementProgram/MarylandStormwaterDesignManual/Documents/www.mde.state.md.us/assets/document/chapter5.pdf

Redevelopment Regulations:
http://www.dsd.state.md.us/comar/comarhtml/26/26.17.02.05.htm



Legend

- Streams
- MD High Quality Waters
- MD High Quality Waters
- 8-digit Watershed
- County Line
- Major Roads

0.03 0.015 0 0.03 0.06 Miles

0.03 0.015 0 0.03 0.06 Kilometers

MDE

MARYLAND

Data Sources:

MBSS Stations - MD Dept. of the Environment
Streams - State Highway Administration
Major Roads - State Highway Administration
Watersheds: 8-digit - MD Dept. of the Environment
12-digit - Dept. of Natural Resources
Municipal Boundaries - State Highway Administration

N

Map Date: 11/29/2010 **Drawn By:** MDE SSA

Maryland Department of Planning

Martin O'Malley
Governor
Anthony G. Brown
Lt. Governor

Richard Eberhart Hall
Secretary
Matthew J. Power
Deputy Secretary

November 23, 2010

Mr. Michael Schuster
Project Manager, ATTN: CENAB-PL-CPD
Department of the Army
P.O. Box 1715
Baltimore, MD 21203-1715

STATE CLEARINGHOUSE REVIEW – ADDITIONAL INFORMATION REQUEST

State Application Identifier: MD20101115-1021
New Reply Due Date: 12/8/2010
Project Description: Scoping: prior to preparation of E.A.: proposed Intelligence Community Campus: planned Master Plan to evaluate new construction on the site of the existing National Geospatial-Intelligence Agency
Project Address: Sumner site, 4600 Sangamore Road, Bethesda, MD 20816
Project Location: Montgomery County
Clearinghouse Contact: Bob Rosenbush

Dear Mr. Schuster:

The State Clearinghouse received the following request for additional information: the Maryland-National Park and Planning Commission in Montgomery County requested the opportunity to review: a formal traffic reduction program, a conceptual plan, section and elevation drawings that show the height of new structures, and measures to provide adequate buffering (between existing neighborhoods and any planned, additional parking). See pages 93 through 94 of the Bethesda-Chevy Chase Master Plan, April 1990.

This request for will require an extension of the initial review period. The new reply date is noted above.

The Clearinghouse will strive to expeditiously conclude this review and may do so before the new reply date, if at all possible. We request your assistance in providing the additional information requested as soon as possible, either to the Clearinghouse or directly to the requesting party. We would appreciate a copy of any correspondence sent directly to the requesting party.

If you need assistance or have questions, contact the State Clearinghouse staff person noted above at 410-767-4490 or through e-mail at brosenbush@mdp.state.md.us. Your cooperation and attention to the review process is appreciated.

Sincerely,

Linda C. Janey

Linda C. Janey, J.D., Assistant Secretary
for Clearinghouse and Communications

LCJ:BR
cc: Diane Jones - MTGM
John Carter – M-NCPPCM

10-1021_ORAI.OTH.doc

Maryland Department of Planning

Martin O'Malley
Governor
Anthony G. Brown
Lt. Governor

Richard Eberhart Hall
Secretary
Matthew J. Power
Deputy Secretary

December 28, 2010

Mr. Michael Schuster
Project Manager, ATTN: CENAB-PL-CPD
Department of the Army
P.O. Box 1715
Baltimore, MD 21203-1715

STATE CLEARINGHOUSE REVIEW – ADDITIONAL REVIEWER COMMENTS RECEIVED

State Application Identifier: MD20101115-1021
Project Description: Scoping: prior to preparation of E.A.: proposed Intelligence Community Campus: planned Master Plan to evaluate new construction on the site of the existing National Geospatial-Intelligence Agency
Project Address: Sumner site, 4600 Sangamore Road, Bethesda, MD 20816
Project Location: Montgomery County
Clearinghouse Contact: Bob Rosenbush

Dear Mr. Schuster:

As a follow up to our letter to you dated November 23, 2010, you will find enclosed a copy of a letter that we received dated November 22, 2010 from the Maryland-National Park and Planning Commission in Montgomery County.

We are forwarding the enclosed comments made by Montgomery County regarding the referenced project for your information. Montgomery County also stated that the Maryland-National Park and Planning Commission in Montgomery County is (an) independent agency, and that Montgomery County concurs with their comments.

Should you have any questions, contact the State Clearinghouse staff person noted above at 410-767-4490 or through e-mail at brosenbush@mdp.state.md.us. Your cooperation and attention to the review process is appreciated.

Sincerely,

Linda C. Janey, J.D., Assistant Secretary
for Clearinghouse and Communications

LCJ:BR

Enclosures

cc: John Carter – M-NCPPCM
Diane Jones – MTGM

November 22, 2010

Linda C. Janey, JD
Assistant Secretary for Clearinghouse and Communications
Maryland Department of Planning
301 West Preston Street, Room 1104
Baltimore, MD 21201-2305
Fax: 410-767-4480

Re: Intelligence Community Campus (ICC) project on the site of the existing National Geospatial-Intelligence Agency (formerly known as the Defense Mapping Agency (DMA)
State Application Identifier – MD20101115-1021

Ms. Janey:

In keeping with the recommendations in the "Bethesda-Chevy Chase Master Plan", we request that you come back for a full Mandatory Referral review.

There should be a formal traffic reduction program provided as well as a **conceptual** plan, section and elevation drawings showing the heights of new structures. Staff will review these, per the master plan guidance, for location, neighborhood compatibility and adequate buffer. We would like to be kept apprised of community outreach and feedback. Plans for new construction should be provided for staff review in a timely fashion to allow time for comment and any modifications, before implementation.

The "Bethesda-Chevy Chase Master Plan" April 1990 states:

3.63 Defense Mapping Agency (DMA)
The dual-sited Defense Mapping Agency, with its stable employment population of about 3,900, has no adopted campus plan... Although no increase in employees or structures is projected, there are transportation considerations regarding existing workers commuting to and parking on the sites. Carpools and vanpools, as well as other means of ride-sharing, should be more aggressively promoted among employees. Since neither of the two sites is on a public transit route, this Plan endorses future consideration of public transit as critical for the area.
It is the policy of this Plan not to approve added parking unless a formal traffic reduction program is implemented. Any additional parking which is being planned for DMA should be carefully reviewed by appropriate agencies with regard for location, neighborhood compatibility, and adequate buffering." (Page 93-94.)

Sincerely,

Rollin Stanley
Planning Director

G:\Rifkin\Defense Mapping Agency site.docx

OFFICE OF THE COUNTY EXECUTIVE

Isiah Leggett
County Executive

Timothy L. Firestine
Chief Administrative Officer

November 23, 2010

Mr. Michael Schuster
Project Manager, ATTN: CENAB-PL-CPD
Department of the Army
P.O. Box 1715
Baltimore, MD 21203-1715

Dear Mr. Schuster:

Thank you for this opportunity to provide comments on behalf of Montgomery County, Maryland regarding the scoping prior to preparation of the Environmental Assessment for the proposed Intelligence Community Campus.

Based on a review of the information provided, we believe the proposed project is consistent with our plans, programs and objectives. Additionally, the plan is consistent with the Montgomery County's economic growth, resource protection and planning visions,

The current NGA campus is well buffered from the neighboring residential and retail communities. It appears from the description and enclosures that this buffer area will be expanded.

We believe that stormwater management should be carefully considered in the planned EA. As an older facility, it is likely that the site does not incorporate advanced practices. Enhancing stormwater management on this site will help the County meet our programmatic and NPDES MS4 permit goals.

If you have any questions, please do not hesitate to contact me at 240-777-2561 or through email at diane.jones@montgomerycountymd.gov. Thank you again for the opportunity to participate in this process.

Sincerely,

Diane R. Schwartz Jones

Diane R. Schwartz Jones
Assistant Chief Administrative Officer

Enclosure
cc: Linda Janey, MDP

Please Complete Your Review & Recommendation Before November 24, 2010

Return Completed Form To: Linda C. Janey, J.D., Assistant Secretary for Clearinghouse and Communications, Maryland Department of Planning, 301 West Preston Street, Room1104, Baltimore, MD 21201-2305 Phone: 410-767-4490 Fax: 410-767-4480

State Application Identifier: MD20101115-1021	**Clearinghouse Contact:** Bob Rosenbush, 410-767-4490 brosenbush@mdp.state.md.us
Location: MTGM	
Applicant: Department of the Army	
Description: Scoping: prior to preparation of E.A.: proposed Intelligence Community Campus: planned Master Plan to evaluate new construction on the site of the existing National Geospatial-Intelligence Agency	

Based on a Review of the Information Provided, We Have Checked (●) the Appropriate Determination Below

CONSISTENT RESPONSES - (For Use By STATE AGENCIES Only)

	C1	It is **Consistent** with our plans, programs, and objectives
	C2	It is **Consistent** with the policies contained in **Executive Order 01.01.1992.27** (Maryland Economic Growth, Resource Protection, and Planning Act of 1992), **Executive Order 01.01.1998.04** (Smart Growth and Neighborhood Conservation Policy), **and** our plans, programs, and objectives.
	C3	**(MHT ONLY)** It has been determined that the project will have "no effect" on historic properties and that the federal and/or State historic preservation requirements have been met.
	C4	**(DNR ONLY)** It has been determined that this project is in the Coastal Zone and is not inconsistent with the Maryland Coastal Zone Management Program.
	C7	**(MDP ONLY)** It is consistent with the requirements of State Finance and Procurement Article 5-7B-02; 03; 04 and 05 Smart Growth and Neighborhood Conservation (Priority Funding Areas).

CONSISTENT RESPONSES - (For Use By *COUNTY & LOCAL AGENCIES* Only)

✓	**C5**	It is **Consistent** with our plans, programs, and objectives.
✓	**C6**	It is **Consistent** with the Economic Growth, Resource Protection, and Planning Visions (Planning Act of 1992), State Finance and Procurement Article 5-7B – Smart Growth and Neighborhood Conservation (Priority Funding Areas), **and** our plans, programs, and objectives. Please see attached letter

OTHER RESPONSES - (For Use By ALL)

	R1	**GENERALLY CONSISTENT WITH QUALIFYING COMMENTS:** It is generally **Consistent** with our plans, programs and objectives, but the attached qualifying comment is submitted for consideration.
	R2	**CONTINGENT UPON CERTAIN ACTIONS:** It is generally **Consistent** with our plans, programs and objectives contingent upon certain actions being taken as noted in the attached comment(s).
	R3	**NOT CONSISTENT:** It raises problems concerning compatibility with our plans, programs, objectives, or Planning Act visions/policies; or it may duplicate existing program activities, as indicated in the attached comment(s). If a meeting with the applicant is requested, please check here: ☐
	R4	**ADDITIONAL INFORMATION REQUESTED:** Additional information is required to complete the review. The information needed is identified below. If an extension of the review period is requested, please check here: ☐
	R5	**FURTHER INTEREST:** Due to further interest/questions concerning this project, we request that the Clearinghouse set up a conference with the applicant.
	R6	**SUPPORTS:** Supports "Smart Growth" and Federal Executive Order 12072 (Federal Space Management), which directs federal agencies to locate facilities in urban areas.

Attach additional comments if necessary OR use theses spaces: _____

Name: Diane R. Schwartz Jones
Organization: Office of the County Executive
Address: 101 Monroe Street, 2nd Floor, Rockville, MD 20850

Signature: Diane R. Schwartz Jones, MAO
Phone: (240) 777-2561
Date Completed: 11/23/10

_ **Check here if comments are attached.**

MDPCH-1A

Fax

12/9/2010

From:	Harold (aka Harry) Pfohl
Phone:	703 861 1688 (cell)
Fax:	301 229 2539
Company Name:	Glen Echo Heights Citizens Assn.

To:	Michael Schuster
Phone:	410 962 8160
Fax:	410 962 4698
Company Name:	US Army Corps of Engineers, Baltimore District ATTN: CENAB-PL-E (Michael Schuster)

Comments:

Michael: per our conversation yesterday, here is a copy of the letter pertaining to the reuse of the NGA Sumner site that I have sent via e-mail half an hour ago. I will also send a hard copy via the U.S. Postal Service.

Thanks in advance for your attention to this matter and our concerns

Harold Pfohl

H. Pfohl 12/9/10

☐ Urgent ☐ For Review ☐ Please Comment ☐ Please Reply ☐ Please Recycle

GLEN ECHO HEIGHTS CITIZENS ASSOCIATION
6224 Winnebago Rd.
Bethesda, MD 20816
Cell: 703-861-1688

December 9, 2010

BY FAX & EMAIL

U.S. Army Corps of Engineers
Baltimore District
ATTN: CENAB-PL-E (Michael Schuster)
P.O. Box 1715
Baltimore, MD 21203-1715

Re: Reuse of the National Geospatial Intelligence Agency (NGA) Sumner Site, 4600 Sangamore Road, Bethesda, MD.

Dear Mr. Schuster:

Confirming our telephone call yesterday afternoon, our community would very much appreciate a presentation by the Corps of Engineers regarding the proposed reuse of the NGA site. This site is a dominant presence in our locale and what is occurring there is a matter of interest and concern to the neighborhoods that surround it.

You mentioned that proceeding with a presentation requires the approval of your client and that your client wishes to keep a low profile, which is understandable. Our concerns are along the lines of the effect on our environment, traffic, cell phones, impact on the mall, etc. You can see some of the questions that have been raised by going to our website and viewing the comments that were submitted when we published your notice of the Environmental Assessment – go to: www.glenechoheights.com. Scroll down to the heading: "INTELLIGENCE COMMUNITY CAMPUS TO REPLACE NATIONAL GEOSPACIAL INTELLIGENCE AGENCY."

We look forward to hearing from you in the near future and to the possibility of a presentation by the Corps of Engineers on this subject of importance to all of us here.

Thank you in advance for your time and best wishes for a most enjoyable holiday season.

Sincerely yours,

Harold W. Pfohl, President
Glen Echo Heights Citizens Assn.

US Army Corps of Engineers

Baltimore District

Attention: CENAB – PL-E (Michael Schuster)

PO Box 1715

Baltimore, MD 21203-1715

Dear Army Corps of Engineers:

Re: Proposed Re-development of Sangamore Blvd Site of Geospatial Intelligence Agency into an Intelligence Community Campus

Registration of Strong Objection to Process, Difficulty Understanding Proposal, and Objection to Apparent Environmental and Community Damage

From: Jesse L. Goodman and Nicole Lurie, 6655 Macarthur Blvd, Bethesda, MD

We write as directly affected neighbors concerned with the community and the environment.

While trying to get more information - unsuccessfully so far - we want to add to and support the very serious concerns being raised by our neighbors and community - both substantive (though it is very difficult to evaluate based on the scanty data provided on line) and also about a process that is at best vague and hurried, at worst deceptive, and which most certainly is completely inadequate.

1- THE ENVIRONMENT: It is difficult to tell but it appears that the proposal could result in substantial loss of natural habitat, including creek drainage, trees and wildlife in an environmentally sensitive area, with effects adding to the continued destruction of wildlife and migratory bird habitat and movement in the Palisades corridor and along the Potomac River/Canal, degrading what is a remarkable existing urban preserve. Again, while difficult to tell what is going on, that our government would apparently propose to damage and remove habitat in a sensitive area, when they should be doing the opposite, would be terrible. It appears this would degrade the natural environment, immediately affecting adjoining neighbors, including ourselves, but most important, ultimately and permanently the broader environment. Instead of environmental destruction, the availability of this site should be used as an opportunity to restore and augment the natural environment of the Palisades and the Potomac. Options that should be considered and then, only with full participation of the community, potentially enacted are to do whatever is best both for the preservation of what does exist as wild and with the creation/addition of additional natural environment and mixed parkland and recreational area. This area adjoins the existing parkland along MacArthur Blvd, the Canal and the Waldorf School and County Park next door and should be used to augment it, not to be developed in a manner resulting in further damage.

II. SECURITY AND SAFETY: With respect to security, while the historical presence of the current campus is understandable, in the current era, the siting and building of a new major national security complex, which will likely include heavy commuting by automobile as well as requisite high security measures, and increase the potential to become a target in a residential neighborhood seems unreasonable. As per above, this is another reason, if changes are to be made, to further evaluate and support environmentally and recreationally sensitive uses of the land.

CONCLUSION: These types of issues demand not surreptitious notice and minimal discussion but a complete Environmental Impact Study or EIS with full transparency, adequate opportunity and time to study and comment on an actual proposal and the examination of possible options - both to meet the Intelligence Community's needs elsewhere and, most important, to use this opportunity to improve the environment and community and not to degrade them. It must be a study and process that is inclusive of broader audiences concerned with both the neighborhood (and adjoining communities) and the environment including the Potomac River and the region.

We insist on a transparent process and seek an outcome which at the very least preserves our community environment with absolutely no loss of any existing forest and environment and, ideally, one that further enhances the environment that makes Glen Echo Heights, Brookmont and the Palisades special to all of us as well as an urban treasure and environmental necessity.

Thanks very much,

Jesse L. Goodman

Nicole Lurie

December 1, 2010

TO: U.S. Army Corps of Engineers
Baltimore District
P.O. Box 1715
Baltimore, MD 21203-1715

ATTN: CENAB-PL-E (Michael Schuster)

FROM: Sumner Village Community Association
Kay Bowman, President, Board of Directors

RE: Comments on Planned Environmental Assessment for Intelligence Community Campus in Bethesda, Maryland

The Sumner Village Community Association (SVCA) represents 395 condominium unit owners in one of the residential neighborhoods surrounding the site of the proposed Intelligence Community Campus (ICC). The public notice about the EA is the first we have heard about the disposition of the site when the current tenant, the National Geospatial Intelligence Agency (NGA), relocates to Virginia in 2011. Although the notice provides little detail about the planned changes at the site, we are sufficiently concerned about retaining the residential character of the neighborhood that we offer the following comments for your consideration during preparation of an Environmental Assessment (EA) for the ICC:

- **On-site structures** – Any new or renovated structures on the campus should be low rise, no taller than the five story buildings there now. Anything taller would significantly conflict with the residential nature of the surrounding area, which consists of both single-family homes and low rise multi-family dwellings.

- **Parking** – All parking for ICC-related individuals (employees, visitors, contractors, etc.) should be on-site. Currently, some people working at or visiting NGA park on the nearby residential streets, especially Sentinel Drive, because of inadequate space on-site or possibly to avoid the vehicle check at the entry. This means the local streets to our homes are cluttered with vehicles during the workweek. The proposed garage at the back of the site should be large enough to accommodate the vehicles of all ICC-related individuals but not be taller than the existing buildings. Consider putting some levels of parking underground in order to lower the height of the structure.

- **Entry and security checkpoint** – We support the proposed setback of the entry security building, as the current one—located very close to Sangamore Road—is large, not particularly attractive and not in keeping with the residential nature of the neighborhood. We are concerned about the proposed mid-block entrance on Sangamore, which will need stop signs or signals to facilitate vehicle entry and egress. This would add a third stop point in the short distance along Sangamore between Sentinel Drive (stop signs) and Overlea Road (signals), a major inconvenience for residents who must use Sangamore to enter and exit the community.

- **Landscaping and fencing** – The proposed landscaping, instead of pavement, on the northern half of the site and especially along Sangamore would be a most welcome, attractive transformation. If enclosing the perimeter continues to be necessary for security, dark green instead of black fencing would be more attractive. Locating the fencing further back from Sangamore would permit landscaping between the sidewalk and the fence, further enhancing the appearance of the site.

We would appreciate your placing the following Sumner Village contacts on direct distribution for the EA, when issued, and for any other information pertaining to the ICC:

SVCA Board of Directors
ATTN: Mary Fowler, Board Member
4974 Sentinel Drive, #102
Bethesda, MD 20816-3515
E-mail: maryfowler@earthlink.net

Sumner Village Condominiums
ATTN: Karen Johnson, General Manager
4910 Sentinel Drive
Bethesda, MD 20816
E-mail: kjohnson.svca@verizon.net

In addition, we ask that a public meeting be held for interested residents of the Sumner area, to explain the purpose of the ICC, the entities that will be located there and further details of the planned site renovations.

Thank you for the opportunity to comment.

cc: Susan Buffone, Office of Montgomery County Councilmember Roger Berliner
Joan Kleinman, Office of Representative Christopher Van Hollen
Kenneth Hartman, Director, Bethesda-Chevy Chase Regional Services Center
SVCA Board Members
Karen Johnson, SV General Manager

WASHINGTON
WALDORF
SCHOOL

November 24, 2010

U.S. Army Corps of Engineers, Baltimore District
ATTN: CENAB-PL-E (Michael Schuster)
P.O. Box 1715
Baltimore, MD 21203-1715

Re: Environmental Assessment - Intelligence Community Campus, Sangamore Road, Bethesda, Montgomery County, Maryland

Dear Mr. Schuster:

The Washington Waldorf School ("WWS") hereby requests to be included in USACE's record in this proceeding as a party to receive notice. Please send all materials to the attention of the undersigned at the address provided above.

WWS recently learned that the U.S. Army Corps of Engineers ("USACE") is preparing an Environmental Assessment pursuant to the National Environmental Policy Act in connection with a proposed master plan to reconfigure the current National Geospatial-Intelligence Agency site to an Intelligence Community Campus ("ICC"). Please advise WWS of USACE's docket number in this proceeding and any website or other public, readily-accessible resource for viewing documents relating to USACE's Environmental Assessment process for the ICC.

WWS occupies the former Montgomery County Brookmont Elementary School at 4800 Sangamore Road, and abuts the proposed ICC site along the school's entire southern property line. As the occupant of property immediately abutting the proposed ICC, WWS has a significant interest in the potential impacts of any redevelopment USACE may pursue in connection with this project.

Sincerely,

Natalie Adams
Faculty Chair

cc: Fort Sumner Citizens Association
Glen Echo Heights Citizens Association
Kenneth B. J. Hartman, Director, Bethesda-Chevy Chase Regional Services Center
Hon. Christopher Van Hollen
Hon. Roger Berliner

6665 MacArthur Boulevard
Bethesda, Maryland 20816

November 26, 2010

US Army Corp of Engineers
Baltimore District
Attention: CENAB-PL-E (Michael Shuster)
Post Office Box 1715
Baltimore, Maryland 20213-1715

Dear Sirs:

I am writing in reference to the EA for the Intelligence Community Campus being planned for Sangamore Road in Bethesda.

As a neighbor whose property adjoins the property across Wapakoneta Road, we are extremely concerned about the plan. The plan appears to envision expanding the footprint of the Campus and cut down the trees in along the road up to the houses on Wapakoneta Road, as well as the trees blocking the view of the campus from the community park and baseball field.

We have three types of concerns. First, this wooded area is part of the habitat of wildlife, including hawks and, most importantly, several bald eagles. Second, cutting down the trees and opening up the view of the Campus from the park would diminish the enjoyment of the site. Third, the wooded area along Wapakoneta Road would reduce the park-like feel of the neighborhood and diminish the property values.

We hope that you will take these concerns into account in your planning.

Very truly yours,

Steven C. Salop

Judith R. Gelman

DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, CORPS OF ENGINEERS
P. O. BOX 1715
BALTIMORE, MARYLAND 21203-1715

REPLY TO
ATTENTION OF

Planning Division

1 June 2011

SUBJECT: Notice of Availability for the Environmental Assessment and Draft Finding of No Significant Impact for the proposed Intelligence Community Campus (ICC) Master Plan at the National Geospatial-Intelligence Agency (NGA) Sumner Site in Bethesda, Maryland.

The U.S. Army Corps of Engineers, Baltimore District (the Corps), on behalf of the Defense Intelligence Agency (DIA), has prepared an Environmental Assessment (EA) and a Draft Finding of No Significant Impact (FNSI) for the Intelligence Community Campus (ICC) project in Bethesda, Maryland. The EA evaluated the environmental, cultural, and socioeconomic impacts associated with the proposed master plan for the development of an Intelligence Community Campus on the existing site of the National Geospatial-Intelligence Agency (NGA) Sumner Site in Bethesda, Maryland. The current NGA operations at the Sumner Site will be relocated to NGA's new facility currently under construction at Fort Belvoir, Virginia. The Sumner site is located at 4600 Sangamore Road, Bethesda, Maryland, 20816 in Montgomery County, Maryland.

The purpose of this letter is to initiate the 30-day public review period, as required by the National Environmental Policy Act (NEPA) and in accordance with Army NEPA guidelines. The 30-day public comment period begins 3 June 2011, and ends 5 July 2011. In an effort to reduce paper waste the EA and Draft FNSI are available for review from the USACE public website: **http://www.nab.usace.army.mil/Public%20Notices/Misc.htm**.

The official Notice of Availability (NOA) for the EA and Draft FNSI will be advertised in the Washington Post on June 3, 2011. The NOA that will be advertised in the Washington Post is attached for your reference.

The proposed action and the No Action Alternative are evaluated in the EA. The EA evaluates the potential environmental impacts to the following resource areas: land use, soils, topography drainage, stormwater, air quality, water resources, biological resources, cultural resources, aesthetics and visual resources, socioeconomics and environmental justice, traffic, noise, public health and safety, services and utilities, and coastal zone resources.

Comments on the EA and Draft FNSI may be submitted on or before 5 July 2011, either (1) by mail to Mr. Michael Schuster, U.S. Army Corps of Engineers – Baltimore District, 10 South Howard Street, Baltimore, MD 21201, or (2) by electronic mail (e-mail) to michael.j.schuster@usace.army.mil. All mailed and e-mailed comments must be postmarked or electronically dated on or before 5 July 2011, to become part of the public record. For further information contact Mr. Michael Schuster at the address or e-mail address in the previous paragraph, phone 410-962-8061.

Sincerely,

for: Michael Conner

LARRY EASTMAN
Chief, Planning and Environmental
Services Branch

Environmental Assessment
Intelligence Community Campus
Bethesda, Maryland (Montgomery County)
Notice of Availability Mailing List

I. FEDERAL AGENCIES

Mr. Bill Arguto
Environmental Review Coordinator
U.S. Environmental Protection Agency
Region 3
1650 Arch Street
Philadelphia, PA 19106

Mr. Leopoldo Miranda
Field Supervisor
U.S. Fish and Wildlife Service
Chesapeake Bay Field Office
177 Admiral Cochrane Dr.
Annapolis, MD 21401

Peggy O'Dell, Regional Director
National Park Service
National Capital Region
1100 Ohio Drive, SW
Washington D.C. 20242

II. STATE OF MARYLAND AGENCIES

Mrs. Linda C. Janey, J.D., Manager
Maryland State Clearinghouse
Maryland Office of Planning, Room 1104
301 West Preston Street
Baltimore, MD 21201-2365

III. REGIONAL OFFICES

David Levy, Director
National Capital Planning Commission
401 9th Street, NW
North Lobby, Suite 500
Washington, DC 20004

Karl Berger
Senior Environmental Planner
Metropolitan Washington Council oc Governments
777 North Capitol Street, NE, Suite 300
Washington, DC 20002

Bill Barron, Team Leader
MNCPPC - Montgomery County Planning Department
8787 Georgia Ave
Silver Spring, MD 20910

Margaret Rifkin
MNCPPC - Montgomery County Planning Department
8787 Georgia Ave
Silver Spring, MD 20910

IV. OTHER

Mr. Harold Pfhol
Glen Echo Heights Citizens Association
6224 Winnebago Road
Bethesda, MD 20816

Jesse L. Goodman & Nicole Lurie
6655 MacArthur Boulevard
Bethesda, MD 20816

SVCA Board of Directors
ATTN: Mary Fowler, Board Member
4974 Sentinel Drive, #102
Bethesda, MD 20816

Sumner Village Condominiums
ATTN: Karen Johnson, General Manager
1940 Sentinel Drive
Bethesda, MD 20816

Washington Waldorf School
ATTN: Natalie Adams
4800 Sangamore Road
Bethesda, MD 20816

Steven C. Salop & Judith R. Gelman
6665 MacArthur Boulevard
Bethesda, MD 20816

DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, CORPS OF ENGINEERS
P. O. BOX 1715
BALTIMORE, MARYLAND 21203-1715

REPLY TO
ATTENTION OF

Planning Division

1 June 2011

Mrs. Linda C. Janey, J.D., Assistant Secretary
Clearinghouse & Communication
Maryland Department of Planning, Room 1104
301 West Preston Street
Baltimore, MD 21201-2305

SUBJECT: Notice of Availability for the Environmental Assessment and Draft Finding of No Significant Impact for the proposed Intelligence Community Campus (ICC) Master Plan at the National Geospatial-Intelligence Agency (NGA) Sumner Site in Bethesda, Maryland.

Dear Mrs. Janey,

The U.S. Army Corps of Engineers, Baltimore District (the Corps), on behalf of the Defense Intelligence Agency (DIA) has prepared an Environmental Assessment (EA) and a Draft Finding of No Significant Impact (FNSI) for the Intelligence Community Campus (ICC) project in Bethesda, Maryland. The EA evaluated the environmental, cultural, and socioeconomic impacts associated with the proposed master plan for the development of an Intelligence Community Campus on the existing site of the National Geospatial-Intelligence Agency (NGA) Sumner Site in Bethesda, Maryland. The current NGA operations at the Sumner Site will be relocated to NGA's new facility currently under construction at Fort Belvoir, Virginia. The Sumner site is located at 4600 Sangamore Road, Bethesda, Maryland, 20816 in Montgomery County, Maryland.

The purpose of this letter is to initiate the 30-day public review period, as required by the National Environmental Policy Act (NEPA) and in accordance with Army NEPA guidelines. The 30-day public comment period begins 3 June 2011, and ends 5 July 2011. In an effort to reduce paper waste the EA and Draft FNSI are available for review from the USACE public website: **http://www.nab.usace.army.mil/Public%20Notices/Misc.htm**.

The official Notice of Availability (NOA) for the EA and Draft FNSI will be advertised in the Washington Post on June 3, 2011. The NOA that will be advertised in the Washington Post is attached for your reference.

The proposed action and the No Action Alternative are evaluated in the EA. The EA evaluates the potential environmental impacts to the following resource areas: land use, soils, topography drainage, stormwater, air quality, water resources, biological resources, cultural resources, aesthetics and visual resources, socioeconomics and environmental justice, traffic, noise, public health and safety, services and utilities, and coastal zone resources.

Comments on the EA and Draft FNSI may be submitted on or before 5 July 2011, either (1) by mail to Mr. Michael Schuster, U.S. Army Corps of Engineers – Baltimore District, 10 South Howard Street, Baltimore, MD 21201, or (2) by electronic mail (e-mail) to michael.j.schuster@usace.army.mil. All mailed and e-mailed comments must be postmarked or electronically dated on or before 5 July 2011, to become part of the public record. For further information contact Mr. Michael Schuster at the address or e-mail address in the previous paragraph, phone 410-962-8061.

Sincerely,

LARRY EASTMAN
Chief, Planning and Environmental
Services Branch

DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, CORPS OF ENGINEERS
P. O. BOX 1715
BALTIMORE, MARYLAND 21203-1715

June 1, 2011

Planning Division

Kay Bowman – Branch Manager
Montgomery County Library – Bethesda Branch
7400 Arlington Road
Bethesda, Maryland 20814

Ken Lewis – Branch Manager
Montgomery County Library – Little Falls Branch
5501 Massachusetts Avenue
Bethesda, Maryland 20816

Dear Ms. Bowman and Mr. Lewis;

The U.S. Army Corps of Engineers, Baltimore District, on behalf of Defense Intelligence Agency (DIA), has prepared an EA and Draft FNSI for the proposed redevelopment of the National Geospatial-Intelligence Agency (NGA) – Sumner Site located in Bethesda, Maryland as the Intelligence Community Campus, Bethesda (ICC-B) site. The purpose of this letter is to transmit two copies of this documentation for 30-day public availability and comment.

Public Notice of Availability (NOA) of this documentation is being posted on 3 June 2011 in the Washington Post. Please retain the enclosed Environmental Assessments and the NOA in your library and make them available upon request. Comments regarding this matter may be addressed to Mr. Michael J. Schuster of the Baltimore District. His mailing address is U.S. Army Corps of Engineers, Baltimore District, ATTN: CENAB-PL-E, 10 South Howard Street, Baltimore, Maryland 21201. You may contact Mr. Schuster at (410) 962-8160 or via email at Michael.J.Schuster@usace.army.mil if you have any comments or questions regarding this matter.

Sincerely,

Michael J. Schuster
Team Leader
Planning Division

Enclosures

The Washington Post

CLASSIFIED

E1

Inside weekend

FRIDAY, JUNE 3, 2011

DM

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820 Official Notices

Notice of Availability

Environmental Assessment (EA) and Draft Finding of No Significant Impact (FNSI) for the Intelligence Community Campus – Bethesda (Montgomery County, MD)

On behalf of the Defense Intelligence Agency (DIA), the U.S. Army Corps of Engineers (USACE) – Baltimore District has prepared an EA and Draft FNSI for the proposed redevelopment of the National Geospatial-Intelligence Agency (NGA) – Sumner Site located in Bethesda, Maryland as the Intelligence Community Campus, Bethesda (ICC-B) site. The EA describes the potential environmental consequences resulting from the proposed redevelopment and operation of the ICC-B. The NGA – Sumner Site will be vacated by its current tenant (NGA) and available for new tenants in the fall of 2011. The Sumner Site is currently occupied by roughly 3,000 NGA employees. The purpose of the Proposed Action is to develop a collaborative intelligence community campus for the relocation of roughly 3,000 intelligence workers in the Washington National Capital area at the existing NGA - Sumner Site. The Proposed Action is necessary because: 1) there is a shortage of secured administrative building space in the Washington National Capital area; 2) a shared intelligence community campus supports congressional desires for a collaborative community environment and the consolidation of an intelligence community facility strategy; and 3) it supports the reuse of existing government facilities.

The proposed action and the No Action Alternative are evaluated in the EA. The EA evaluates the potential environmental impacts to the following resource areas: land use, soils, topography drainage, stormwater, air quality, water resources, biological resources, cultural resources, aesthetics and visual resources, socioeconomics and environmental justice, traffic, noise, public health and safety, services and utilities, and coastal zone resources.

A 30-day public comment period begins 3 June 2011, and ends 5 July 2011. Copies of the EA and Draft FNSI have been made available for public review at the following libraries:

•Montgomery County Public Library – Bethesda Library: 7400 Arlington Road, Bethesda, Maryland 20814.
•Montgomery County Public Library – Little Falls Library: 5501 Massachusetts Avenue, Bethesda, Maryland 20816.

Additionally, the EA and Draft FNSI are available for review from the USACE public website: http://www.nab.usace.army.mil/Public%20Notices/Misc.htm.

Comments on the EA and Draft FNSI may be submitted on or before 5 July 2011, either (1) by mail to Mr. Michael Schuster, U.S. Army Corps of Engineers – Baltimore District, 10 South Howard Street, Baltimore, MD 21201, or (2) by electronic mail (e-mail) to michael.j.schuster@usace.army.mil. All mailed and e-mailed comments must be postmarked or electronically dated on or before 5 July 2011, to become part of the public record. For further information contact Mr. Michael Schuster at the address or e-mail address in the previous paragraph, phone 410-962-8061.

825 Bids & Proposals

Notice to Minority, Women, and Small Businesses

Landmark Structures, is seeking qualified minority and women owned businesses for the PROPOSED 0.50 MG ELEVATED WATER STORAGE TANK PROJECT located in Laytonsville, MD for subcontracting and supplier opportunities in the following areas:

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All interested businesses should note the scope of works that pertain

Schuster, Michael J NAB02

From: harold pfohl [hpfohl@verizon.net]
Sent: Friday, June 03, 2011 6:01 PM
To: Schuster, Michael J NAB02
Subject: NGA site reuse

Michael – I rec'd the formal letter, have been to the Library to look at the document, and have now accessed it as well on my computer.

Nice work. I think that all citizen concerns could be taken care of by anyone who digs into this. Having said that I will indeed proceed to gather questions as you suggested, and will forward that to you.

I do think that politically it would be advisable to have someone come to the community this fall to make a presentation of the key points – and the principle benefit would be to show the local residents that the DIA wants to be a good neighbor. Put a human being beside the info – much more effective.

Thanks very much for this. I'll keep you posted on how it is received.

Best regards,

Harry Pfohl, Pres.

Glen Echo Heights Citizens Assn.

Schuster, Michael J NAB02

From: Mary Fowler [maryfowler@earthlink.net]
Sent: Tuesday, July 05, 2011 8:25 PM
To: Schuster, Michael J NAB02
Subject: Comments on EA for the ICC

Mr. Schuster:

We feel strongly that the residential character of the neighborhood must be preserved. In general the planned features of the renovated site, as preliminarily shown in the EA, support that, but we continue to be concerned about some of the particulars:

* Parking structure--since height is to be addressed through the design process, we request that neighborhood groups and residents be involved in that process.
* Widening of Sangamore Rd along east side of the campus--acceptable only if the space for widening the road is taken from the campus side, not the residential/mall side, which has mature landscaping. A new sidewalk on the campus side should be included in the plans, so that agency employees and neighborhood residents can walk on either side of Sangamore, as now.
* Fencing and clear zones--proposed ornamental metal fencing is certainly preferable to barbed wire, but what do "anti-climb pickets" look like? Will there be grass or landscaping in the 30-foot clear zones on either side of the fence? We do not want the property looking like a prison or military fortress.
* Active and passive vehicle barriers--what will these look like? We would prefer some that are attractive and unobtrusive.
* Exterior lighting--what will it look like? White lighting, as at mall, would be more in keeping with residential character than sodium yellow.
* Construction--what are the likely start and end dates? Will all materials, equipment and workers' vehicles be kept on site? (We do not want materials, equipment and vehicles stored or parked on the residential streets around the site.)

Various communities in the areas surrounding the present NGA campus have requested a briefing on the renovation, so local neighbors like ourselves can better understand what is planned and input to the process. So far, no briefing has been provided. We would hope that the new occupants would want to continue the good relationship that NGA enjoyed with its residential neighbors. So far, the lack of communication does not auger well. We request a briefing within the next six weeks, and the establishment of an ongoing process to involve the neighborhood more fully in the design/execution process.

Sincerely,

Mary Fowler and Larry Galowin
4974 Sentinel Dr. #102
Bethesda, MD 20816

Schuster, Michael J NAB02

From: Rifkin, Margaret [Margaret.Rifkin@montgomeryplanning.org]
Sent: Wednesday, June 29, 2011 11:05 AM
To: Schuster, Michael J NAB02
Subject: DRAFT COMMENTS to DISCUSS from ENV PLANNER

Review of Environmental Assessment

Intelligence Community Campus-Bethesda

As demonstrated in the Environmental Assessment (EA) there will be minor short and long term impacts from the redevelopment of the ICC-B site.

Short term minor adverse impacts identified are typical of construction projects of this nature and size, and include dust, air emissions, and noise. Impacts to soils, surface waters, drainage, and stormwater are expected. There is anticipated disruption of water, electrical, and natural gas services, increased construction traffic, and increased child safety risks from the presence of a construction site in a residential neighborhood and the use of hazardous materials associated with the work. Efforts to reduce impacts are mentioned with minimization and mitigation details to be released during the detailed design and permitting process.

Long term minor adverse impacts are demonstrated for air quality, and cultural resources. Air quality impacts from nitrogen dioxide (NO_2) are projected to exceed National Ambient Air Quality Standards (NAAQS) however they will be below the maximum contaminant levels determine by the Environmental Protection Agency (EPA).

Air and Radiation Management Administration (ARMA) is likely to request ICC-B to demonstrate compliance with the NAAQS for NO_2 limits prior to issuance of a construction permit. Efforts to reduce impacts are mentioned with minimization and mitigation details to be released during the detailed design and permitting process.

Detailed Comments

2.2: Project Elements: “The parking garage will replace the current surface parking that exists at the Sumner Site”. However, the proposed footprint of the new parking structure is partially sighted within a forested steeply sloped bank. The subsequent master plan should utilize the existing 9-acres of surface parking lot rather than creating new environmental impacts. This would adhere with the plan intentions of compliance with LEED certification, EISA Section 438, and UFC 3-210-06 A Design: Site Planning and Design.

Avoiding the forested steep slope will result in:

1. Reduced construction costs by omitting the need for grading, fill disposal, and a 25+ retaining wall.
2. Reduce environmental damage
3. Optimize site utility infrastructure

4. Create a more aesthetic site design.

Pg. 2.2.0 Demolition: Consider deconstruction measures to salvage materials for reuse, donation, or sale. This provides additional LEED points, reduces disposal costs, reduces landfill fees, and ‘gives back’ to the community.

2.2.11. Stormwater: Three ESD measures to be utilized in the plan are listed here including roof drains which are not ESDs.

Environmental Consequences

5.2 Air Quality: The proposed plan would have possible long-term minor adverse impacts on local air quality. The impacts could result from the installation and use of back-up generators and the commuting of workers to the site. Efforts to reduce these emissions will be addressed through the permit process.

5.3 Soils and Geology: Paragraph 1 states “the soils in the proposed project area are previously disturbed soils and would be excavated…” The proposed parking garage will disturb, grade, and removed previously undisturbed steep, wooded slopes containing forest interior species.

5.5 Stormwater Systems: As stated “The proposed development will utilize the existing site grading while removing some of the impervious areas.” As mentioned above, the parking garage appears to be placed on a forested, steep sloped bank. Moving of the parking building to overlay on the existing parking lot is recommended.

Pg. 5-7: Drainage Area V discharges to the intermittent stream on the north end of the property. This stream is expressing severe erosion. In order to reduce scour effects and further degradation, stormwater management should include channel protection criteria.

Pg. 5-7Drainage Area Z will discharge the runoff from the bioretention basin into the “existing municipal system”. Further in the document discharge is described to go to the municipal stormwater system. It is recommended to clarify discharge location within this paragraph.

5.7 Vegetation: The proposed action states that “less than 0.1 acre of wooded land would be impacted along the western portion of the site…”. However, figure 2-3 on page 2-7, the footprint of the proposed parking structure is well beyond the existing parking lot into the adjacent forest.

M a r g a r e t K. R i f k i n, R L A, A I C P

U r b a n D e s i g n e r / P l a n n e r C o o r d i n a t o r, D e s i g n D i v i s i o n

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3 0 1 4 9 5 4 5 8 3
Montgomery County Planning Department

The Maryland National-Capital Park and Planning Commission

Schuster, Michael J NAB02

From: Rifkin, Margaret [Margaret.Rifkin@montgomeryplanning.org]
Sent: Wednesday, June 29, 2011 10:58 AM
To: Schuster, Michael J NAB02
Subject: Draft Comments on the Environmental Assessment for the Intelligence Community Campus on Sangamore Road

At a minimum, the EA should include a traffic study based on LATR/PAMR Guidelines, a Transportation Management Plan (TMP), and parking analysis per the NCPC recommendations in the Comprehensive Plan for the National Capital – Transportation Element. (See link: http://www.ncpc.gov/DocumentDepot/Publications/CompPlan/ComPlanPartFour_Transportation.pdf)

The preparation of the study and TMP and its review could take 3-4 months. The study prep could be complicated by the fact that no counts could be done after June 7th and until September after school reopens.

Cherian Eapen

Planner/Coordinator

Transportation Planning | Area 1 Team

Maryland-National Capital Park and Planning Commission

8787 Georgia Avenue | Silver Spring | MD 20910

Phone: 301.495.4539 | Fax: 301.495.1304

cherian.eapen@montgomeryplanning.org | www.montgomeryplanning.org

MONTGOMERY COUNTY PLANNING DEPARTMENT
THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

July 1, 2011

Larry Eastman
Chief, Planning and Environmental Service Branch
Department of the Army
Baltimore District, Corps of Engineers
PO Box 1715
Baltimore, Maryland 21203-1715

RE: Draft Environmental Assessment for Proposed Intelligence Community Campus (ICC) on the existing National Geospatial-Intelligence Agency Sumner Site

Dear Mr. Eastman,

Thank you for your referral of the Draft Environmental Assessment of the Proposed Intelligence Community Campus on the existing National Geospatial-Intelligence Agency (NGA) site in Bethesda. We are looking forwarding to coordinating with you concerning local issues as you retrofit the site for a new use. As you know, transportation issues and the impacts of strategies to address them are among our concerns.

The Department received your November 12, 2010 letter through the Maryland Office of Planning, initiating coordination in identifying environmental issues that may affect the implementation of the project. We responded promptly by letter dated November 22, 2010 and indicated that consistency with our plans, programs and objectives is contingent upon certain actions being taken. These included addressing the transportation recommendations in the local master plan and instituting a formal traffic reduction program. We requested information to assist us in our review per master plan guidance related to neighborhood compatibility. And we asked to be kept apprised of community outreach and feedback.

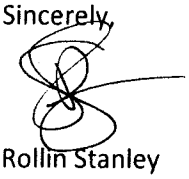
The Department recently received a copy of the Draft Environmental Assessment dated June 2011. At a minimum, the Environmental Assessment should include a **traffic study** based on Montgomery County's Local Area Transportation Review/Policy Area Transportation Review Guidelines, a **Transportation Management Plan** (TMP), and a **parking analysis** consistent with the National Capital Planning Commission recommendations in the "Transportation Element" of the **Comprehensive Plan for the National Capital**. In addition, the proposed footprint for the parking structure will impact forested steep slopes. The environmental assessment and subsequent master plan should minimize this disturbance by using the area currently used as a parking lot to a greater extent. It would be of great help to us if, in addition to working directly with the Maryland State Historic Preservation Office, you included our historic preservation planners. Our planning staff works with SHPO on such Federal Projects.

There is limited opportunity to complete a review and proceed to a public hearing regarding the "Draft Environmental Assessment" prior to the Board's recess for their August break. We have time set aside on Thursday, July 21st to allow Commission Staff and you the opportunity to present the project. The Planning Board would then be able to transmit their formal comments upon the conclusion of that

hearing. We recommend that the public hearing on the Draft Master Plan follow at a later date once the Planning Board reconvenes in September. This will allow you time to make any revisions to the Environmental Assessment and to the Draft Master Plan, in response to the County's analysis concerning local impacts.

The Planning Department staff continues to work on the review and will provide additional comments for your consideration in advance of a public hearing. Margaret K. Rifkin is managing our review and will be your contact person. Thank you for working with the Planning Department on the reuse of this important property.

Sincerely,



Rollin Stanley

cc:
Mr. Michael J. Schuster
Team Leader/Program Manager
Department of the Army
Baltimore District, Corps of Engineers
Box 1715
Baltimore, Maryland 21203-1715

Major Richard Wulff
Real Property Services Field Office
Department of the Army
Baltimore District, Corps of Engineers
Richard.Wulff@usace.army.mil

Mrs. Linda C. Janey, J.D., Assistant Secretary
Clearinghouse and Communications
Maryland Department of Planning
Room 1104
301 West Preston Street
Baltimore MD 21201-2305
ATT: Bob Rosenbush

Jeffrey L. Hinkle, Urban Planner
National Capital Planning Commission
Jeff.hinkle@ncpc.gov

G:\Rifkin\Defense Mapping Agency site

Schuster, Michael J NAB02

From: Peter Reinecke [preinecke@yahoo.com]
Sent: Thursday, June 30, 2011 1:33 PM
To: Schuster, Michael J NAB02
Subject: Comment on EA and Draft FNSI for the proposed redevelopment of the National Geospatial-Intelligence Agency (NGA) - Sumner Site

As a homeowner and resident of a nearby residential property, I am very concerned with the level of noise created by helicopter traffic in the area. Most of this traffic is along the Potomac River corridor and the majority from federal government aircraft. While the EA says at its outset that it includes a noise assessment, there was no mention of potential or planned helicopter traffic. I would oppose additional helicopter traffic particularly into the new complex as it would add significantly to an already excessive level of noise. Will the site include or could it include helicopter landing facilities? If so, what steps would be taken to minimize disturbance to neighbors?

Also, I noticed that the plan does not incorporate use of the NGA locations several blocks away on McArthur Boulevard. Is that accurate? And if so, are there other plans for this site currently under consideration? How can the community residents have input into future use of those sites?

Thank you.

Peter Reinecke
6107 Ridge Drive
Bethesda, MD 20816

National Capital Planning Commission

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IN REPLY REFER TO:
NCPC File No. MP7257

JUL 06 2011

Mr. Michael Schuster
U.S. Army Corps of Engineers - Baltimore District
10 South Howard Street
Baltimore, Maryland 21201

Re: Intelligence Community Campus - Bethesda Environmental Assessment and Draft Finding of No Significant Impact

Dear Mr. Schuster:

Thank you for the opportunity to review and comment on the Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for the proposed Intelligence Community Campus—Bethesda (ICC-B) at 4600 Sangamore Road in Montgomery County, Maryland. NCPC staff provides the following comments on land use, transportation, and visual resources. A general statement on the other resources evaluated within the EA follows this discussion. Please note that during this review staff referred to the Site Development Guide Final Draft (Site Development Guide), dated May 21, 2011, and has also made associated comments on that document where appropriate below.

Land Use Resources

NCPC staff understands that the U.S. Army Corps of Engineers (USACE) is evaluating the reuse and redevelopment of the Sangamore Road federal installation, which is currently being vacated by the National Geospatial-Intelligence Agency, for use by the Defense Intelligence Agency. The Proposed Action within the EA is to reuse this federal installation in a manner that is similar to the existing on-site use and with the same number of employees. The proposed redevelopment provides the federal government an opportunity to bring the existing facilities up to modern standards for operating efficiencies and sustainability and to improve site access, parking, and security in accordance with current federal facility requirements.

The document should evaluate the proposal's consistency with land use policies in the Commission's Comprehensive Plan for the National Capital (Comprehensive Plan), as well as local land use plans and policies. Some examples of the proposal's consistency with the Comprehensive Plan include policies for locating federal workplaces, which encourage the modernization, repair, and rehabilitation of existing federally owned facilities for new federal workplaces before developing new facilities; the utilization of available federally owned land or space before purchasing or leasing additional land or building space; and, the minimization of development of open space by selecting disturbed land or brownfields for new federal workplaces or by reusing existing buildings or sites. The Proposed Action is also consistent with

policies on parks and open space that include: managing lands along the Potomac River in a manner that encourages the enjoyment and recreational use of the water resource, while protecting the scenic and ecological value of the waterway; and ensuring that development does not intrude through the ridge and tree lines of natural terrain areas unless it will not impact vistas to and from those areas.

On a related note, the Proposed Action proposes a campus population of 3,000 personnel (section 2.1 of the EA); however, both the Draft FONSI and Site Development Plan use terms such as "roughly 3,000" and "about 3,000." As the Proposed Action's impacts are evaluated based on 3,000 personnel, the FONSI and Site Development Plan should reflect a maximum number of 3,000 personnel at the site.

Transportation Resources

The Proposed Action includes increasing the number of on-site parking spaces in order to minimize employee parking within the surrounding neighborhood, which is an issue identified in letters from the community included in Appendix A of the EA. NCPC staff notes that the traffic analyses within the Affected Environment and Environmental Consequences sections of the draft EA (sections 4.11 and 5.11) are based on a traffic impact study conducted for the Proposed Action in December 2010 and included as Appendix D of the EA. Staff has identified a discrepancy between the stated number of existing parking spaces within the traffic impact study (1,550 spaces) and the stated number of existing parking spaces within the EA and the Site Development Plan (1,800). (Also note that this discrepancy is exacerbated in the introduction of the EA, section 1, which states that there are 1,480 surface parking spaces currently on site). As the traffic impact study assumes that the site generated traffic for the Proposed Action will increase proportionally at the same rate as the parking capacity (1,550 spaces increased to 2,200 spaces, or 44%); staff is unclear how, if at all, this discrepancy affects the EA's conclusion that the Proposed Action will result in short-term minor impacts and long-term beneficial impacts on traffic. The discrepancy should be addressed and explained prior to the finalization of a FONSI.

Additionally, the increase in employee parking spaces within the Proposed Action deviates from the Comprehensive Plan's policy guidance on the number of parking spaces per employees (parking ratio) at federal facilities in the National Capital Region. Within the Comprehensive Plan, the parking ratio for federal installations in suburban areas beyond 2,000 feet of Metrorail ranges from 1:1.5 to 1:2. The current parking ratio at the installation is 1:1.7 (using 1,800 parking spaces to 3,000 employees) and meets this parking ratio goal. The Proposed Action increases the installation's on-site parking capacity and results in a parking ratio of 1:1.4 (using 2,200 parking spaces to 3,000 employees), which is below the parking ratio goal of 1:1.5 and conflicts with the Comprehensive Plan's policies on encouraging federal employees to use transportation modes other than single occupancy vehicles.

Understanding that installations situated in areas with limited access to transit, such as the proposed ICC-B, may have higher rates of commuting in single occupancy vehicles, as the region's traffic congestion continues to worsen the Comprehensive Plan encourages all federal

agencies to strive to reduce their employees' dependence on single occupancy vehicles. As such, having a variety of transportation related strategies is critical in minimizing an installation's transportation impacts. The EA only evaluates traffic impacts from automobile related improvements within the Proposed Action; it should, however evaluate all proposed installation strategies to mitigate negative impacts that the Proposed Action will have on the surrounding transportation network—including strategies to encourage the use of carpooling and vanpooling, improve transit services or provide shuttles, or improve bicycle and pedestrian facilities. (Staff notes that the Site Development Plan, under the Regional Transportation Section, section 4.4, lists but does not evaluate transportation features under consideration for the installation, including: the provision of E-Vehicle charging stations within the parking facility; assignment of choice parking locations to carpool, compact, and alternate energy vehicles, as well as bicycles and motorcycles; and internal traffic circulation that is designed to accommodate ride-share drop-off and collection points.)

To fully understand these strategies, NCPC requires that a Transportation Management Plan (TMP) be developed as a component of the Site Development Plan. The TMP should include strategies that range from transportation demand management policies to recommended transportation infrastructure improvements and the plan should outline procedures for implementation and evaluation. A clear description of the obstacles that preclude the ICC-B from meeting transportation related goals of the Comprehensive Plan parking ratio is a required component of the TMP.

Further, we note that the conceptual site plan provided within Appendix B of the EA includes a surface parking lot adjacent to the visitor center. It is not clear if the parking spaces provided within this lot are included in the 2,200 spaces proposed for the site. The traffic analysis and associated Site Development Plan should provide the number of parking spaces proposed for the site in total and a breakdown on their use (employee, vanpool/carpool, visitor, fleet, etc.). The Comprehensive Plan parking ratio goal focuses on the provision of parking spaces for employee vehicles; a breakdown on the use of parking spaces at the site will aid in the analysis of traffic impacts resulting from the Proposed Action and is required within the TMP.

The EA's conclusion that the Proposed Action will result in long-term beneficial impacts on traffic is also based in part on the relocation of the installation's entrance, the development of on-site gate queuing lanes that can accommodate peak hour requirements, the elimination of stop signs at Sangamore Road and Sentinal Drive, and the addition of dedicated left turn lanes on Sangamore Road into the installation entrance and onto Sentinal Drive. Implementation of the proposed off-site improvements should be fully coordinated with the appropriate state and local authorities prior to final review of the Site Development Plan by NCPC.

Visual Resources

The proposal includes many positive elements to improve the visual qualities of the installation and limit negative impacts on views from the adjacent National Park property and surrounding community. As such, the Proposed Action will have long-term beneficial impacts to visual

resources as defined within the EA. However, as the adjacent residential community is characterized primarily by low-intensity suburban development, staff recommends that USACE continue to work with the community as the site's building architecture advances to ensure that the proposed contemporary scale, massing, and materials are in harmony with the character of the surrounding community. Similarly, as a small portion of Erskine Hall is visible from a Potomac River overlook, the reflective quality of materials proposed to reface the building's façade in this location should be furthered studied to avoid negative impacts on the overlook's view.

Other Resources

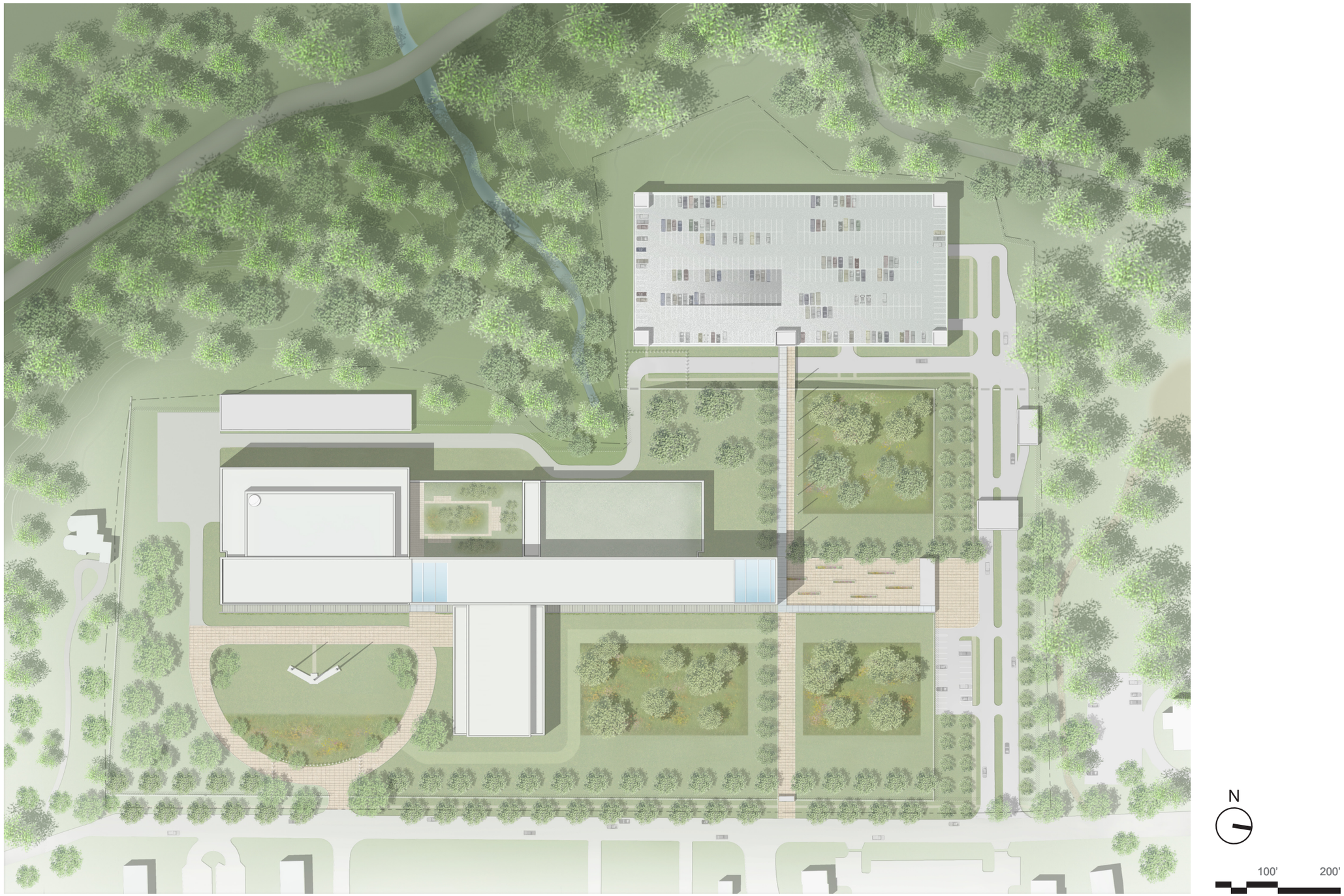
As noted in the EA, there are numerous historic properties located in the ICC-B's area of potential effect (APE), including Erskine Hall and the associated flagpole and Globe Memorial, which are contributing resources to the National Register-eligible U.S. Army Map Service Historic District; and portions of the USACE Baltimore District's Washington Aqueduct. Of particular note is the National Park Service's (NPS) National Register-listed Clara Barton Parkway. We are concerned that the proposed parking structure, as located, may impact steep forested slopes adjacent to the Parkway and that new on-site stormwater management may alter current stormwater run-off patterns within this National Park. Staff recognizes that USACE has been coordinating with the NPS and the Maryland State Historic Preservation Office on these issues both separately and through the Section 106 process of the National Historic Preservation Act, and we encourage you to continue to do so as site planning advances.

NCPC staff supports the Army's efforts to reuse this site and the overall improvements proposed. We appreciate the opportunity to comment at this time and look forward to working with USACE as the Site Development Plan moves through the Commission for formal review. If you have any questions regarding our comments, please contact Mr. Jeff Hinkle at (202) 482-7265 or jeff.hinkle@ncpc.gov.

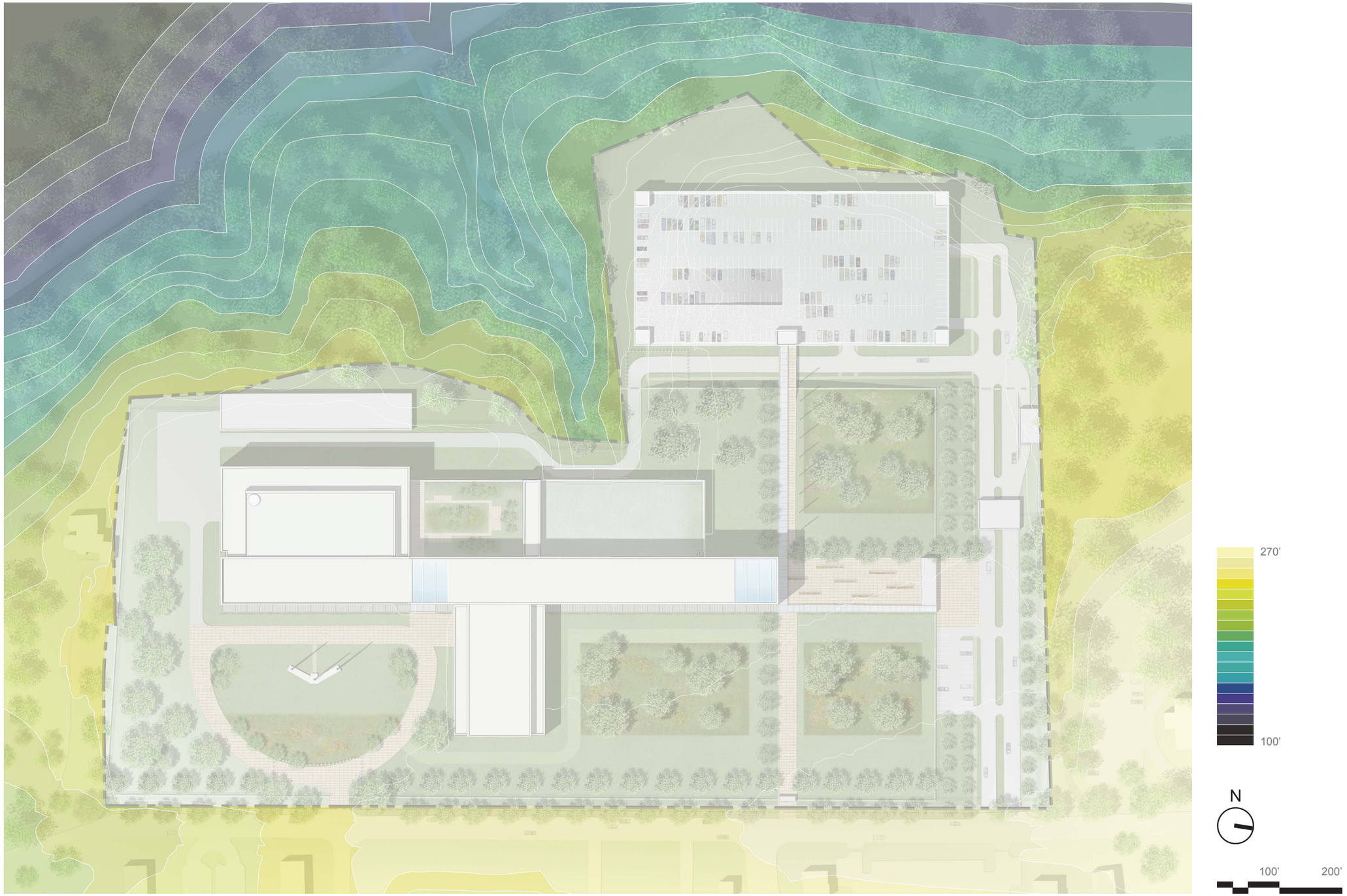
Sincerely,

David W. Levy, RA, AICP
Director, Urban Design and Plan Review

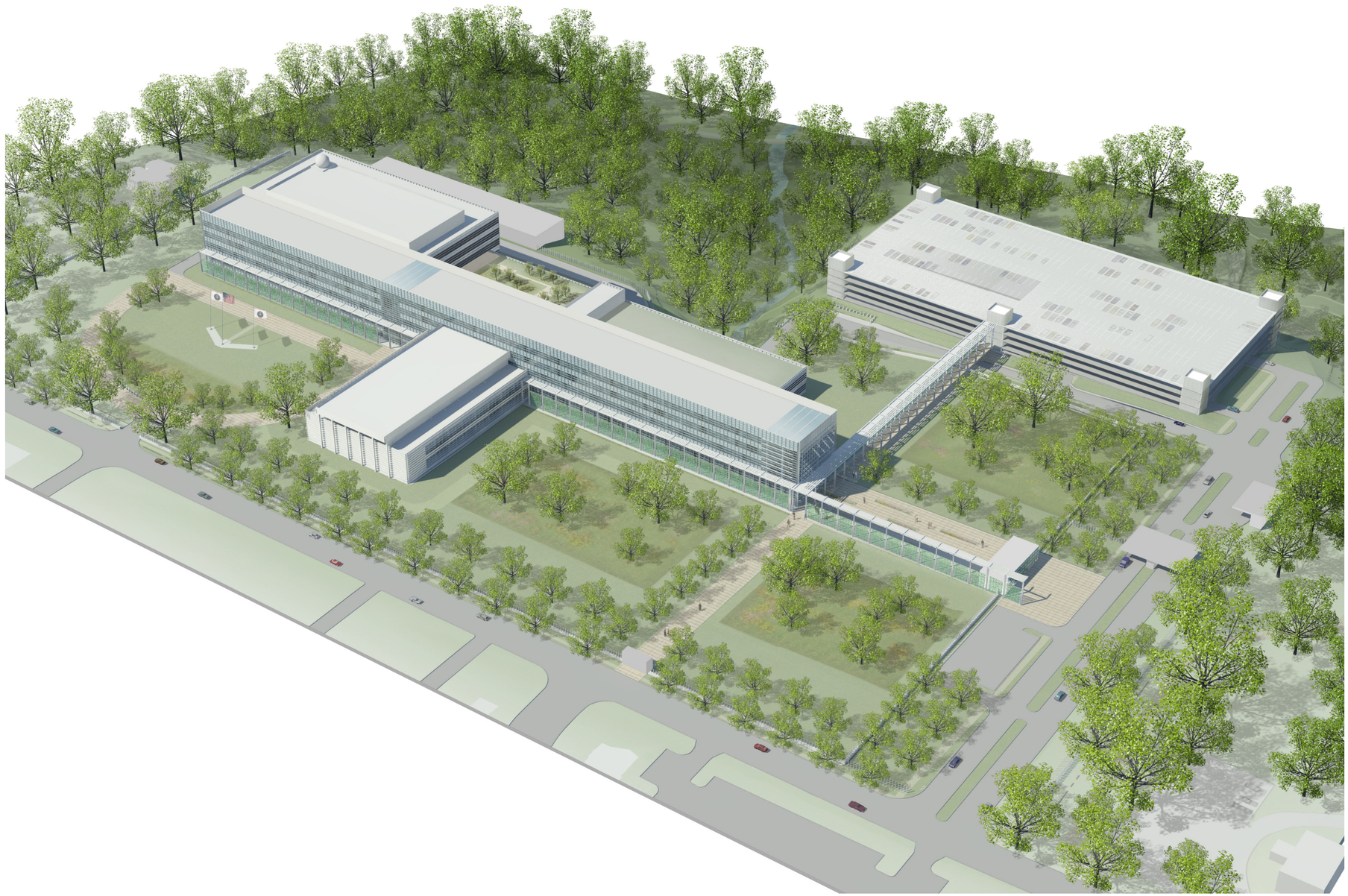
APPENDIX B
CONCEPT DRAWINGS



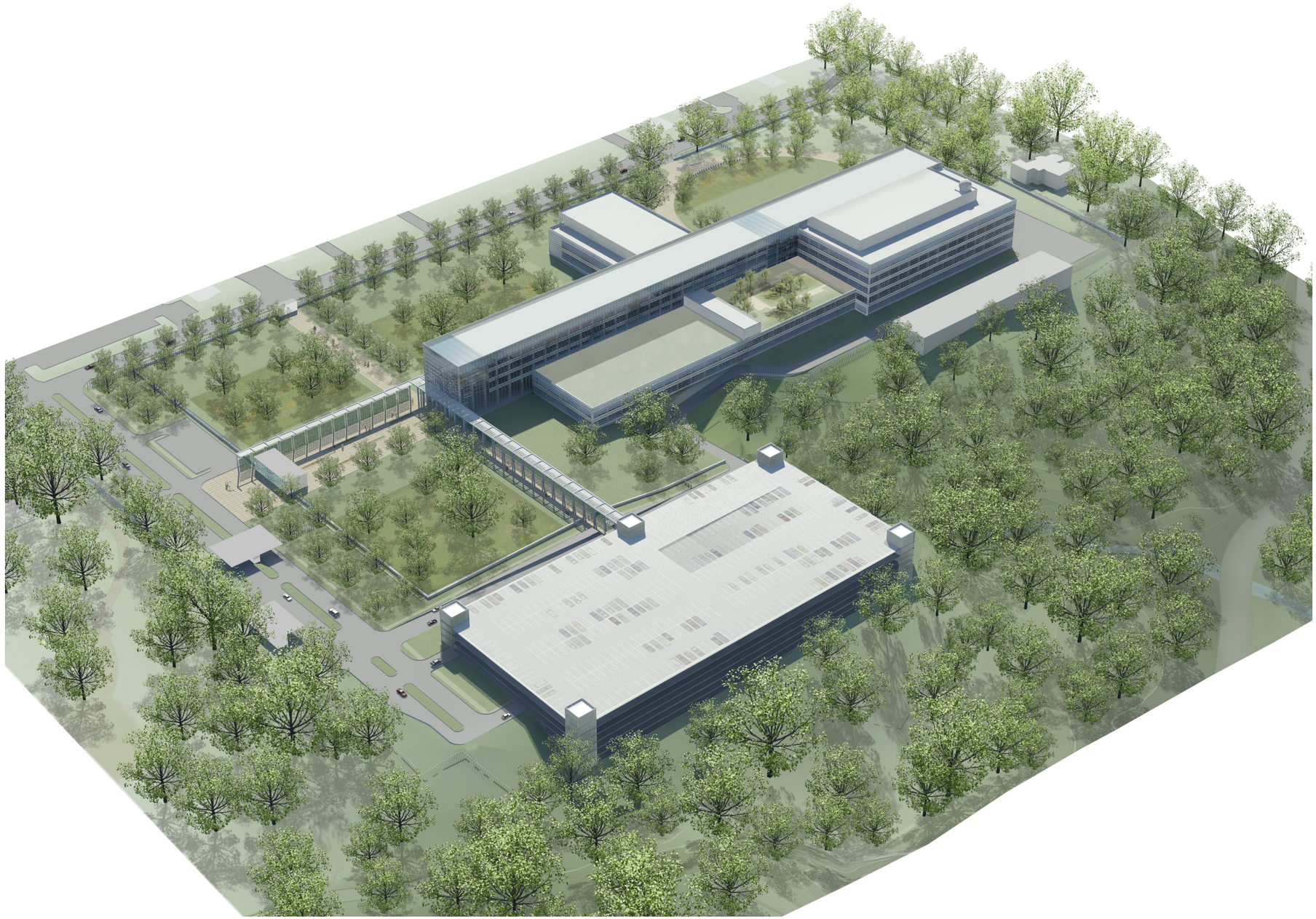
Rendered Site Plan



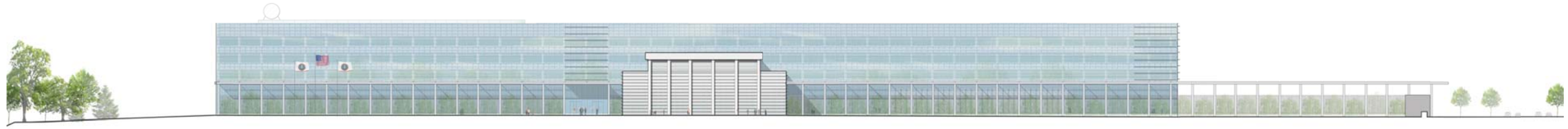
Topography



Northeast Aerial Perspective

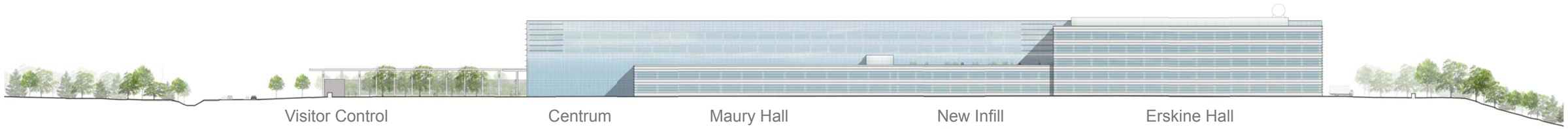


Northwest Aerial Perspective



East Elevation

50' 100'



West Elevation

50' 100'

East & West Elevations

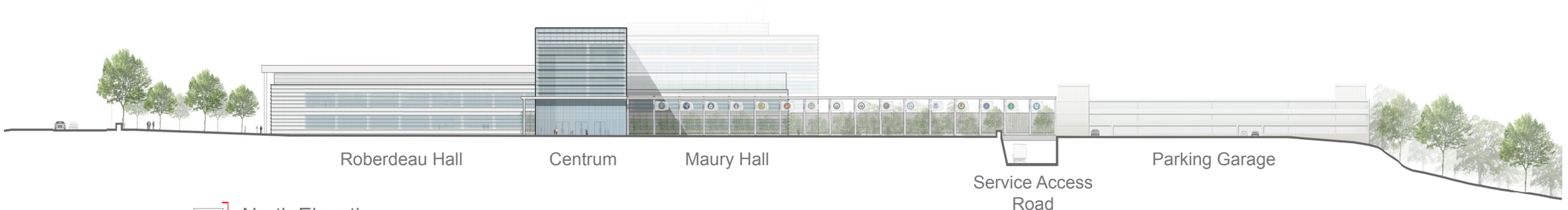
East Elevation

50' 100'

West Elevation

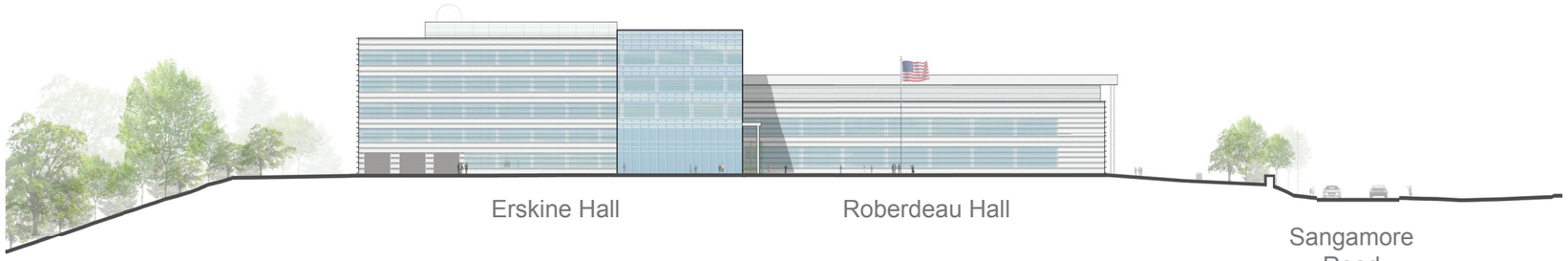
50' 100'

East & West Elevations



North Elevation

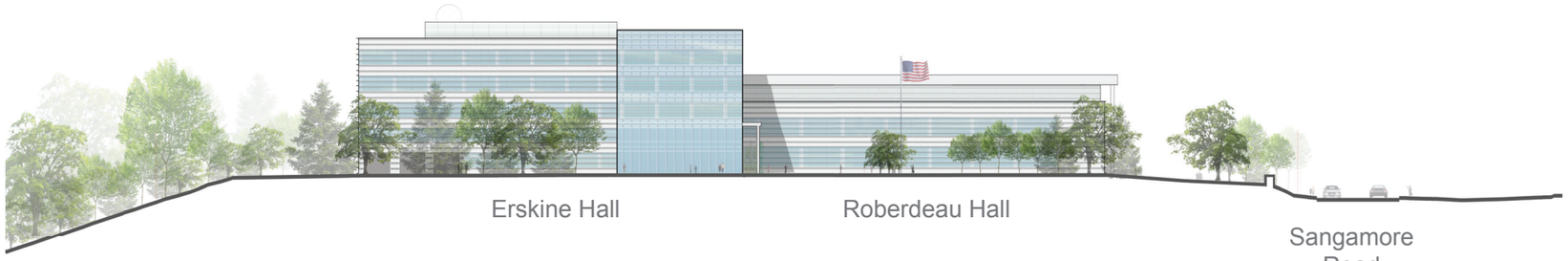
50' 100'

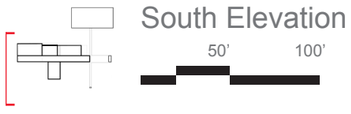


South Elevation

50' 100'

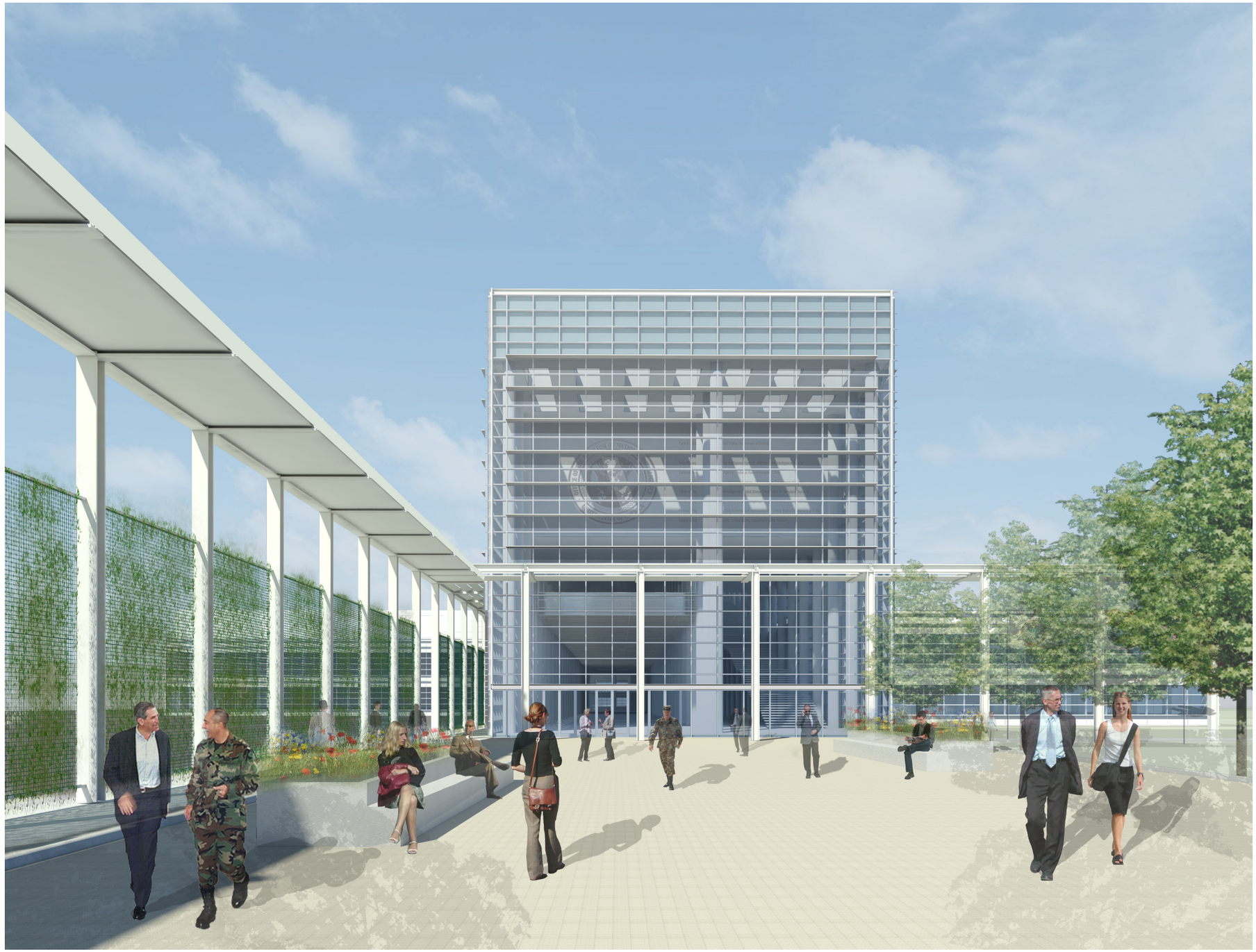
North & South Elevations





North & South Elevations

View From Sangamore Road Entry



View From Visitor Entry Plaza

APPENDIX C

AIR CONFORMITY ANALYSIS AND RONA

General Conformity Analysis
Intelligence Community Campus, Bethesda, Maryland

Introduction

The Sumner Site located in Montgomery County, Maryland, was evaluated for direct and indirect emissions associated with the construction of a new facility at the site, hereto referred to as the Proposed Action. The analysis demonstrates that this proposal would comply with the Clean Air Act (CAA) General Conformity Rule.

Regulatory Background

The U.S. Environmental Protection Agency (USEPA) Office of Air Quality Planning and Standards has set National Ambient Air Quality Standards (NAAQS) for six principal pollutants, called "criteria" pollutants. They include carbon monoxide (CO), nitrogen oxides (NO_x), ozone (O_3), lead (Pb), particulate matter (PM_{10} and $PM_{2.5}$), and sulfur dioxide (SO_2). Volatile Organic Compounds (VOCs) are not considered criteria pollutants, but emissions of VOCs are linked to O_3 concentrations.

The 1990 Federal CAA Amendments directed the USEPA to develop two separate federal conformity rules. Those rules (promulgated as 40 CFR Parts 51 and 93) are designed to ensure that federal actions do not cause or contribute to air quality violations in areas that do not meet the NAAQS. The two rules include transportation conformity, which applies to transportation plans, programs, and projects; and general conformity, which applies to all other non transportation-related projects, including the Proposed Action.

The general conformity regulation requires that federal agencies sponsoring non transportation-related activities show that the emissions associated with those activities conform to state implementation plans (SIPs) if emissions meet specific criteria. First, the emissions must occur in areas designated as nonattainment areas for one or more of the NAAQS. Second, those emissions must exceed certain *de minimus* threshold levels.

40 CFR 93 § 153 defines *de minimis* levels as the minimum threshold for which a conformity determination must be performed for criteria pollutants in various areas. The Proposed Action is located in Montgomery County which is within the Washington Metropolitan Area Air Quality Control Region (AQCR). The county is currently in attainment for CO, NO_x, SO_2, PM_{10}, and Pb. Portions of the Washington Metropolitan Area AQCR, including Montgomery County, are designated nonattainment for $PM_{2.5}$ and as moderate nonattainment areas for O_3. Due to its location in the urbanized east coast of the United States, Montgomery County is considered an Ozone Transport Region (OTR). The OTR has a moderate ozone nonattainment classification by definition.

Ozone is a gas that forms in the presence of sunlight in the atmosphere when three atoms of oxygen are combined (O_3). Ozone is not emitted directly into the air by any aspect of the project, but is created at ground level by a chemical reaction between oxides of nitrogen (NO_x), and volatile organic compounds (VOCs).

Motor vehicle exhaust and industrial emissions, gasoline vapors, and chemical solvents are some of the major sources of NO_x and VOCs, also known as ozone precursors. Strong sunlight and hot weather cause ground-level ozone to form in harmful concentrations in the air. Many urban areas tend to have high levels of ozone, but other areas are also subject to high ozone levels as winds carry NO_x emissions hundreds of miles away from their original sources.

Particulate matter, also known as particle pollution or PM, is a complex mixture of extremely small particles and liquid droplets. Particle pollution is made up of a number of components, including acids (such as nitrates and sulfates), organic chemicals, metals, and soil or dust particles. The size of particles is directly linked to their potential for causing health problems. The USEPA is concerned about particles that are 10 micrometers in diameter or smaller because those are the particles that generally pass through the throat and nose and enter the lungs. Once inhaled, these particles can affect the heart and lungs and cause serious health effects. The USEPA groups particle pollution into two categories:

- "Inhalable coarse particles," such as those found near roadways and dusty industries, are larger than 2.5 micrometers and smaller than 10 micrometers in diameter.

- "Fine particles," such as those found in smoke and haze, are 2.5 micrometers in diameter and smaller. These particles can be directly emitted from sources such as forest fires, or they can form when gases emitted from power plants, industries and automobiles react in the air.

Conformity Evaluation

The CAA General Conformity Rule (58 FR 63214, November 30, 1993, Final Rule, Determining Conformity of General Federal Actions to State or Federal Implementation Plans) dictates that a conformity review be performed when a Federal action generates air pollutants in a region that has been designated a nonattainment or maintenance area for one or more NAAQS.

The general conformity rule was designed to ensure that Federal actions do not impede local efforts to control air pollution. It is called a conformity rule because Federal agencies are required to demonstrate that their actions "conform with" (i.e., do not undermine) the approved SIP for their geographic area. The purpose of conformity is to (1) ensure Federal activities do not interfere with the air quality budgets in the SIPs, (2) ensure actions do not cause or contribute to new violations, and (3) ensure attainment and maintenance of the NAAQS. Federal agencies make this demonstration by performing a conformity review.

The Proposed Action would be subject to detailed conformity determinations unless these actions are clearly considered *de minimus* emissions; use of these thresholds assures that the conformity rule covers only major federal actions. The USEPA has set the *de minimus* threshold at 100 tons per year for $PM_{2.5}$ in all nonattainment areas (including precursors). The *de minimis* level for NO_x for a moderate nonattainment area inside an OTR is 100 tons per year and for VOCs the *de minimis* level is 50 tons per year.

On 5 April 2010, the USEPA published in the *Federal Register* (FR) the final rule (75 FR 17254) amending the General Conformity Regulations. These rules implement CAA provisions

requiring federal agencies to evaluate emissions from proposed actions that may cause or contribute to violations of the NAAQS. The revised rule is intended to improve the process federal entities use to demonstrate that their actions will not contribute to a NAAQS violation. It also provides tools to encourage better communication and air quality planning between states and federal agencies, and encourages both the federal agencies and the states to take early actions to ensure that projects will conform to SIPs to implement the NAAQS. To meet the General Conformity requirements, federal entities must demonstrate that emissions from their actions will not exceed the emission budgets established in a SIP to attain or maintain the NAAQS. The final rule became effective 6 July 2010.

Methodology

A conformity review requires consideration of both direct and indirect air emissions associated with the proposed action. Direct emissions are those that occur as a direct result of the action, and occur at the same time and place as the action. Sources that would contribute to direct emissions from this project would include demolition or construction activities associated with the proposed action and equipment used to facilitate the action (e.g., construction vehicles). Indirect emissions are those that occur at a later time or distance from the place where the action takes place, but may be reasonably anticipated because of the proposed action. To be counted as an indirect emission, the Federal proponent for the action must have continuing control over the source of the indirect emissions. Sources of indirect emissions for the project would include commuter activity to and from the construction site (e.g., employee vehicle emissions).

Both stationary and mobile sources must be included when calculating the total of direct and indirect emissions, but this project involves only mobile sources. Air pollutant emissions generated by the proposed action were calculated to determine whether the total of direct and indirect emissions for $PM_{2.5}$, and O_3 would be below the conformity *de minimus* limits.

Direct Emissions:
The Proposed Action was assessed in detail in order to ensure a conservative evaluation. Based upon the construction schedule provided by the design engineer, the annual equipment use was developed to cover the approximately 60 month construction period. Table C-1 shows a list of equipment that could be used during construction of the project and provides the total estimated usage for each piece of equipment as well as the total emissions of $PM_{2.5}$ and NO_x over the construction period. Table C-2 summarizes the annual emissions that are detailed in Tables C-3 through C-8 based upon the proposed construction schedule. The highest emissions occur in the second year of work (Table C-4).

Given the hours of operation assumed, emissions were estimated based on equipment-specific emission factors recommended by the USEPA for fuel-burning equipment that could be used from their AP-42: Compilation of Air Pollutant Emission Factors (website: http://www.epa.gov/otaq/nonrdmdl.htm). The tons of emissions produced by each piece of equipment are determined by the basic equation:

> Tons of emissions for 1 piece of equipment = (Emission factor g/hp hr) x (hp of equipment) x (hours of use) x (1 lb /453.5924 g) x (1 ton/2000 lbs)

Using the information in Table C-1 for a compactor, the calculations for $PM_{2.5}$ would be:

Tons of emissions for 1 compactor CP433C = (0.22 g/hp hr) x (100 hp) x (3680 hrs) x (1lb/453.5924 g) x (1 ton/2000lbs)

Tons of $PM_{2.5}$ emission = 0.08924 tons

As stated earlier, the totals calculated in Table C-1 reflect the totals for the entire estimated 60-month construction period. To determine if the proposed work exceeds the annual *de minimus* level at any time during construction, the information from the second construction year was evaluated. As can be seen in Table C-4, the usages and emissions for the second year are the highest annual emissions and are estimated at 4.657 tons of $PM_{2.5}$ and 72.155 tons of NO_x.

Indirect Emissions:

Commuting traffic for construction crews is assumed to be the indirect emissions impacts of this project. Emissions from construction personnel traffic were calculated using the USEPA's *MOBILE6.* It is assumed that the construction crew would consist of an average of 80 workers per day for 260 days. For a conservative analysis, it was assumed each person would drive to the site and that the average number of workers would drive approximately 40 miles each day. Based on *MOBILE6*, the automobile emission factor for NO_x is 0.760 grams/mile/vehicle, and $PM_{2.5}$ is 0.01333 grams/mile/vehicle.

The equation used to calculate the emissions is:

(# of vehicles) x (#miles/day) x (#days/year) x (emissions factor grams/mile) x (1 lb/453.59 grams) x (1 ton/2000 lb) = tons of vehicle emissions per year

The calculations for NO_x are:

(80 vehicles) x (40 miles/day) x (260 days/year) x (0.76 grams/mile/vehicle) x (1 lb/453.59 grams) x (1 ton/2000 lb) = **0.697 tons NO_x of vehicle emissions per year**

Similarly the results for $PM_{2.5}$ are calculated as:

(80 vehicles) x (40 miles/day) x (260 days/year) x (0.0133 grams/mile/vehicle) x (1 lb/453.59 grams) x (1 ton/2000 lb) = **0.012 tons $PM_{2.5}$ of vehicle emissions per year**

Operating Emissions:

Operating emissions for the Intelligence Community Campus would include the increase in the use of emergency generators, boilers, and other equipment as well as an increase commuter traffic. For calculating emissions from operating commuter traffic to the campus, the equations for vehicle emissions above were used with a conservative estimate of 2,000 vehicles entering the campus each working day with a round trip of 50 miles.

The calculations for NO_x are:

(2000 vehicles) x (50 miles/day) x (240 days/year) x (0.76 grams/mile/vehicle) x (1 lb/453.59 grams) x (1 ton/2000 lb) = **20.1063 tons NO_x of vehicle emissions per year**

Similarly the results for $PM_{2.5}$ are calculated as:

> (2000 vehicles) x (50 miles/day) x (240 days/year) x (0.0133 grams/mile/vehicle) x (1 lb/453.59 grams) x (1 ton/2000 lb) = **0.3519 tons $PM_{2.5}$ of vehicle emissions per year**

For operating emissions, it is estimated that five emergency generators may be required. These engines would be tested monthly with an annual expected run time of 52 hours each. The tons of emissions produced by the engines are determined by the basic equation:

> Tons of emissions for 1 piece of equipment = (Emission factor g/hp hr) x (hp of equipment) x (hours of use) x (1 lb /453.5924 g) x (1 ton/2000 lbs)

Table C-9 provides the annual emergency operating emissions calculated (0.1146 tons per year of $PM_{2.5}$ and 3.6685 tons per year of NO_x) as well as the emissions from commuter traffic to the campus. The estimated annual operating emission for $PM_{2.5}$ is 0.4665 tons per year (tpy). The estimated annual operating emission for NO_x is 23.7748 tpy.

Conclusion

Typically, annual emissions are calculated and compared with the *de minimus* thresholds to determine whether the annual emissions from direct and indirect sources for each pollutant exceed the *de minimus* thresholds. Estimated annual emissions did not exceed the threshold limits. Table C-2 shows the summary of projected annual direct and indirect emissions for the Proposed Action based upon an expected construction period of 60 months over a six year period. The highest direct sources for $PM_{2.5,}$ and NO_x for the Proposed Action occurs in the second year of construction and results in a predicted annual release of 4.657 tons of $PM_{2.5}$ and 72.155 tons of NO_x. Emissions of VOCs were insignificant compared to NO_x and were not reported in the emission summary. The *de minimis* level for VOCs for a moderate nonattainment area inside an OTR is 50 tpy. Adding in the indirect emissions from those calculated above, the highest predicted annual emission for $PM_{2.5}$ (4.657 tpy + 0.012 tpy) is 4.669 tpy. The highest estimated annual emission for NO_x (72.155 tpy + 0.697 tpy) is 72.852 tpy.

The estimated annual operating emission for $PM_{2.5}$ (0.1146 tpy + 0.3519 tpy) is 0.4665 tpy. The estimated annual operating emission for NO_x (3.6685 tpy + 20.1063 tpy) is 23.7748 tpy.

To calculate the annual cumulative emissions, the estimated annual operating emissions and the highest estimated construction emissions were added. The cumulative annual estimated emission for $PM_{2.5}$ (0.4665 tpy + 4.669 tpy) is 5.1355 tpy. The cumulative annual estimate emission for NO_x (23.7748 tpy + 72.852 tpy) is 96.6268 tpy.

Because projected construction and operating emissions are below threshold levels, the action is exempt from further conformity analysis.

Table C-1: Equipment Usage and Emissions

Resource	Description	Total Usage		Motor (hp)	Particulate Matter (PM2.5)				NO_X			
					Emission Factor		Estimate (lbs)	Estimate (Tons)	Emission Factor		Estimate (lbs)	Estimate (Tons)
B/Hoe JD 410E	John Deere 410E, 15,000 lb., 96 hp, .462cy, 1.25 cy, 15'-10" dig dep	22640	hrs	96	0.30	g/hp hr	1,437.5	0.7187	5.5988	g/hp hr	26,827.3	13.4136
B/hoe Loader Cat 416	Backhoe Loader Cat 416, 1.25 cy,14'-6",75 hp.	0	hrs	75	0.30	g/hp hr	0.0	0.0000	5.5988	g/hp hr	0.0	0.0000
All Terrain fork lift	Lull all terrain fork lift	16320	hrs	125	0.22	g/hp hr	989.4	0.4947	5.6523	g/hp hr	25,420.8	12.7104
250 ton crane	250 ton Hyd. Crane	1600	hrs	600	0.6	g/hp hr	1,269.9	0.6349	6.5	g/hp hr	13,756.8	6.8784
Compact - Cat CP323C	Cat CP323C Sheepsfoot Soil Compactor, 15,000#	0	hrs	83	0.30	g/hp hr	0.0	0.0000	5.5988	g/hp hr	0.0	0.0000
Compact - Cat CP433C	Cat CP433C Sheepsfoot Soil Compactor, 28,000#	3680	hrs	100	0.22	g/hp hr	178.5	0.0892	5.5988	g/hp hr	4,542.3	2.2712
Compact. Walk behind	Roller-Walk Behind Bomag BW75S	0	hrs	10	0.75	g/hp hr	0.0	0.0000	5.2298	g/hp hr	0.0	0.0000
Compactor - Cat 433B	Cat CS433B 66" Smooth Drum Roller, 28,000#	2000	hrs	102	0.22	g/hp hr	98.9	0.0495	5.6523	g/hp hr	2,542.1	1.2710
Compactor - Plate 1	Plate Compactor Gas Multiquip MVC90H	2720	hrs	5	0.75	g/hp hr	22.5	0.0112	5.2298	g/hp hr	156.8	0.0784
Compactor 563	Compactor 563	0	hrs	139	0.22	g/hp hr	0.0	0.0000	5.6523	g/hp hr	0.0	0.0000
Crane Hydraulic 30 t	Crane Hydraulic 30 ton	2800	hrs	150	0.22	g/hp hr	203.7	0.1019	5.6523	g/hp hr	5,233.7	2.6168
Crane Truck 85 ton	Crane Truck 85 ton	2300	hrs	450	0.40	g/hp hr	912.7	0.4564	6.0153	g/hp hr	13,725.6	6.8628
Demo Hammer 5K	Demolition Hammer 5000K	2400	hrs	5	0.75	g/hp hr	19.8	0.0099	5.2298	g/hp hr	138.4	0.0692
Dozer - Cat D4	Cat D4 Dozer, 80 hp, 2.65 #/sq.in.	2400	hrs	80	0.30	g/hp hr	127.0	0.0635	5.5988	g/hp hr	2,369.9	1.1850
Dozer - Cat D5	Cat D5 Dozer, 90 hp, 3.07 #/sq.in.	0	hrs	90	0.30	g/hp hr	0.0	0.0000	5.5988	g/hp hr	0.0	0.0000
Dozer - Cat D6	Cat D6 Dozer, 140 hp, 3.63 #/sq.in.	4400	hrs	140	0.22	g/hp hr	298.8	0.1494	5.6523	g/hp hr	7,676.1	3.8380
Dozer - Cat D7	Cat D7 Dozer, 230 hp, 5.44 #/sq.in.	1200	hrs	230	0.40	g/hp hr	243.4	0.1217	5.5772	g/hp hr	3,393.6	1.6968
Excavator Cat 320	Cat 320B Excav., 45,000 lb., 24'10", 2.22cy	1200	hrs	134	0.22	g/hp hr	78.0	0.0390	5.6523	g/hp hr	2,003.8	1.0019
Excavator Cat 325	Cat 325BL Excav., 60,000 lb., 23'-3", 2.49cy	3600	hrs	168	0.22	g/hp hr	293.3	0.1467	5.6523	g/hp hr	7,536.5	3.7683
Excavator Cat 330	Cat 330L Excav., 75,000 lb., 26'-6", 2.75cy	15840	hrs	222	0.40	g/hp hr	3,101.0	1.5505	5.5772	g/hp hr	43,237.3	21.6187
Loader Track Cat 955	Loader Track Cat 955	4880	hrs	115	0.22	g/hp hr	272.2	0.1361	5.6523	g/hp hr	6,993.2	3.4966

Loader Wheel Cat 930	Loader Wheel Cat 930, 2.9 cy	0	hrs	149	0.22	g/hp hr	0.0	0.0000	5.6523	g/hp hr	0.0	0.0000
Loader Wheel Cat 950	Loader Wheel Cat 950, 4.0 cy	4800	hrs	170	0.22	g/hp hr	395.8	0.1979	5.6523	g/hp hr	10,168.3	5.0842
Loader Wheel Cat 966	Loader Wheel Cat 966, 5.0 cy	25040	hrs	235	0.40	g/hp hr	5,189.2	2.5946	5.5772	g/hp hr	72,352.3	36.1762
Motor Grader - 140H	Motor Grader CAT 140H 31,110lb	0	hrs	165	0.22	g/hp hr	0.0	0.0000	5.6523	g/hp hr	0.0	0.0000
Pump - Conc 100 yph	Pump - Concrete 100 yph	608	hrs	200	0.40	g/hp hr	107.2	0.0536	5.5772	g/hp hr	1,495.1	0.7476
Saw Conc.- self prop	Concrete Saw -self propelled walk behind	0	hrs	10	0.75	g/hp hr	0.0	0.0000	5.2298	g/hp hr	0.0	0.0000
Scraper 31 cy - std	Cat 631G Tractor Scraper, 21 cy struck, 31 cy heap, 450/490 hp	400	hrs	490	0.40	g/hp hr	172.8	0.0864	6.0153	g/hp hr	2,599.2	1.2996
Truck Dump 14 cy	Truck Dump 14 cy	33360	hrs	275	0.40	g/hp hr	8,090.1	4.0450	5.5772	g/hp hr	112,800.0	56.4000
Vibratory Roller	Vibratory Roller	0	hrs	100	0.22	g/hp hr	0.0	0.0000	5.5988	g/hp hr	0.0	0.0000
Welding Mach 300 amp	Welding Mach 300 amp	4440	hrs	n/a		g/hp hr				g/hp hr		
Welding Torch	Welding Torch - Oxygen/Acetylene	4475	hrs	n/a		g/hp hr				g/hp hr		
Total							**23,501.7**	**11.75086**			**364,969.3**	**182.48466**

Table C-2: Summary of Emissions

Construction period	$PM_{2.5}$		NO_X	
60 months	**Direct**	**Indirect**	**Direct**	**Indirect**
First Year-partial	2.533 TPY	0.008 TPY	38.026 TPY	0.464 TPY
Second Year	4.567 TPY	0.012 TPY	72.155 TPY	0.696 TPY
Third Year	2.104 TPY	0.012 TPY	32.147 TPY	0.696 TPY
Fourth Year	1.627 TPY	0.012 TPY	25.392 TPY	0.696 TPY
Fifth Year	0.850 TPY	0.012 TPY	13.244 TPY	0.696 TPY
Sixth year--partial	0.070 TPY	0.004 TPY	1.521 TPY	0.232 TPY
Project total emissions estimate:	11.751 tons	0.060 tons	182.485 tons	3.480 tons

Table C-3: First Year Estimated Emissions

Resource	Description	First Year Usage-Partial		Motor (hp)	Particulate Matter (PM2.5)				NO_X			
					Emission Factor		Estimate (lbs)	Estimate (Tons)	Emission Factor		Estimate (lbs)	Estimate (Tons)
B/Hoe JD 410E	John Deere 410E, 15,000 lb., 96 hp, .462cy, 1.25 cy, 15'-10" dig dep	3360	hrs	96	0.30	g/hp hr	213.3	0.1067	5.5988	g/hp hr	3,981.4	1.9907
B/hoe Loader Cat 416	Backhoe Loader Cat 416, 1.25 cy,14'-6",75 hp.		hrs	75	0.30	g/hp hr	0.0	0.0000	5.5988	g/hp hr	0.0	0.0000
All Terrain fork lift	Lull all terrain fork lift	3360	hrs	125	0.22	g/hp hr	203.7	0.1019	5.6523	g/hp hr	5,233.7	2.6168
250 ton crane	250 ton Hyd. Crane		hrs	600	0.6	g/hp hr	0.0	0.0000	6.5	g/hp hr	0.0	0.0000
Compact - Cat CP323C	Cat CP323C Sheepsfoot Soil Compactor, 15,000#		hrs	83	0.30	g/hp hr	0.0	0.0000	5.5988	g/hp hr	0.0	0.0000
Compact - Cat CP433C	Cat CP433C Sheepsfoot Soil Compactor, 28,000#		hrs	100	0.22	g/hp hr	0.0	0.0000	5.5988	g/hp hr	0.0	0.0000
Compact. Walk behind	Roller-Walk Behind Bomag BW75S		hrs	10	0.75	g/hp hr	0.0	0.0000	5.2298	g/hp hr	0.0	0.0000
Compactor - Cat 433B	Cat CS433B 66" Smooth Drum Roller, 28,000#		hrs	102	0.22	g/hp hr	0.0	0.0000	5.6523	g/hp hr	0.0	0.0000
Compactor - Plate 1	Plate Compactor Gas Multiquip MVC90H	720	hrs	5	0.75	g/hp hr	6.0	0.0030	5.2298	g/hp hr	41.5	0.0208
Compactor 563	Compactor 563		hrs	139	0.22	g/hp hr	0.0	0.0000	5.6523	g/hp hr	0.0	0.0000
Crane Hydraulic 30 t	Crane Hydraulic 30 ton	1120	hrs	150	0.22	g/hp hr	81.5	0.0407	5.6523	g/hp hr	2,093.5	1.0467
Crane Truck 85 ton	Crane Truck 85 ton	40	hrs	450	0.40	g/hp hr	15.9	0.0079	6.0153	g/hp hr	238.7	0.1194
Demo Hammer 5K	Demolition Hammer 5000K	1600	hrs	5	0.75	g/hp hr	13.2	0.0066	5.2298	g/hp hr	92.2	0.0461
Dozer - Cat D4	Cat D4 Dozer, 80 hp, 2.65 #/sq.in.		hrs	80	0.30	g/hp hr	0.0	0.0000	5.5988	g/hp hr	0.0	0.0000
Dozer - Cat D5	Cat D5 Dozer, 90 hp, 3.07 #/sq.in.		hrs	90	0.30	g/hp hr	0.0	0.0000	5.5988	g/hp hr	0.0	0.0000
Dozer - Cat D6	Cat D6 Dozer, 140 hp, 3.63 #/sq.in.		hrs	140	0.22	g/hp hr	0.0	0.0000	5.6523	g/hp hr	0.0	0.0000
Dozer - Cat D7	Cat D7 Dozer, 230 hp, 5.44 #/sq.in.		hrs	230	0.40	g/hp hr	0.0	0.0000	5.5772	g/hp hr	0.0	0.0000
Excavator Cat 320	Cat 320B Excav., 45,000 lb., 24'10", 2.22cy	1200	hrs	134	0.22	g/hp hr	78.0	0.0390	5.6523	g/hp hr	2,003.8	1.0019

Excavator Cat 325	Cat 325BL Excav., 60,000 lb., 23'-3", 2.49cy		hrs	168	0.22	g/hp hr	0.0	0.0000	5.6523	g/hp hr	0.0	0.0000
Excavator Cat 330	Cat 330L Excav., 75,000 lb., 26'-6", 2.75cy	5680	hrs	222	0.40	g/hp hr	1,112.0	0.5560	5.5772	g/hp hr	15,504.3	7.7521
Loader Track Cat 955	Loader Track Cat 955	400	hrs	115	0.22	g/hp hr	22.3	0.0112	5.6523	g/hp hr	573.2	0.2866
Loader Wheel Cat 930	Loader Wheel Cat 930, 2.9 cy		hrs	149	0.22	g/hp hr	0.0	0.0000	5.6523	g/hp hr	0.0	0.0000
Loader Wheel Cat 950	Loader Wheel Cat 950, 4.0 cy		hrs	170	0.22	g/hp hr	0.0	0.0000	5.6523	g/hp hr	0.0	0.0000
Loader Wheel Cat 966	Loader Wheel Cat 966, 5.0 cy	5280	hrs	235	0.40	g/hp hr	1,094.2	0.5471	5.5772	g/hp hr	15,256.4	7.6282
Motor Grader - 140H	Motor Grader CAT 140H 31,110lb		hrs	165	0.22	g/hp hr	0.0	0.0000	5.6523	g/hp hr	0.0	0.0000
Pump - Conc 100 yph	Pump - Concrete 100 yph	80	hrs	200	0.40	g/hp hr	14.1	0.0071	5.5772	g/hp hr	196.7	0.0984
Saw Conc.- self prop	Concrete Saw -self propelled walk behind		hrs	10	0.75	g/hp hr	0.0	0.0000	5.2298	g/hp hr	0.0	0.0000
Scraper 31 cy - std	Cat 631G Tractor Scraper, 21 cy struck, 31 cy heap, 450/490 hp		hrs	490	0.40	g/hp hr	0.0	0.0000	6.0153	g/hp hr	0.0	0.0000
Truck Dump 14 cy	Truck Dump 14 cy	9120	hrs	275	0.40	g/hp hr	2,211.7	1.1058	5.5772	g/hp hr	30,837.4	15.4187
Vibratory Roller	Vibratory Roller		hrs	100	0.22	g/hp hr	0.0	0.0000	5.5988	g/hp hr	0.0	0.0000
Welding Mach 300 amp	Welding Mach 300 amp		hrs	n/a		g/hp hr				g/hp hr		
Welding Torch	Welding Torch - Oxygen/Acetylene		hrs	n/a		g/hp hr				g/hp hr		
Total							**5,065.8**	**2.53292**			**76,052.9**	**38.02644**

Table C-4: Second Year Estimated Emissions

Resource	Description	Second Year Usage		Motor (hp)	Particulate Matter (PM2.5)				NO_X			
					Emission Factor		Estimate (lbs)	Estimate (Tons)	Emission Factor		Estimate (lbs)	Estimate (Tons)
B/Hoe JD 410E	John Deere 410E, 15,000 lb., 96 hp, .462cy, 1.25 cy, 15'-10" dig dep	8400	hrs	96	0.30	g/hp hr	533.3	0.2667	5.5988	g/hp hr	9,953.6	4.9768
B/hoe Loader Cat 416	Backhoe Loader Cat 416, 1.25 cy,14'-6",75 hp.		hrs	75	0.30	g/hp hr	0.0	0.0000	5.5988	g/hp hr	0.0	0.0000
All Terrain fork lift	Lull all terrain fork lift	5280	hrs	125	0.22	g/hp hr	320.1	0.1601	5.6523	g/hp hr	8,224.4	4.1122
250 ton crane	250 ton Hyd. Crane	800	hrs	600	0.6	g/hp hr	634.9	0.3175	6.5	g/hp hr	6,878.4	3.4392
Compact - Cat CP323C	Cat CP323C Sheepsfoot Soil Compactor, 15,000#		hrs	83	0.30	g/hp hr	0.0	0.0000	5.5988	g/hp hr	0.0	0.0000
Compact - Cat CP433C	Cat CP433C Sheepsfoot Soil Compactor, 28,000#	2880	hrs	100	0.22	g/hp hr	139.7	0.0698	5.5988	g/hp hr	3,554.9	1.7774
Compact. Walk behind	Roller-Walk Behind Bomag BW75S		hrs	10	0.75	g/hp hr	0.0	0.0000	5.2298	g/hp hr	0.0	0.0000
Compactor - Cat 433B	Cat CS433B 66" Smooth Drum Roller, 28,000#	2000	hrs	102	0.22	g/hp hr	98.9	0.0495	5.6523	g/hp hr	2,542.1	1.2710
Compactor - Plate 1	Plate Compactor Gas Multiquip MVC90H	1520	hrs	5	0.75	g/hp hr	12.6	0.0063	5.2298	g/hp hr	87.6	0.0438
Compactor 563	Compactor 563		hrs	139	0.22	g/hp hr	0.0	0.0000	5.6523	g/hp hr	0.0	0.0000
Crane Hydraulic 30 t	Crane Hydraulic 30 ton	80	hrs	150	0.22	g/hp hr	5.8	0.0029	5.6523	g/hp hr	149.5	0.0748
Crane Truck 85 ton	Crane Truck 85 ton	660	hrs	450	0.40	g/hp hr	261.9	0.1310	6.0153	g/hp hr	3,938.7	1.9693
Demo Hammer 5K	Demolition Hammer 5000K		hrs	5	0.75	g/hp hr	0.0	0.0000	5.2298	g/hp hr	0.0	0.0000
Dozer - Cat D4	Cat D4 Dozer, 80 hp, 2.65 #/sq.in.	1200	hrs	80	0.30	g/hp hr	63.5	0.0317	5.5988	g/hp hr	1,185.0	0.5925
Dozer - Cat D5	Cat D5 Dozer, 90 hp, 3.07 #/sq.in.		hrs	90	0.30	g/hp hr	0.0	0.0000	5.5988	g/hp hr	0.0	0.0000
Dozer - Cat D6	Cat D6 Dozer, 140 hp, 3.63 #/sq.in.	3200	hrs	140	0.22	g/hp hr	217.3	0.1086	5.6523	g/hp hr	5,582.6	2.7913
Dozer - Cat D7	Cat D7 Dozer, 230 hp, 5.44 #/sq.in.	1200	hrs	230	0.40	g/hp hr	243.4	0.1217	5.5772	g/hp hr	3,393.6	1.6968

Excavator Cat 320	Cat 320B Excav., 45,000 lb., 24'10", 2.22cy		hrs	134	0.22	g/hp hr	0.0	0.0000	5.6523	g/hp hr	0.0	0.0000
Excavator Cat 325	Cat 325BL Excav., 60,000 lb., 23'-3", 2.49cy	2400	hrs	168	0.22	g/hp hr	195.6	0.0978	5.6523	g/hp hr	5,024.4	2.5122
Excavator Cat 330	Cat 330L Excav., 75,000 lb., 26'-6", 2.75cy	3600	hrs	222	0.40	g/hp hr	704.8	0.3524	5.5772	g/hp hr	9,826.7	4.9133
Loader Track Cat 955	Loader Track Cat 955	1200	hrs	115	0.22	g/hp hr	66.9	0.0335	5.6523	g/hp hr	1,719.6	0.8598
Loader Wheel Cat 930	Loader Wheel Cat 930, 2.9 cy		hrs	149	0.22	g/hp hr	0.0	0.0000	5.6523	g/hp hr	0.0	0.0000
Loader Wheel Cat 950	Loader Wheel Cat 950, 4.0 cy	3600	hrs	170	0.22	g/hp hr	296.8	0.1484	5.6523	g/hp hr	7,626.2	3.8131
Loader Wheel Cat 966	Loader Wheel Cat 966, 5.0 cy	8400	hrs	235	0.40	g/hp hr	1,740.8	0.8704	5.5772	g/hp hr	24,271.6	12.1358
Motor Grader - 140H	Motor Grader CAT 140H 31,110lb		hrs	165	0.22	g/hp hr	0.0	0.0000	5.6523	g/hp hr	0.0	0.0000
Pump - Conc 100 yph	Pump - Concrete 100 yph	168	hrs	200	0.40	g/hp hr	29.6	0.0148	5.5772	g/hp hr	413.1	0.2066
Saw Conc.- self prop	Concrete Saw -self propelled walk behind		hrs	10	0.75	g/hp hr	0.0	0.0000	5.2298	g/hp hr	0.0	0.0000
Scraper 31 cy - std	Cat 631G Tractor Scraper, 21 cy struck, 31 cy heap, 450/490 hp	400	hrs	490	0.40	g/hp hr	172.8	0.0864	6.0153	g/hp hr	2,599.2	1.2996
Truck Dump 14 cy	Truck Dump 14 cy	14000	hrs	275	0.40	g/hp hr	3,395.1	1.6976	5.5772	g/hp hr	47,338.1	23.6691
Vibratory Roller	Vibratory Roller		hrs	100	0.22	g/hp hr	0.0	0.0000	5.5988	g/hp hr	0.0	0.0000
Welding Mach 300 amp	Welding Mach 300 amp		hrs	n/a		g/hp hr				g/hp hr		
Welding Torch	Welding Torch - Oxygen/Acetylene		hrs	n/a		g/hp hr				g/hp hr		
Total							**9,133.9**	**4.56697**			**144,309.3**	**72.15464**

Table C-5: Third Year Estimated Emissions

Resource	Description	Third Year Usage		Motor (hp)	Particulate Matter (PM2.5)				NO_X			
					Emission Factor		Estimate (lbs)	Estimate (Tons)	Emission Factor		Estimate (lbs)	Estimate (Tons)
B/Hoe JD 410E	John Deere 410E, 15,000 lb., 96 hp, .462cy, 1.25 cy, 15'-10" dig dep	3280	hrs	96	0.30	g/hp hr	208.3	0.1041	5.5988	g/hp hr	3,886.6	1.9433
B/hoe Loader Cat 416	Backhoe Loader Cat 416, 1.25 cy,14'-6",75 hp.		hrs	75	0.30	g/hp hr	0.0	0.0000	5.5988	g/hp hr	0.0	0.0000
All Terrain fork lift	Lull all terrain fork lift	2480	hrs	125	0.22	g/hp hr	150.4	0.0752	5.6523	g/hp hr	3,863.0	1.9315
250 ton crane	250 ton Hyd. Crane		hrs	600	0.6	g/hp hr	0.0	0.0000	6.5	g/hp hr	0.0	0.0000
Compact - Cat CP323C	Cat CP323C Sheepsfoot Soil Compactor, 15,000#		hrs	83	0.30	g/hp hr	0.0	0.0000	5.5988	g/hp hr	0.0	0.0000
Compact - Cat CP433C	Cat CP433C Sheepsfoot Soil Compactor, 28,000#		hrs	100	0.22	g/hp hr	0.0	0.0000	5.5988	g/hp hr	0.0	0.0000
Compact. Walk behind	Roller-Walk Behind Bomag BW75S		hrs	10	0.75	g/hp hr	0.0	0.0000	5.2298	g/hp hr	0.0	0.0000
Compactor - Cat 433B	Cat CS433B 66" Smooth Drum Roller, 28,000#		hrs	102	0.22	g/hp hr	0.0	0.0000	5.6523	g/hp hr	0.0	0.0000
Compactor - Plate 1	Plate Compactor Gas Multiquip MVC90H		hrs	5	0.75	g/hp hr	0.0	0.0000	5.2298	g/hp hr	0.0	0.0000
Compactor 563	Compactor 563		hrs	139	0.22	g/hp hr	0.0	0.0000	5.6523	g/hp hr	0.0	0.0000
Crane Hydraulic 30 t	Crane Hydraulic 30 ton	1600	hrs	150	0.22	g/hp hr	116.4	0.0582	5.6523	g/hp hr	2,990.7	1.4953
Crane Truck 85 ton	Crane Truck 85 ton	400	hrs	450	0.40	g/hp hr	158.7	0.0794	6.0153	g/hp hr	2,387.1	1.1935
Demo Hammer 5K	Demolition Hammer 5000K	800	hrs	5	0.75	g/hp hr	6.6	0.0033	5.2298	g/hp hr	46.1	0.0231
Dozer - Cat D4	Cat D4 Dozer, 80 hp, 2.65 #/sq.in.		hrs	80	0.30	g/hp hr	0.0	0.0000	5.5988	g/hp hr	0.0	0.0000
Dozer - Cat D5	Cat D5 Dozer, 90 hp, 3.07 #/sq.in.		hrs	90	0.30	g/hp hr	0.0	0.0000	5.5988	g/hp hr	0.0	0.0000
Dozer - Cat D6	Cat D6 Dozer, 140 hp, 3.63 #/sq.in.		hrs	140	0.22	g/hp hr	0.0	0.0000	5.6523	g/hp hr	0.0	0.0000
Dozer - Cat D7	Cat D7 Dozer, 230 hp, 5.44 #/sq.in.		hrs	230	0.40	g/hp hr	0.0	0.0000	5.5772	g/hp hr	0.0	0.0000
Excavator Cat 320	Cat 320B Excav., 45,000 lb., 24'10", 2.22cy		hrs	134	0.22	g/hp hr	0.0	0.0000	5.6523	g/hp hr	0.0	0.0000

Excavator Cat 325	Cat 325BL Excav., 60,000 lb., 23'-3", 2.49cy		hrs	168	0.22	g/hp hr	0.0	0.0000	5.6523	g/hp hr	0.0	0.0000
Excavator Cat 330	Cat 330L Excav., 75,000 lb., 26'-6", 2.75cy	4160	hrs	222	0.40	g/hp hr	814.4	0.4072	5.5772	g/hp hr	11,355.3	5.6776
Loader Track Cat 955	Loader Track Cat 955	2080	hrs	115	0.22	g/hp hr	116.0	0.0580	5.6523	g/hp hr	2,980.7	1.4904
Loader Wheel Cat 930	Loader Wheel Cat 930, 2.9 cy		hrs	149	0.22	g/hp hr	0.0	0.0000	5.6523	g/hp hr	0.0	0.0000
Loader Wheel Cat 950	Loader Wheel Cat 950, 4.0 cy		hrs	170	0.22	g/hp hr	0.0	0.0000	5.6523	g/hp hr	0.0	0.0000
Loader Wheel Cat 966	Loader Wheel Cat 966, 5.0 cy	5360	hrs	235	0.40	g/hp hr	1,110.8	0.5554	5.5772	g/hp hr	15,487.6	7.7438
Motor Grader - 140H	Motor Grader CAT 140H 31,110lb		hrs	165	0.22	g/hp hr	0.0	0.0000	5.6523	g/hp hr	0.0	0.0000
Pump - Conc 100 yph	Pump - Concrete 100 yph	80	hrs	200	0.40	g/hp hr	14.1	0.0071	5.5772	g/hp hr	196.7	0.0984
Saw Conc.- self prop	Concrete Saw -self propelled walk behind		hrs	10	0.75	g/hp hr	0.0	0.0000	5.2298	g/hp hr	0.0	0.0000
Scraper 31 cy - std	Cat 631G Tractor Scraper, 21 cy struck, 31 cy heap, 450/490 hp		hrs	490	0.40	g/hp hr	0.0	0.0000	6.0153	g/hp hr	0.0	0.0000
Truck Dump 14 cy	Truck Dump 14 cy	6240	hrs	275	0.40	g/hp hr	1,513.3	0.7566	5.5772	g/hp hr	21,099.3	10.5496
Vibratory Roller	Vibratory Roller		hrs	100	0.22	g/hp hr	0.0	0.0000	5.5988	g/hp hr	0.0	0.0000
Welding Mach 300 amp	Welding Mach 300 amp		hrs	n/a		g/hp hr				g/hp hr		
Welding Torch	Welding Torch - Oxygen/Acetylene		hrs	n/a		g/hp hr				g/hp hr		
Total							**4,208.9**	**2.10446**			**64,293.0**	**32.14651**

Table C-6: Fourth Year Estimated Emissions

Resource	Description	Fourth Year Usage		Motor (hp)	Particulate Matter (PM2.5)				NO_x			
					Emission Factor		Estimate (lbs)	Estimate (Tons)	Emission Factor		Estimate (lbs)	Estimate (Tons)
B/Hoe JD 410E	John Deere 410E, 15,000 lb., 96 hp, .462cy, 1.25 cy, 15'-10" dig dep	4000	hrs	96	0.30	g/hp hr	254.0	0.1270	5.5988	g/hp hr	4,739.8	2.3699
B/hoe Loader Cat 416	Backhoe Loader Cat 416, 1.25 cy,14'-6",75 hp.		hrs	75	0.30	g/hp hr	0.0	0.0000	5.5988	g/hp hr	0.0	0.0000
All Terrain fork lift	Lull all terrain fork lift	2080	hrs	125	0.22	g/hp hr	126.1	0.0631	5.6523	g/hp hr	3,239.9	1.6200
250 ton crane	250 ton Hyd. Crane	800	hrs	600	0.6	g/hp hr	634.9	0.3175	6.5	g/hp hr	6,878.4	3.4392
Compact - Cat CP323C	Cat CP323C Sheepsfoot Soil Compactor, 15,000#		hrs	83	0.30	g/hp hr	0.0	0.0000	5.5988	g/hp hr	0.0	0.0000
Compact - Cat CP433C	Cat CP433C Sheepsfoot Soil Compactor, 28,000#	800	hrs	100	0.22	g/hp hr	38.8	0.0194	5.5988	g/hp hr	987.5	0.4937
Compact. Walk behind	Roller-Walk Behind Bomag BW75S		hrs	10	0.75	g/hp hr	0.0	0.0000	5.2298	g/hp hr	0.0	0.0000
Compactor - Cat 433B	Cat CS433B 66" Smooth Drum Roller, 28,000#		hrs	102	0.22	g/hp hr	0.0	0.0000	5.6523	g/hp hr	0.0	0.0000
Compactor - Plate 1	Plate Compactor Gas Multiquip MVC90H	240	hrs	5	0.75	g/hp hr	2.0	0.0010	5.2298	g/hp hr	13.8	0.0069
Compactor 563	Compactor 563		hrs	139	0.22	g/hp hr	0.0	0.0000	5.6523	g/hp hr	0.0	0.0000
Crane Hydraulic 30 t	Crane Hydraulic 30 ton		hrs	150	0.22	g/hp hr	0.0	0.0000	5.6523	g/hp hr	0.0	0.0000
Crane Truck 85 ton	Crane Truck 85 ton	400	hrs	450	0.40	g/hp hr	158.7	0.0794	6.0153	g/hp hr	2,387.1	1.1935
Demo Hammer 5K	Demolition Hammer 5000K		hrs	5	0.75	g/hp hr	0.0	0.0000	5.2298	g/hp hr	0.0	0.0000
Dozer - Cat D4	Cat D4 Dozer, 80 hp, 2.65 #/sq.in.	1200	hrs	80	0.30	g/hp hr	63.5	0.0317	5.5988	g/hp hr	1,185.0	0.5925
Dozer - Cat D5	Cat D5 Dozer, 90 hp, 3.07 #/sq.in.		hrs	90	0.30	g/hp hr	0.0	0.0000	5.5988	g/hp hr	0.0	0.0000
Dozer - Cat D6	Cat D6 Dozer, 140 hp, 3.63 #/sq.in.	1200	hrs	140	0.22	g/hp hr	81.5	0.0407	5.6523	g/hp hr	2,093.5	1.0467
Dozer - Cat D7	Cat D7 Dozer, 230 hp, 5.44 #/sq.in.		hrs	230	0.40	g/hp hr	0.0	0.0000	5.5772	g/hp hr	0.0	0.0000

Excavator Cat 320	Cat 320B Excav., 45,000 lb., 24'10", 2.22cy		hrs	134	0.22	g/hp hr	0.0	0.0000	5.6523	g/hp hr	0.0	0.0000
Excavator Cat 325	Cat 325BL Excav., 60,000 lb., 23'-3", 2.49cy	1200	hrs	168	0.22	g/hp hr	97.8	0.0489	5.6523	g/hp hr	2,512.2	1.2561
Excavator Cat 330	Cat 330L Excav., 75,000 lb., 26'-6", 2.75cy	1200	hrs	222	0.40	g/hp hr	234.9	0.1175	5.5772	g/hp hr	3,275.6	1.6378
Loader Track Cat 955	Loader Track Cat 955	800	hrs	115	0.22	g/hp hr	44.6	0.0223	5.6523	g/hp hr	1,146.4	0.5732
Loader Wheel Cat 930	Loader Wheel Cat 930, 2.9 cy		hrs	149	0.22	g/hp hr	0.0	0.0000	5.6523	g/hp hr	0.0	0.0000
Loader Wheel Cat 950	Loader Wheel Cat 950, 4.0 cy	1200	hrs	170	0.22	g/hp hr	98.9	0.0495	5.6523	g/hp hr	2,542.1	1.2710
Loader Wheel Cat 966	Loader Wheel Cat 966, 5.0 cy	3000	hrs	235	0.40	g/hp hr	621.7	0.3109	5.5772	g/hp hr	8,668.4	4.3342
Motor Grader - 140H	Motor Grader CAT 140H 31,110lb		hrs	165	0.22	g/hp hr	0.0	0.0000	5.6523	g/hp hr	0.0	0.0000
Pump - Conc 100 yph	Pump - Concrete 100 yph	120	hrs	200	0.40	g/hp hr	21.2	0.0106	5.5772	g/hp hr	295.1	0.1475
Saw Conc.- self prop	Concrete Saw -self propelled walk behind		hrs	10	0.75	g/hp hr	0.0	0.0000	5.2298	g/hp hr	0.0	0.0000
Scraper 31 cy - std	Cat 631G Tractor Scraper, 21 cy struck, 31 cy heap, 450/490 hp		hrs	490	0.40	g/hp hr	0.0	0.0000	6.0153	g/hp hr	0.0	0.0000
Truck Dump 14 cy	Truck Dump 14 cy	3200	hrs	275	0.40	g/hp hr	776.0	0.3880	5.5772	g/hp hr	10,820.1	5.4101
Vibratory Roller	Vibratory Roller		hrs	100	0.22	g/hp hr	0.0	0.0000	5.5988	g/hp hr	0.0	0.0000
Welding Mach 300 amp	Welding Mach 300 amp		hrs	n/a		g/hp hr				g/hp hr		
Welding Torch	Welding Torch - Oxygen/Acetylene		hrs	n/a		g/hp hr				g/hp hr		
Total							**3,254.7**	**1.62733**			**50,784.8**	**25.39241**

Table C-7: Fifth Year Estimated Emissions

Resource	Description	Fifth Year Usage		Motor (hp)	Particulate Matter (PM2.5)				NO_x			
					Emission Factor		Estimate (lbs)	Estimate (Tons)	Emission Factor		Estimate (lbs)	Estimate (Tons)
B/Hoe JD 410E	John Deere 410E, 15,000 lb., 96 hp, .462cy, 1.25 cy, 15'-10" dig dep	2400	hrs	96	0.30	g/hp hr	152.4	0.0762	5.5988	g/hp hr	2,843.9	1.4219
B/hoe Loader Cat 416	Backhoe Loader Cat 416, 1.25 cy,14'-6",75 hp.		hrs	75	0.30	g/hp hr	0.0	0.0000	5.5988	g/hp hr	0.0	0.0000
All Terrain fork lift	Lull all terrain fork lift	2080	hrs	125	0.22	g/hp hr	126.1	0.0631	5.6523	g/hp hr	3,239.9	1.6200
250 ton crane	250 ton Hyd. Crane		hrs	600	0.6	g/hp hr	0.0	0.0000	6.5	g/hp hr	0.0	0.0000
Compact - Cat CP323C	Cat CP323C Sheepsfoot Soil Compactor, 15,000#		hrs	83	0.30	g/hp hr	0.0	0.0000	5.5988	g/hp hr	0.0	0.0000
Compact - Cat CP433C	Cat CP433C Sheepsfoot Soil Compactor, 28,000#		hrs	100	0.22	g/hp hr	0.0	0.0000	5.5988	g/hp hr	0.0	0.0000
Compact. Walk behind	Roller-Walk Behind Bomag BW75S		hrs	10	0.75	g/hp hr	0.0	0.0000	5.2298	g/hp hr	0.0	0.0000
Compactor - Cat 433B	Cat CS433B 66" Smooth Drum Roller, 28,000#		hrs	102	0.22	g/hp hr	0.0	0.0000	5.6523	g/hp hr	0.0	0.0000
Compactor - Plate 1	Plate Compactor Gas Multiquip MVC90H	240	hrs	5	0.75	g/hp hr	2.0	0.0010	5.2298	g/hp hr	13.8	0.0069
Compactor 563	Compactor 563		hrs	139	0.22	g/hp hr	0.0	0.0000	5.6523	g/hp hr	0.0	0.0000
Crane Hydraulic 30 t	Crane Hydraulic 30 ton		hrs	150	0.22	g/hp hr	0.0	0.0000	5.6523	g/hp hr	0.0	0.0000
Crane Truck 85 ton	Crane Truck 85 ton	800	hrs	450	0.40	g/hp hr	317.5	0.1587	6.0153	g/hp hr	4,774.1	2.3871
Demo Hammer 5K	Demolition Hammer 5000K		hrs	5	0.75	g/hp hr	0.0	0.0000	5.2298	g/hp hr	0.0	0.0000
Dozer - Cat D4	Cat D4 Dozer, 80 hp, 2.65 #/sq.in.		hrs	80	0.30	g/hp hr	0.0	0.0000	5.5988	g/hp hr	0.0	0.0000
Dozer - Cat D5	Cat D5 Dozer, 90 hp, 3.07 #/sq.in.		hrs	90	0.30	g/hp hr	0.0	0.0000	5.5988	g/hp hr	0.0	0.0000
Dozer - Cat D6	Cat D6 Dozer, 140 hp, 3.63 #/sq.in.		hrs	140	0.22	g/hp hr	0.0	0.0000	5.6523	g/hp hr	0.0	0.0000
Dozer - Cat D7	Cat D7 Dozer, 230 hp, 5.44 #/sq.in.		hrs	230	0.40	g/hp hr	0.0	0.0000	5.5772	g/hp hr	0.0	0.0000

Excavator Cat 320	Cat 320B Excav., 45,000 lb., 24'10", 2.22cy		hrs	134	0.22	g/hp hr	0.0	0.0000	5.6523	g/hp hr	0.0	0.0000
Excavator Cat 325	Cat 325BL Excav., 60,000 lb., 23'-3", 2.49cy		hrs	168	0.22	g/hp hr	0.0	0.0000	5.6523	g/hp hr	0.0	0.0000
Excavator Cat 330	Cat 330L Excav., 75,000 lb., 26'-6", 2.75cy	1200	hrs	222	0.40	g/hp hr	234.9	0.1175	5.5772	g/hp hr	3,275.6	1.6378
Loader Track Cat 955	Loader Track Cat 955	400	hrs	115	0.22	g/hp hr	22.3	0.0112	5.6523	g/hp hr	573.2	0.2866
Loader Wheel Cat 930	Loader Wheel Cat 930, 2.9 cy		hrs	149	0.22	g/hp hr	0.0	0.0000	5.6523	g/hp hr	0.0	0.0000
Loader Wheel Cat 950	Loader Wheel Cat 950, 4.0 cy		hrs	170	0.22	g/hp hr	0.0	0.0000	5.6523	g/hp hr	0.0	0.0000
Loader Wheel Cat 966	Loader Wheel Cat 966, 5.0 cy	3000	hrs	235	0.40	g/hp hr	621.7	0.3109	5.5772	g/hp hr	8,668.4	4.3342
Motor Grader - 140H	Motor Grader CAT 140H 31,110lb		hrs	165	0.22	g/hp hr	0.0	0.0000	5.6523	g/hp hr	0.0	0.0000
Pump - Conc 100 yph	Pump - Concrete 100 yph	160	hrs	200	0.40	g/hp hr	28.2	0.0141	5.5772	g/hp hr	393.5	0.1967
Saw Conc.- self prop	Concrete Saw -self propelled walk behind		hrs	10	0.75	g/hp hr	0.0	0.0000	5.2298	g/hp hr	0.0	0.0000
Scraper 31 cy - std	Cat 631G Tractor Scraper, 21 cy struck, 31 cy heap, 450/490 hp		hrs	490	0.40	g/hp hr	0.0	0.0000	6.0153	g/hp hr	0.0	0.0000
Truck Dump 14 cy	Truck Dump 14 cy	800	hrs	275	0.40	g/hp hr	194.0	0.0970	5.5772	g/hp hr	2,705.0	1.3525
Vibratory Roller	Vibratory Roller		hrs	100	0.22	g/hp hr	0.0	0.0000	5.5988	g/hp hr	0.0	0.0000
Welding Mach 300 amp	Welding Mach 300 amp		hrs	n/a		g/hp hr				g/hp hr		
Welding Torch	Welding Torch - Oxygen/Acetylene		hrs	n/a		g/hp hr				g/hp hr		
Total							**1,699.1**	**0.84955**			**26,487.4**	**13.24372**

Table C-8: Sixth Year Estimated Emissions

Resource	Description	Sixth Year Usage--Partial		Motor (hp)	Particulate Matter (PM2.5)				NO_x			
					Emission Factor		Estimate (lbs)	Estimate (Tons)	Emission Factor		Estimate (lbs)	Estimate (Tons)
B/Hoe JD 410E	John Deere 410E, 15,000 lb., 96 hp, .462cy, 1.25 cy, 15'-10" dig dep	1200	hrs	96	0.30	g/hp hr	76.2	0.0381	5.5988	g/hp hr	1,421.9	0.7110
B/hoe Loader Cat 416	Backhoe Loader Cat 416, 1.25 cy,14'-6",75 hp.		hrs	75	0.30	g/hp hr	0.0	0.0000	5.5988	g/hp hr	0.0	0.0000
All Terrain fork lift	Lull all terrain fork lift	1040	hrs	125	0.22	g/hp hr	63.1	0.0315	5.6523	g/hp hr	1,620.0	0.8100
250 ton crane	250 ton Hyd. Crane		hrs	600	0.6	g/hp hr	0.0	0.0000	6.5	g/hp hr	0.0	0.0000
Compact - Cat CP323C	Cat CP323C Sheepsfoot Soil Compactor, 15,000#		hrs	83	0.30	g/hp hr	0.0	0.0000	5.5988	g/hp hr	0.0	0.0000
Compact - Cat CP433C	Cat CP433C Sheepsfoot Soil Compactor, 28,000#		hrs	100	0.22	g/hp hr	0.0	0.0000	5.5988	g/hp hr	0.0	0.0000
Compact. Walk behind	Roller-Walk Behind Bomag BW75S		hrs	10	0.75	g/hp hr	0.0	0.0000	5.2298	g/hp hr	0.0	0.0000
Compactor - Cat 433B	Cat CS433B 66" Smooth Drum Roller, 28,000#		hrs	102	0.22	g/hp hr	0.0	0.0000	5.6523	g/hp hr	0.0	0.0000
Compactor - Plate 1	Plate Compactor Gas Multiquip MVC90H		hrs	5	0.75	g/hp hr	0.0	0.0000	5.2298	g/hp hr	0.0	0.0000
Compactor 563	Compactor 563		hrs	139	0.22	g/hp hr	0.0	0.0000	5.6523	g/hp hr	0.0	0.0000
Crane Hydraulic 30 t	Crane Hydraulic 30 ton		hrs	150	0.22	g/hp hr	0.0	0.0000	5.6523	g/hp hr	0.0	0.0000
Crane Truck 85 ton	Crane Truck 85 ton		hrs	450	0.40	g/hp hr	0.0	0.0000	6.0153	g/hp hr	0.0	0.0000
Demo Hammer 5K	Demolition Hammer 5000K		hrs	5	0.75	g/hp hr	0.0	0.0000	5.2298	g/hp hr	0.0	0.0000
Dozer - Cat D4	Cat D4 Dozer, 80 hp, 2.65 #/sq.in.		hrs	80	0.30	g/hp hr	0.0	0.0000	5.5988	g/hp hr	0.0	0.0000
Dozer - Cat D5	Cat D5 Dozer, 90 hp, 3.07 #/sq.in.		hrs	90	0.30	g/hp hr	0.0	0.0000	5.5988	g/hp hr	0.0	0.0000
Dozer - Cat D6	Cat D6 Dozer, 140 hp, 3.63 #/sq.in.		hrs	140	0.22	g/hp hr	0.0	0.0000	5.6523	g/hp hr	0.0	0.0000
Dozer - Cat D7	Cat D7 Dozer, 230 hp, 5.44 #/sq.in.		hrs	230	0.40	g/hp hr	0.0	0.0000	5.5772	g/hp hr	0.0	0.0000

Excavator Cat 320	Cat 320B Excav., 45,000 lb., 24'10", 2.22cy		hrs	134	0.22	g/hp hr	0.0	0.0000	5.6523	g/hp hr	0.0	0.0000
Excavator Cat 325	Cat 325BL Excav., 60,000 lb., 23'-3", 2.49cy		hrs	168	0.22	g/hp hr	0.0	0.0000	5.6523	g/hp hr	0.0	0.0000
Excavator Cat 330	Cat 330L Excav., 75,000 lb., 26'-6", 2.75cy		hrs	222	0.40	g/hp hr	0.0	0.0000	5.5772	g/hp hr	0.0	0.0000
Loader Track Cat 955	Loader Track Cat 955		hrs	115	0.22	g/hp hr	0.0	0.0000	5.6523	g/hp hr	0.0	0.0000
Loader Wheel Cat 930	Loader Wheel Cat 930, 2.9 cy		hrs	149	0.22	g/hp hr	0.0	0.0000	5.6523	g/hp hr	0.0	0.0000
Loader Wheel Cat 950	Loader Wheel Cat 950, 4.0 cy		hrs	170	0.22	g/hp hr	0.0	0.0000	5.6523	g/hp hr	0.0	0.0000
Loader Wheel Cat 966	Loader Wheel Cat 966, 5.0 cy		hrs	235	0.40	g/hp hr	0.0	0.0000	5.5772	g/hp hr	0.0	0.0000
Motor Grader - 140H	Motor Grader CAT 140H 31,110lb		hrs	165	0.22	g/hp hr	0.0	0.0000	5.6523	g/hp hr	0.0	0.0000
Pump - Conc 100 yph	Pump - Concrete 100 yph		hrs	200	0.40	g/hp hr	0.0	0.0000	5.5772	g/hp hr	0.0	0.0000
Saw Conc.- self prop	Concrete Saw -self propelled walk behind		hrs	10	0.75	g/hp hr	0.0	0.0000	5.2298	g/hp hr	0.0	0.0000
Scraper 31 cy - std	Cat 631G Tractor Scraper, 21 cy struck, 31 cy heap, 450/490 hp		hrs	490	0.40	g/hp hr	0.0	0.0000	6.0153	g/hp hr	0.0	0.0000
Truck Dump 14 cy	Truck Dump 14 cy		hrs	275	0.40	g/hp hr	0.0	0.0000	5.5772	g/hp hr	0.0	0.0000
Vibratory Roller	Vibratory Roller		hrs	100	0.22	g/hp hr	0.0	0.0000	5.5988	g/hp hr	0.0	0.0000
Welding Mach 300 amp	Welding Mach 300 amp		hrs	n/a		g/hp hr				g/hp hr		
Welding Torch	Welding Torch - Oxygen/Acetylene		hrs	n/a		g/hp hr				g/hp hr		
Total							**139.2**	**0.06962**			**3,041.9**	**1.52095**

Table C-9: Estimated Operating Emissions

Resource	Description	Total Usage		Motor (hp)	Particulate Matter (PM2.5)				N0x			
					Emission Factor		Estimate (lbs)	Estimate (Tons)	Emission Factor		Estimate (lbs)	Estimate (Tons)
Emergency engine	Emergency Engine (5 engines for 52 hr/yr)	260	hrs	2682	0.15	g/hp hr	229.3	0.1146	4.7725578	g/hp hr	7,337.0	3.6685
commuters	annual commuter traffic							0.3519				20.1063
Total							**229.3**	**0.46650**			**7,337.0**	**23.77476**

Record of Non-Applicability (RONA) for General Conformity

Name of Project: Intelligence Community Campus, Bethesda, Maryland

Point of Contact: _____.

Phone/Email: _____.

Start Date/Completion Date: November 2011/November 2016

General Conformity under the Clean Air Act, Section 1.76 has been evaluated for the project described above according to the requirements of 40 CFR 93, Subpart B. The requirements of this rule are not applicable to this project/action because:

☐ The project/action qualifies as an exempt action under. The applicable exemption citation is 40 CFR 93.153: _____ (*specific citation*)

OR

☒ Total direct and indirect emissions from this project/action have been estimated at *(only include information for applicable pollutants)* :

96.6258 tons/yr of NOx
5.1355 tons/yr of $PM_{2.5}$

These levels are below the conformity threshold values established at 40 CFR 93.153 (b), and this project/action is not considered regionally significant under 40 CFR 93.153(i).

Supporting documentation and emission estimates are:

☒ Attached in General Conformity Analysis

☐ Appear in NEPA Documentation

☐ Other _____*(cite reference)*

APPENDIX D

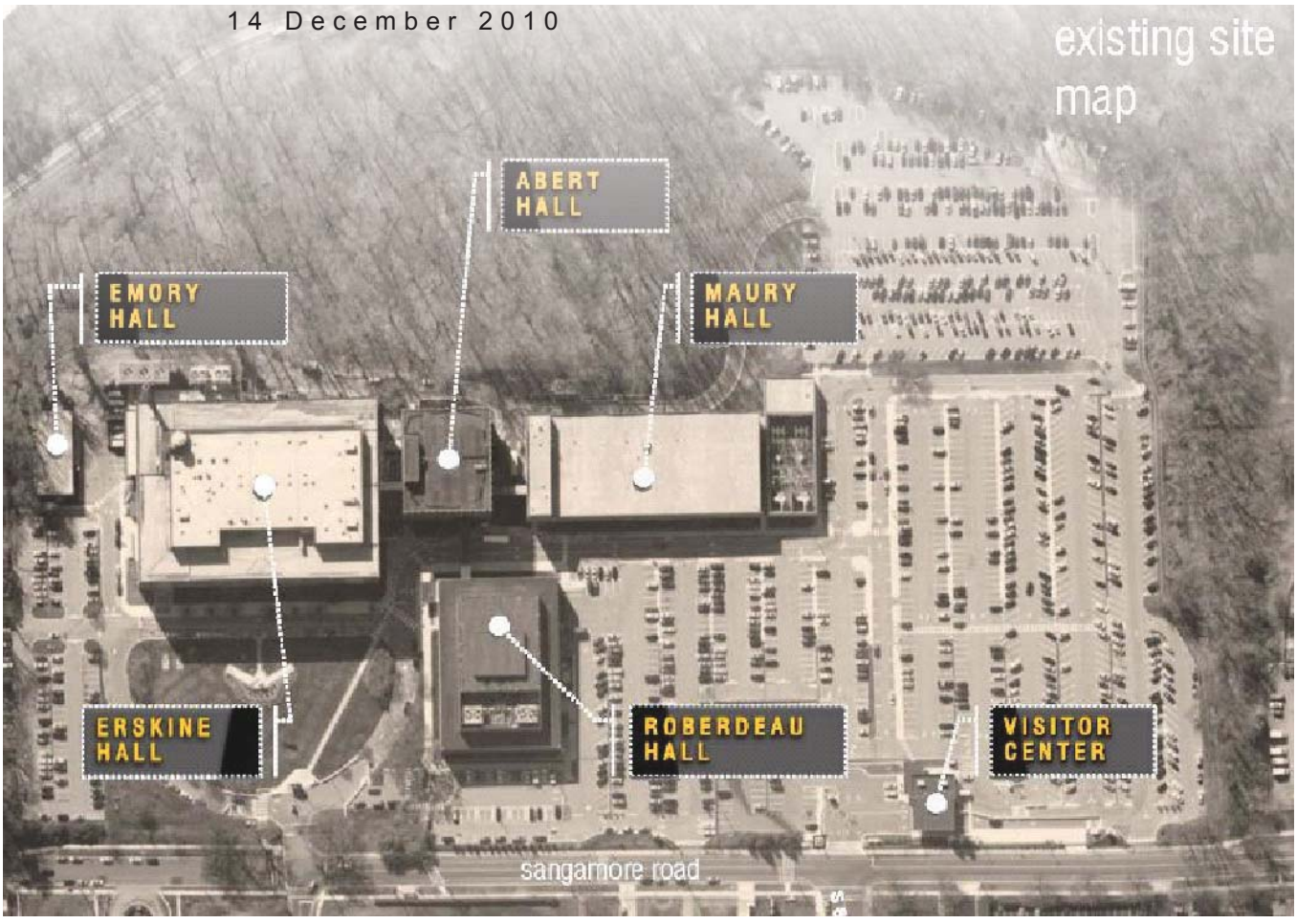
TRAFFIC ANALYSIS

DEFENSE INTELLIGENCE AGENCY:
INTELLIGENCE COMMUNITY CAMPUS - BETHESDA

TRAFFIC IMPACT STUDY

Sumner Site - Bethesda, MD
Contract No. W912DR-10-D0018
Delivery Order 0005

14 December 2010



BLACK & VEATCH – WILEY|WILSON – TOTAL SITE SOLUTIONS

Table of Contents

Appendices

1.0 Executive Summary

1.1 Summary

A new tenant and improvements to the facility located at 4600 Sangamore Road will increase traffic generated by the site. Specifically the on-site parking that is accessible through the main gate will increase from 1550 spaces to 2225 spaces with the construction of a parking garage for employees and a new visitor surface parking area. The purpose of this study is to investigate the potential impacts to the traffic on the surrounding roads due to this increased site traffic and to determine the number of inbound lanes required at the entry control facility (EFC). The configuration and traffic control measures at the intersection of the proposed site entrance and Sangamore Road will be the main recommendation of this study.

The results of this study have determined the roadways that are adjacent to the project site can adequately accommodate the existing and proposed site generated traffic. Based upon recent census data and the density of current developments, the traffic volumes not associated with the site generated traffic are not expected to increase signficantly in the region in the near future. However, the traffic associated with the proposed parking reconfiguration improvements will increase the number of vehicles accessing the site by approximately 44%. The analysis shows that with the roadway and traffic control improvements noted below, motorists traveling along Sangamore Road in this area will see an improvement to their travel times even with the increase in site generated traffic.

The existing site entrance is effectively a two lane road (one inbound and one outbound) with an ECF located approximately 100 feet from its intersection with Sangamore Road. At the ECF the number of inbound lanes increases to two, which is helpful in processing the vehicles through the ID check area. The existing site entrance forms a four legged intersection with Sangamore Road and Sentinal Drive. It is an all way stop condition, which means each approach to the intersection is controlled by a stop sign.

The proposed site entrance is a four lane road (two inbound and two outbound) with an ECF located approximately 450 feet from its intersection with Sangamore Road. One of the purposes of this study is to provide information to the designer with respect to the number of lanes required at the ID check area based on two methods of processing vehicles and personnel. The results of this analysis were if tandem processing (two guards per lane) is used then two lanes are required and if single processing (one guard per lane) is used then three lanes are required at the ID check area.

The recommended configuration of the intersection for the site entrance and Sangamore Road was based on the operational analysis of three options. Option 1 maintains the existing four legged intersection and all way stop condition. Option 2 is similar to Option 1 but uses a traffic signal for controling the movement of traffic through the four legged intersection. Option 3 is based on relocating the site entrance approximately 350 feet north of its current location, which yields two three legged offset intersections.

The preferred option is Option 3 which reduces the travel time delay for motorists on Sangamore Road when compared to the existing intersection configuration and traffic control measures. The reason for this reduction is the removal of stop signs on Sangamore Road. The northbound motorists on Sangamore Road operate at a level of service (LOS) A in the morning and evening peak hours with this proposed option compared to LOS B and C for the existing traffic and intersection configuration. The southbound motorists on Sangamore operate at LOS B and C in the peak morning and evening respectively versus a LOS C and C for the same time periods of the existing condition. Although Option 3 improves the travel time for motorists on Sangamore Road, and as a result those workers accessing the site from Sangamore throughout the day, it does result in more delay per vehicle for those exiting the site as compared to the existing condition. Due to the large volume of turning vehicles into the site and onto Sentinel Drive, the addition of a dedicated left turn lane along Sangamore Road between Sentinel Drive and the site entrance is also recommended.

2.0 Introduction

2.1 Purpose

The purpose of this study is to avoid or minimize impacts to traffic on roadways surrounding the site due to an increase in site generated traffic.

2.2 Background

The current tenant of the thirty-nine acre Sumner site will be vacating the facility in the fall of 2011. The site will be redeveloped for a new tenant(s), and the total occupancy and parking capacity of the site will be expanded. The required improvements consist of significant building and site demolition, existing building renovation, and new building and parking garage construction. The resulting occupancy and parking capacity expansion will result in a 44% increase in the traffic accessing the site. Due to this increase, options will be developed and analyzed in this study to mitigate impacts on the roads which provide direct access to the site.

2.3 Location

The project site is located at 4600 Sangamore Road, south of Overlea Road and north of Brooks Lane in Bethesda, Maryland (see Figure 2.1). The expanded site is bounded by US Park Service property to the west, the Washington Waldorf School and a municipal park to the north, Sumner Place commercial retail to the east, and both single and multi-family residential areas to the northeast and south.

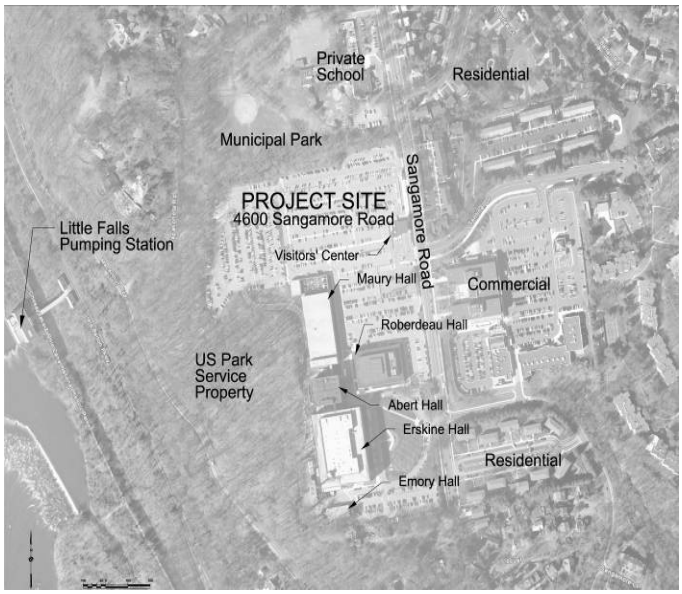


Figure 2.1 - Project Site

Direct access to the site is via Sangamore Road, a two lane north-south collector street. The site entrance is aligned with Sentinel Drive making a four legged, all-way stop intersection with Sangamore Road.

3.0 Existing Conditions

3.1 Data Collection

The traffic counts at Sangamore Road, Sentinel Drive, and the project site entrance were performed from Tuesday, October 12 through Thursday, October 14, 2010. Two methods were used to collect the traffic data. First, automated traffic counters were set up at six locations to obtain continuous 24-hour traffic volumes. The machine count information depicts the timing of the peak hours in the morning and afternoon along with the average daily traffic (ADT) volumes. The complete data from the counters in 15 minute intervals is included in Appendix A.

Second, manual turning movement counts were performed at the intersection of Sangamore Road, Sentinel Drive, and the site entrance during the morning and afternoon peak periods. The manual counts yield the intersection volumes by approach and turning movement. Vehicle classifications were also collected and consisted of passenger vehicles, single unit trucks, semi-trailer trucks, buses, motorcycles, pedestrians, shuttles, or bicycles.

3.2 Existing Conditions

As noted previously the existing site entrance forms a four legged intersection with Sangamore Road and Sentinel Drive. The site entrance is a two lane access road which has a tight 90 degree curve to the north once on the site, which passes motorist through an ID check area and an always deployed denial barrier (See Figure 3.1). If the credentials of the motorist are approved, the active vehicle barrier is then lowered to allow them access to the employee parking lot. Sangamore Road is a two lane collector street with a posted speed limit of 35 mph. Sentinel Drive is two lane local access street with a speed limit of 30 mph. Parallel on-street parking is allowed along Sentinel Drive in this area as well as Sangamore Road on the east side of the street just south of the intersection. A bus/shuttle stop is located on the west side of Sangamore Road several hundred feet south of the intersection.

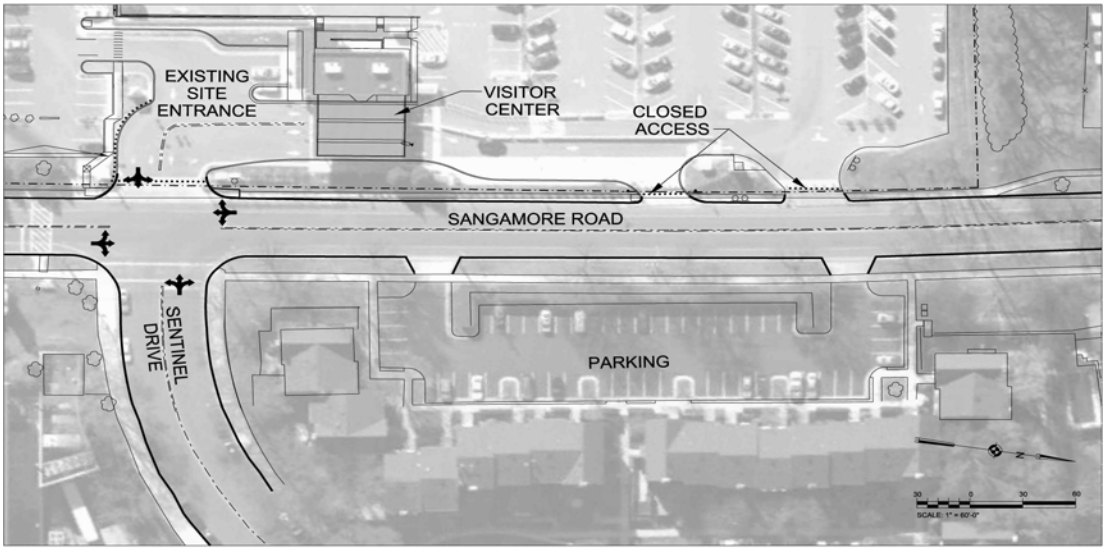


Figure 3-1 - Existing Site Conditions

Traffic volume varies considerably during the course of a 24-hour day, usually with the periods of maximum volume occurring during the morning and evening "rush" hours. These highest hourly volumes are referred to as peak hours and are used for design and operational analysis. The peak hour factor (PHF) is a relationship between hourly volume and the maximum rate of flow within the hour. Higher values of the PHF mean the volume of traffic is fairly consistent throughout the peak hour, while lower values signify a greater degree of variation in the flow during the hour. Typical PHF values range from 0.75 to 0.95. Peak hour factors for each leg of the intersection are shown in the Table 3.2 for the morning and afternoon peak hours.

3.3 Existing Intersection Analysis

Intersection level of service (LOS) refers to the adequacy or the ability of the intersections in the study area to accommodate the peak hour traffic volumes. Motorists making movements through unsignalized intersections are required to wait for gaps in the opposing traffic stream, and the LOS is a measurement of that delay experienced. The Highway Capacity Manual (HCM) by the Transportation Research Board dated 2000, defines six levels of service (see Table 3.1):

Table 3.1 – Level of Service (LOS) defined for intersections			
LOS	Delay per vehicle (seconds)		Expected delay
	Signalized	Unsignalized	
A	0-10	0-10	Little or no delay
B	10-20	10-15	Short traffic delays
C	20-35	15-25	Average traffic delays
D	35-55	25-35	Long traffic delays
E	55-80	35-50	Very long traffic delays
F	greater than 80	greater than 50	Congestion

All of the data collected and existing geometry was input into McTrans Highway Capacity Software (version HCS+T7F). The existing intersection operates very well as indicated by LOS A through LOS C for each of the approaches (see Table 3.2). For communities with population over 25,000 the Traffic Engineering Handbook by the Institute of Transportation Engineers (ITE), 5th Edition dated 1999, states the acceptable level of service is LOS D. In addition traffic volumes associated with a LOS D and LOS E are tolerated in these dense urban areas, especially for side streets movements, i.e. left turns out of an access drive from a facility.

Table 3.2 – Detailed Summary of Manual Traffic Count Data (Existing Conditions)										
	AM PEAK HOUR					PM PEAK HOUR				
Intersection Leg	Peak Hour	LOS	PK HR Volume	PK HR Factor	% Heavy Trucks	Peak Hour	LOS	PK HR Volume	PK HR Factor	% Heavy Trucks
Sangamore Road NB	7:30 – 8:30	B	320	0.87	0%	4:30 – 5:30	C	267	0.92	0%
Sangamore Road SB	7:30 – 8:30	C	482	0.87	2%	4:30 – 5:30	C	303	0.88	2%
Sentinel Drive WB	7:30 – 8:30	B	115	0.72	0%	4:30 – 5:30	C	257	0.90	0%
Site Entrance EB	7:30 – 8:30	A	21	0.58	0%	4:30 – 5:30	C	268	0.81	0%

Based mainly on 24-hour traffic data collected, the existing intersection was further analyzed in a Traffic Signal Warrant Analysis. This analysis was performed to determine if a traffic signal is a viable option for traffic control at this intersection. The Manual of Uniform Traffic Control Devices (MUTCD) by the U.S. Department of Transportation, Federal Highway Administration, 2009 Edition outlines 8 warrant

conditions that when satisfied may be justification for the addition of a traffic signal at the intersection. The warrant analysis is summarized in Table 3.3, and the complete study can be found in Appendix B.

Table 3.3 - MUTCD Signal Warrants		
Warrant 1	Eight-Hour Vehicular Volume	Did not meet
Warrant 2	Four-Hour Vehicular Volume	Did not meet
Warrant 3	Peak Hour	Met
Warrant 4	Pedestrian Volume	Did not meet
Warrant 5	School Crossings	Did not meet
Warrant 6	Coordinated Signal System	Did not meet
Warrant 7	Crash Experience	Did not meet
Warrant 8	Roadway Network	Met

Warrant 3 is designed to identify intersections with minor-street traffic that experiences undue delays during peak hours. Warrant 8 suggests consideration of a signal to better organize the existing roadway network. Just because one or two signal warrants are met does not mean the intersection should be signalized.

The existing all way stop intersection performs very well due to a fairly even distribution of traffic by approach to the intersection during the peak periods of traffic. Therefore, the installation of a traffic signal based on the existing traffic volumes is not justified for this intersection. However, since the future traffic condition will increase traffic and potentially create an unbalanced volume of approach traffic to the intersection, one of the options to be investigated for the proposed condition is a signalized intersection.

4.0 Proposed Conditions

4.1 Proposed Site Modifications

Major modifications to the Sumner site include increasing both the occupancy and the parking capacity. The current parking capacity accomodates 1,550 spaces. After the improvements, the parking capacity will be increased to 2,225 spaces – an increase of 44%. Therefore, since the traffic accessing this increased parking area uses the site entrance road, the site generated traffic for the proposed condition will increase proportionally at the same rate as the parking capacity (44%).

An assumption for the proposed condition is that the work shifts of the future employees at the site and the route by which they arrive to or depart from the site (from the north or south via Sangamore Road or from the east on Sentinal Drive) is assumed to mimic those of the existing workforce patterns. The traffic volume for the proposed condition was developed by dividing the existing turning movements at this location into two categories: site generated traffic and typical pass through traffic. The future traffic volumes not associated with the site generated traffic are not expected to increase significantly in this region, based on recent census data and the density of current developments. Therefore, the existing site generated traffic was increased by 44% and then added back into the typical pass through traffic to produce the anticipated future traffic movements in this area.

4.2 Entry Control Facility Lane Requirements

The number of inbound lanes required at the ECF is based on the volume of traffic at the gate and the ID checking procedures. The methodology for this analysis is from the Traffic and Safety Engineering for Better Entry Control Facilities (SDDCTEA Pamphlet 55-15) dated 2009 by the Military Surface Deployment and Distribution Command Transportation Engineering Agency. The SDDCTEA Pamphlet 55-15 has established lane processing rates for various force protection conditions (FPCON) and ID checking procedures (singe guard, two guards working in tandem in a single lane, and automated processing). It is recommended in the phamplet to design the ECF based on the FPCON Bravo Plus condition, which consists of a vehicle and identification of all occupants processing technique. This equates to average processing rates of 350 vehicles per hour per lane (vphpl) for a single ID checker or automated entry system set up and for 500 vphpl for tandem ID checkers.

Currently the number of lanes (inbound and outbound) approaching the ECF are one in each direction and at the second ID check area under the canopy the number of inbound lanes become two. The existing peak hour of traffic entering the facility at the

ECF is 522 vehicles during the time period 0545 – 0645. Note that the morning peak period of traffic entering the facility does not coincide with the peak hour of the intersection, which is from 0730 – 0830. This is a desirable situation because the majority of site generated traffic enters the facility prior to the peak hour of traffic for the surrounding roadways. In addition to the automated counts at the gate itself, manual counts of the number of cars in queue waiting to be processed through the gate were also noted. There were 6 vehicles in queue at the end of the peak hour of inbound traffic. Therefore, the existing demand at the gate is the number of vehicles that passed through the ID check area in the peak hour plus the number vehicles in queue at the end of that peak hour. This results in an existing demand of 528 vehicles at the gate.

The design demand at the gate in the proposed condition is the existing demand (528 vehicles) times the growth rate (44%), which yields 760 vehicles entering the facility during the morning peak hour. A worksheet in Appendix C depicts the calculations for the number of inbound lanes required at the gate based on the processing rates for a single ID checker or automated entry system set up and for tandem ID checkers. Table 4 provides a comparison of the number of inbound lanes at the ECF.

Table 4.1 - ECF Inbound Lane Data Comparison

Existing Inbound	Design Demand	
	Inbound Single Processing	Inbound Tandem Processing
2	3	2

The results of this traffic analysis show that if single processing or an automated entry system set up is the chosen ID check procedure in the future, then compared to the existing lane configuration, the gate would require an additional lane for a total of three inbound lanes. If tandem processing is used in the future then no additional lanes would be required when compared to the existing lane configuration.

The planned configuration of the future entrance road consists of two lanes entering the facility and two lanes exiting the facility. Therefore, if processing by a single guard at each lane is employed then either an additional lane should be added on the right side of the two inbound lanes or the inner outbound lane should be converted to a reversible third inbound lane only during the morning peak period of traffic (approximately 0600 – 0800).

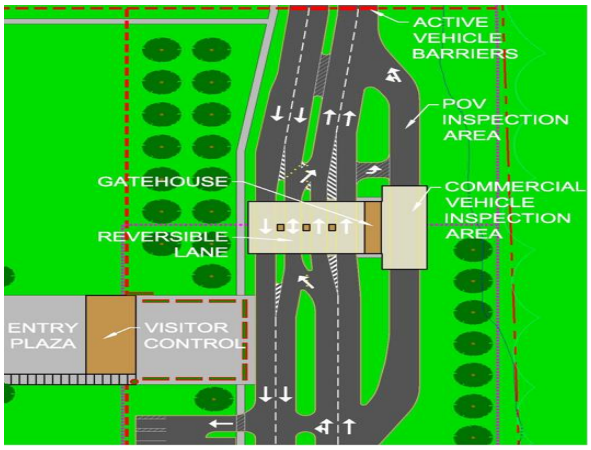


Figure 4.1 - Proposed Entry Control Facilities

Another option to accommodate the future traffic demand at the gate is to use tandem processing for ID checks during the morning peak period of traffic. Since this procedure only requires two inbound lanes, no lane additions would be required to the planned two lane entrance road at the ID check area.

4.3 Proposed Intersection Options

This section includes a brief description of the three options for the proposed intersection configuration of the site entrance road with Sangamore Road. They were developed sequentially as the results of the intersection analysis of each option were determined. Common amongst all options is the location of the ID check area with respect to its distance from Sangamore Road. Sufficient queue distance has been established by locating the canopy and ID check area approximately 450 feet from the intersection with Sangamore Road. In addition, the Master Plan depicts a four lane entrance road with two inbound and two outbound lanes.

Option 1 maintains the existing intersection layout as a four legged intersection and all way stop condition. The only difference in the configuration of the approach legs of this intersection versus the existing condition is that there are two lanes for traffic exiting the site.

Option 2 is similar to Option 1 except the traffic control for the intersection is a traffic signal. Signal phasing and timing scenarios were developed to optimize the flow of traffic through the intersection. This option was deemed viable based on the existing traffic signal warrant analysis and the fact that the intersection is approximately 680 feet away from the signalized intersection of Overlea Road and Sangamore Road to the north. This distance is greater than the 600 feet stated as the minimum separation distance of signalized intersections in the ITE Traffic Engineering Handbook.

Option 3 relocates the site entrance approximately 350 feet north of the existing intersection and provides for two three legged offset intersections. Stop signs will be eliminated along Sangamore Road in this area, while stop signs will remain for eastbound (EB) traffic exiting the site and westbound (WB) traffic on Sentinel Drive. Sangamore Road between Sentinel Drive and the site entrance will be widened by one lane to create a dedicated left turn lane for southbound (SB) motorists turning onto Sentinel Drive and northbound (NB) motorists turning onto the site entrance road. The high volume of left turning vehicles within a stream of traffic that is not controlled by a stop sign or traffic signal warrants the dedicated left turn lane.

4.4 Analysis of Intersection Options

The traffic volumes used for the intersection analysis are shown in Appendix A. The McTrans Highway Capacity Software (version HCS+T7F) was used for the analysis of the unsignalized and signalized intersection configurations represented by Options 1 – 3. The results of the morning and evening peak hour LOS analysis for each Option are depicted in Table 4.2.

Table 4.2 - Intersection LOS Summary

Intersection Approach	Existing Condition		Option 1 4-Way Stop		Option 2 Signalized Intersection		Option 3 Offset Intersection	
	AM	PM	AM	PM	AM	PM	AM	PM
Sangamore Road NB	B	C	D	C	C	B	A	A
Sangamore Road SB	C	C	E	C	B	D	B	C
Sentinel Dr WB	B	C	B	C	D	B	C	A
Site Entrance EB	A	C	B	C	C	C	E (only 30 cars)	D

Remember that the purpose of this study is to avoid or minimize impacts to traffic on roadways surrounding the site due to an increase in site generated traffic. This relates to motorists not associated to the site who travel on Sangamore Road and Sentinel Drive. The acceptable LOS for this urban setting is a LOS D and for site generate traffic exiting the site a LOS E is tolerable during the peak hour period per the ITE Traffic Engineering Handbook.

Option 1 reduces the LOS along Sangamore Road during the morning peak hour of traffic from LOS B to LOS D for NB traffic and LOS C to LOS E for SB traffic. It also reduces the LOS for EB traffic exiting the site from LOS A to LOS B in the morning

peak hour. The all way stop condition at this four legged intersection does not accommodate the increased traffic very well along Sangamore Road in the morning peak period because it creates approach volumes that are not as evenly distributed as compared to the existing condition.

Overall Option 2 performs a little better than Option 1 when compared to the existing condition. However, there was still an impact to traffic on Sangamore Road (NB morning and SB evening time periods) and Sentinel Drive during the morning peak hour. There was also a reduction of LOS for the traffic exiting the site (EB) in the morning from a LOS A to LOS C. Several phasing plans and cycle timings were investigated and although the intersection operates at an acceptable LOS, there were still impacts to motorists not associated with the site. As compared to Option 3, this is primarily due to the fact that traffic has to stop on Sangamore Road in Option 2 while there is almost a free flow condition along Sangamore Road in Option 3.

Option 3 improves the LOS for motorists on Sangamore Road due to the elimination of stop signs on the street in this area. The Sangamore NB approach improves from a LOS B/C to a LOS A/A and the SB approach improves from a LOS C/C to LOS B/C. The only impact to traffic not associated with the facility is a slight reduction in LOS on Sentinel Drive in the morning from a LOS B to a LOS C. This impact is well within the desirable limits of LOS and no mitigation is required. This reduction of WB LOS is the result of more traffic on Sangamore Road and the fact that Sangamore Road no longer has stop signs, which reduces the available gaps for traffic turning left from Sentinel Drive onto Sangamore Road. The evening peak hour LOS of Sentinel Drive improves from a LOS C to LOS A. Therefore, the impact to traffic for this option is for site generated traffic exiting the facility. The morning LOS for the site entrance road is reduced from a LOS A to LOS E. This decrease is felt by only 30 vehicles exiting the site as compared to the 892 other vehicles at the intersection which received a benefit of an increased LOS. The LOS during the evening peak hour for traffic exiting the site was reduced from a LOS C to LOS D. The reason for this decrease of LOS on the site entrance road is primarily due to the fact that Sangamore Road does not have stop signs and motorists exiting the site have to wait longer for available gaps in traffic. Again, the other motorists at this intersection achieved better or the same LOS as compared to the existing condition.

4.5 Recommended Intersection Option

The option that best achieves the purpose of this study of avoiding or minimizing impacts to motorists in this area who are not associated with the site generated traffic is Option 3. Therefore, Option 3 is the recommended intersection configuration for the site

entrance and Sangamore Road intersection. The proposed entrance to the site is illustrated in Figure 4.2, as well as the exclusive left turn lane on Sangamore Road between Sentinel Drive and the site entrance.

In fact, motorists traveling on Sangamore Road (which include those entering the site) enjoy improved travel times because the stop signs along Sangamore Road will be removed in this area. The only impact to traffic is to site generated traffic exiting the facility. As stated previously, these delays for EB traffic are tolerable in urban populations which are greater than 25,000 people.

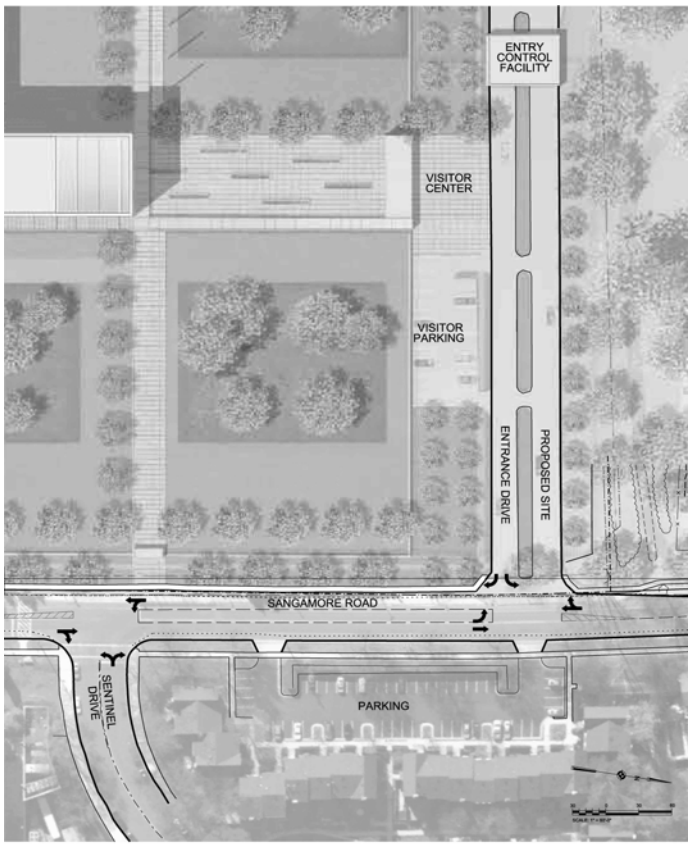


Figure 4.2 - Proposed Entrance Road

4.6 Construction Phase Traffic Control

The construction-phase traffic control will involve three primary elements:

1. Traffic Control along Sangamore Road
2. On Site Traffic Control
3. On Site Parking during Construction.

4.6.1 Traffic Control along Sangamore Road

Traffic control along Sangamore Road during public road improvements shall conform to MUTCD requirements and is expected to be comprised of a partial lane closure while the west lane is added between Sentinel Drive and the north end of the site. During construction, the west sidewalk and bike lane(s) in this area will be closed, and pedestrian and bicycle traffic will be rerouted to the east sidewalk. However, two-way traffic is expected to be maintained throughout the majority of construction.

4.6.2 Onsite Traffic Control

On site traffic control during construction shall conform to MUTCD requirements and is expected to be comprised of segregating the three primary groups (the initial, existing building occupants, the new and existing building contractors, and the parking garage and entry road contractors). To the greatest extent possible, the existing surface parking will be maintained until the parking garage and entrance road are complete. A portion of this parking is expected to be used by one or both of the contractor groups and the remainder will be used by building occupants. Construction fencing and vehicle barriers will be used to define the construction zones.

4.6.3 Onsite Parking during Construction

On site parking (for both building occupants and contractors) during construction will be the primary construction-phase traffic control issue until the parking garage is completed. As noted above, the existing surface parking will be maintained where feasible, and off site parking and shuttling will be utilized as necessary. However, due to the occupancy phasing, at no point prior to the completion of the parking garage is the combined number of on site personnel (both building occupants and contractors) expected to exceed the current occupancy and/or available parking.

Appendix A
Traffic Data

Existing Machine Counts

Wednesday, October 13, 2010				
	Sangamore Rd		Sentinel	Site
Time	SB	NB	WB	EB
12:00 AM	0	3	2	5
12:15 AM	3	1	0	0
12:30 AM	0	0	1	2
12:45 AM	2	1	1	2
1:00 AM	1	6	0	3
1:15 AM	1	0	0	1
1:30 AM	2	0	0	1
1:45 AM	3	2	0	0
2:00 AM	3	3	0	0
2:15 AM	2	1	0	0
2:30 AM	0	1	1	0
2:45 AM	1	2	0	0
3:00 AM	3	0	0	0
3:15 AM	2	1	0	1
3:30 AM	2	2	0	1
3:45 AM	6	6	0	0
4:00 AM	2	6	0	2
4:15 AM	4	5	1	1
4:30 AM	14	10	0	2
4:45 AM	17	23	1	1
5:00 AM	15	19	1	5
5:15 AM	38	45	2	2
5:30 AM	50	69	5	2
5:45 AM	50	84	5	4
6:00 AM	60	88	7	8
6:15 AM	61	101	12	12
6:30 AM	44	86	10	8
6:45 AM	69	76	13	5
7:00 AM	71	93	18	11
7:15 AM	94	84	25	7
7:30 AM	110	87	24	13
7:45 AM	94	86	30	12
8:00 AM	122	73	34	6
8:15 AM	132	76	40	9
8:30 AM	115	68	23	10
8:45 AM	105	63	25	6
9:00 AM	98	56	26	13
9:15 AM	81	48	43	20
9:30 AM	55	36	43	11
9:45 AM	0	39	31	23
10:00 AM	58	39	36	19
10:15 AM	39	33	32	7
10:30 AM	52	27	40	10
10:45 AM	51	40	45	15
11:00 AM	61	26	42	15
11:15 AM	57	26	30	12
11:30 AM	71	39	47	23
11:45 AM	73	40	48	14
12:00 PM	79	39	42	28
12:15 PM	49	55	45	23
12:30 PM	79	53	44	11
12:45 PM	64	54	41	15
1:00 PM	66	33	43	23
1:15 PM	54	34	34	20
1:30 PM	61	48	37	20
1:45 PM	59	30	61	42
2:00 PM	68	55	60	62
2:15 PM	50	30	50	47
2:30 PM	51	51	64	89
2:45 PM	54	49	44	52
3:00 PM	62	47	59	86
3:15 PM	78	43	42	65
3:30 PM	71	52	57	112
3:45 PM	72	50	43	83
4:00 PM	65	40	33	129
4:15 PM	72	41	52	79
4:30 PM	72	69	66	73
4:45 PM	82	65	64	65
5:00 PM	54	66	73	79
5:15 PM	94	71	48	55
5:30 PM	68	59	56	56
5:45 PM	66	68	56	41
6:00 PM	68	53	42	42
6:15 PM	74	44	52	38
6:30 PM	74	48	63	35
6:45 PM	78	45	54	31
7:00 PM	44	47	50	20
7:15 PM	48	41	44	18
7:30 PM	44	46	31	13
7:45 PM	29	41	32	14
8:00 PM	27	25	21	12
8:15 PM	29	18	20	6
8:30 PM	36	14	20	8
8:45 PM	20	22	23	9
9:00 PM	25	16	20	11
9:15 PM	31	17	15	5
9:30 PM	19	22	16	4
9:45 PM	15	11	11	6
10:00 PM	13	10	9	18
10:15 PM	10	9	8	1
10:30 PM	9	10	6	8
10:45 PM	3	8	2	7
11:00 PM	6	4	5	11
11:15 PM	6	8	2	12
11:30 PM	2	3	2	3
11:45 PM	2	2	0	5

Existing Manual Traffic Counts

		Sangamore SB			Facility Entrance			Sangamore NB			Sentinel WB		
		LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
13-Oct	5:30	4	3	35			1	75		1		1	6
	5:45	5	4	46			1	76				2	
	6:00	6	9	47	1		2	89	2			5	3
	6:15	8	6	42			8	92	8			3	8
	6:30	9	13	32			3	83	5	1	2		5
	6:45	11	26	37			2	74	3	1	2	4	7
	7:00	16	19	49			3	75	14		2	5	8
	7:15	26	40	31	2		1	70	11	1	2	2	12
	7:30	22	58	35	1		2	57	26	1	4	2	18
	7:45	31	59	24	1		2	65	20	1	6	8	11
	8:00	33	63	26	3		3	55	17	1	10	13	18
	8:15	36	68	28	4		5	57	18	1	6	8	11
	3:00	29	22		27		39	6	21	2	1	2	46
	3:15	46	24	2	24		40	5	38	4	4	0	40
	3:30	54	22		43	1	49	1	41	3	5	0	54
	3:45	55	23	3	31	2	38	10	32	4	3	0	40
	4:00	36	26	1	35	2	88	7	31	5	3	1	32
	4:15	55	20		26	1	51	3	39	6	7	0	50
	4:30	48	22	1	20	4	42	5	54	3	4	1	60
	4:45	52	33		20	4	38	4	59	3	5	5	57
	5:00	48	14	1	25	2	44	4	63	4	7	1	62
	5:15	54	30		36	1	32	3	62	3	4	0	51

*Time noted is beginning of 15-minute interval noted in tables, i.e. 5:30 represents traffic from 5:30-5:45

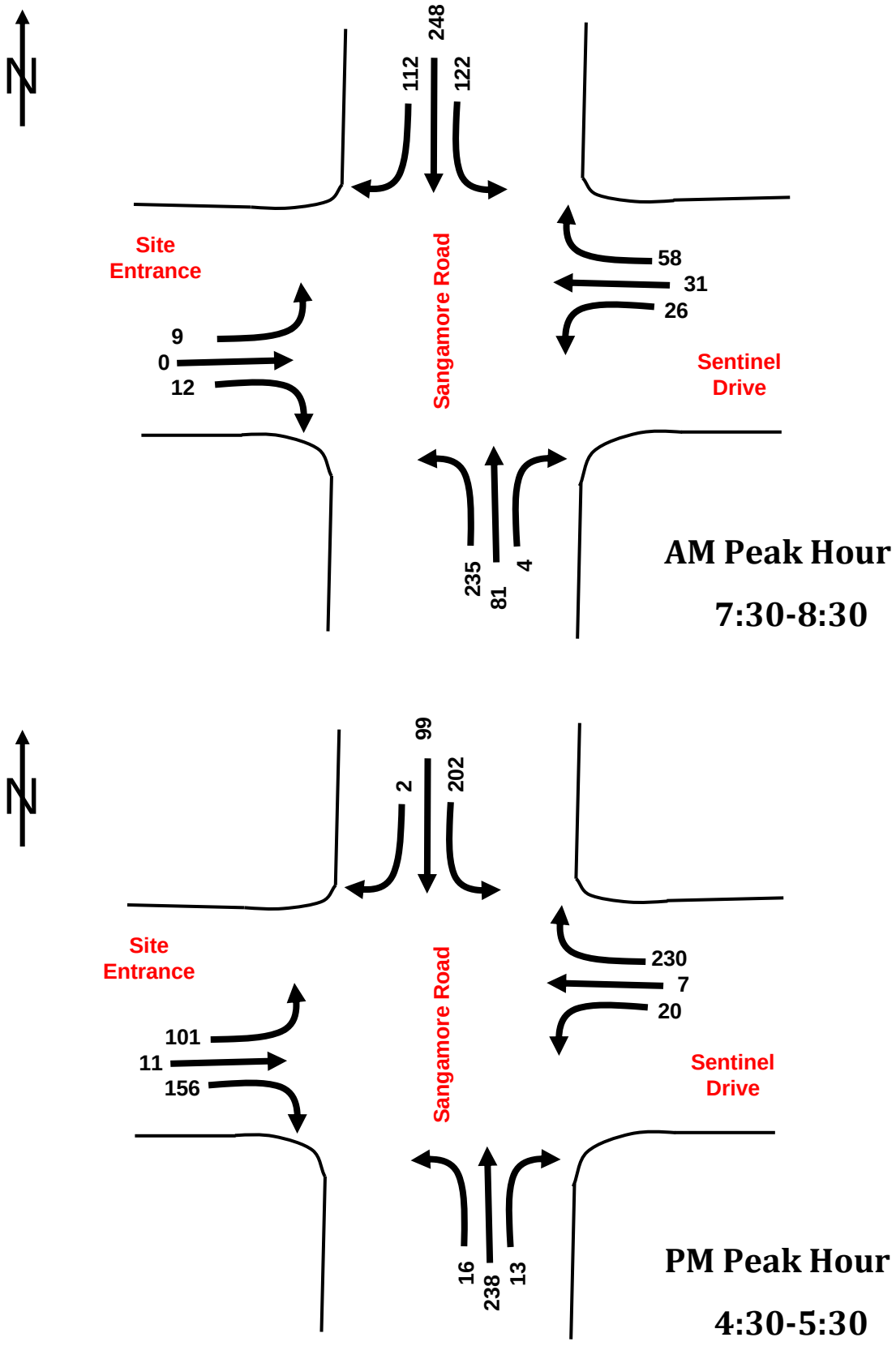


Figure 1 – Existing AM and PM Peak Hour

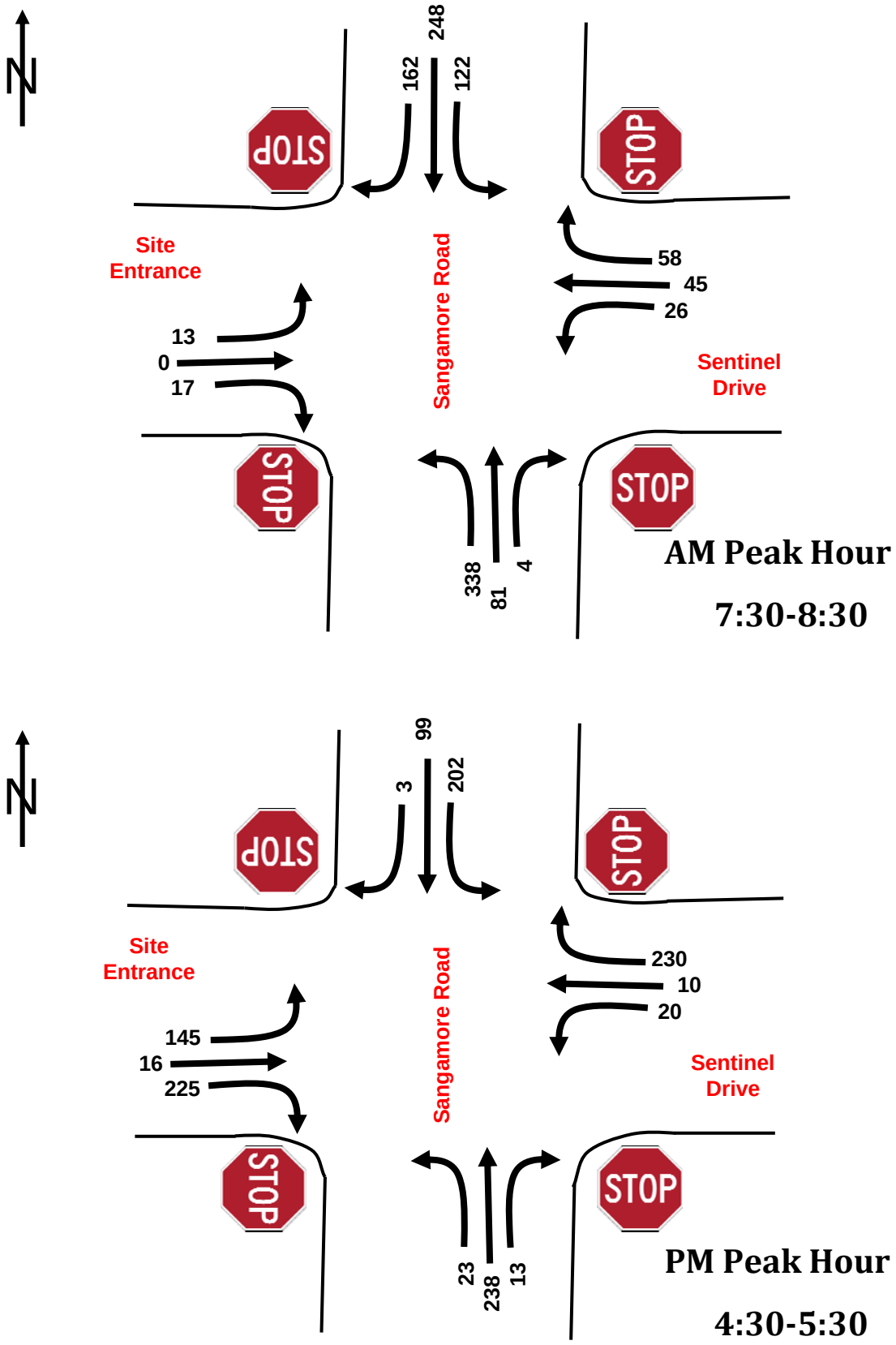


Figure 2 – Proposed Option 1 AM & PM Peak Hour

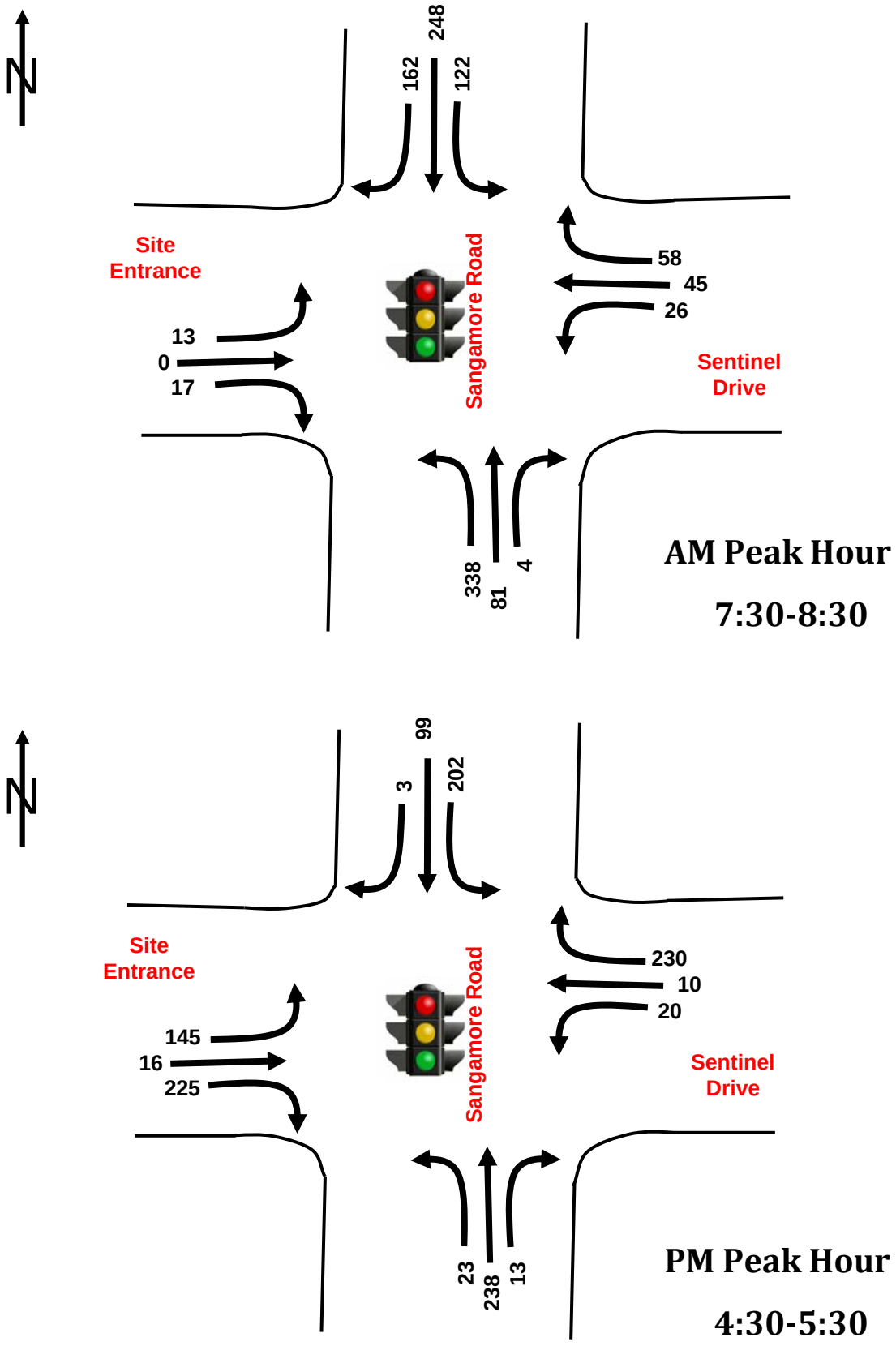


Figure 3 – Proposed Option 2 AM & PM Peak Hour

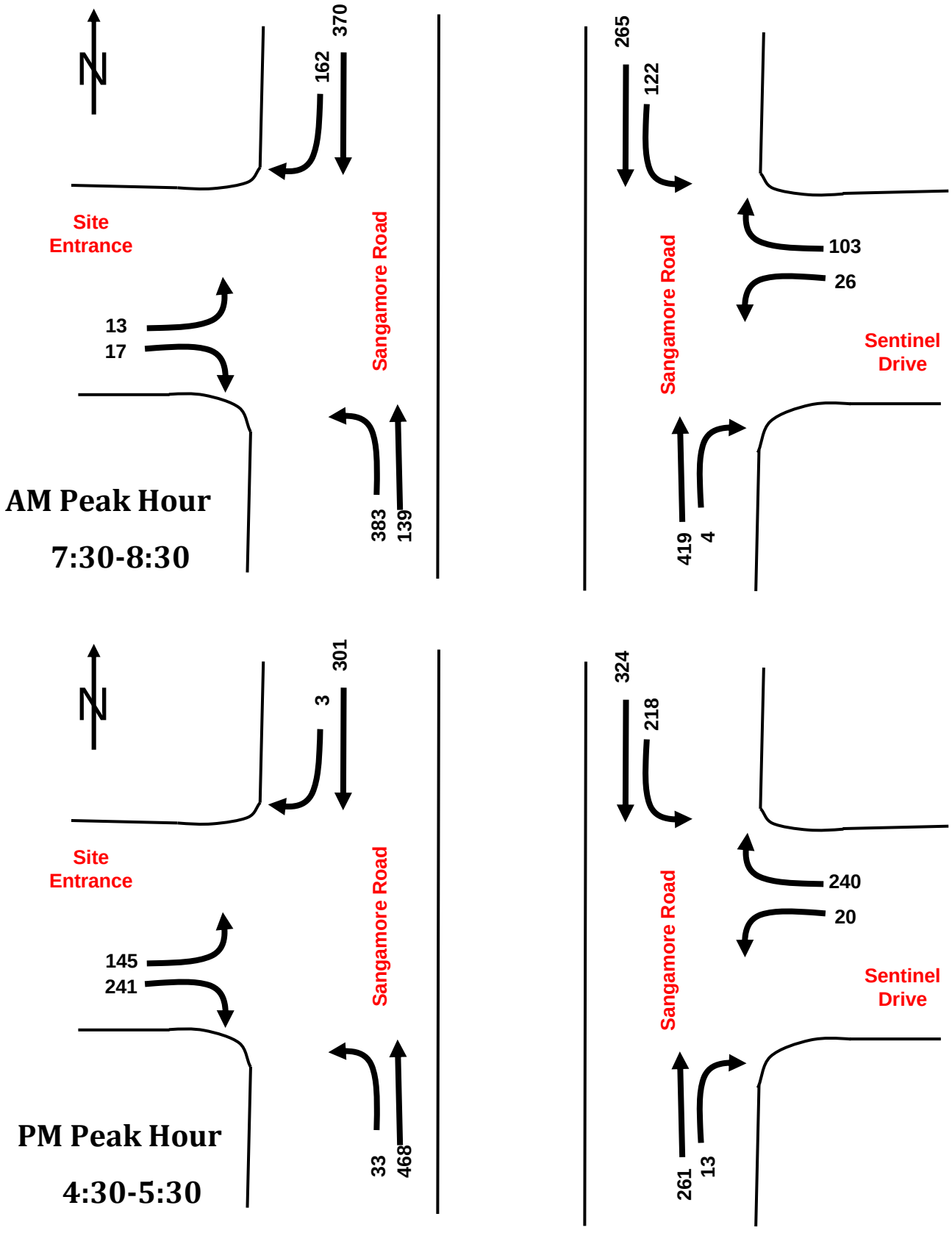


Figure 4 – Proposed Option 3 AM & PM Peak Hour

Appendix B
Traffic Signal Warrant Analysis

TRAFFIC SIGNAL WARRANTS ANALYSIS

for

Sangamore Road, Sentinel Drive and project site entrance

Bethesda, Maryland

November 5, 2010

ared for:
orps of Engineers

Introduction

A traffic signal warrants analysis has been conducted for the intersection of Sangamore Road, Sentinel Drive and the project site in Bethesda, Maryland. Data collected at the site has been compared to the guidelines set forth in the Manual of Uniform Traffic Control Devices (MUTCD). The manual describes eight warrants to be considered as justifying criteria necessary to be met before a traffic signal installation should be approved. A summary of results from the eight warrants is listed as follows:

Table 1
MUTCD Signal Warrants

Warrant 1	Eight-Hour Vehicular Volume	Did not meet
Warrant 2	Four-Hour Vehicular Volume	Did not meet
Warrant 3	Peak Hour	Met
Warrant 4	Pedestrian Volume	Did not meet
Warrant 5	School Crossings	Did not meet
Warrant 6	Coordinated Signal System	Did not meet
Warrant 7	Crash Experience	Did not meet
Warrant 8	Roadway Network	Met

The installation of a traffic signal must improve the overall safety and/or operation of the intersection. Satisfying one or more warrants alone does not in itself provide sole justification to consider a traffic signal.

The calculations below detail the process utilized to determine the results outlined in Table 1. Appendix A contains the data collected from the hand-held intersection counter and Appendix B is the output from the *Highway Capacity Software HCS+* utilized in Warrant 3.

TRAFFIC SIGNAL WARRANT ANALYSIS
24 HOUR TRAFFIC VOLUME COUNT

Sangamore Road, Sentinel Drive, and project site entrance

DATE: 10/13/2010
DAY: WEDNESDAY
LOCATION: Bethesda, Maryland

BY: C. McDonald, K. Doyle
N - S Street: Sangamore Road
E - W Street: Sentinel Drive/NGA entrance

TIME INTERVAL	ENTERING TRAFFIC ONLY				TOTAL ENTERING TRAFFIC	MAJOR STREET TOTAL ENTERING	MINOR STREET PRINCIPAL APPROACH
	Sangamore Road	Sangamore Road	NGA Entrance	Sentinel Drive			
	NB	SB	EB	WB			
12 - 1	5	5	9	4	23	10	9
1 - 2	8	7	5	0	20	15	5
2 - 3	7	6	0	1	14	13	1
3 - 4	9	13	2	0	24	22	2
4 - 5	44	37	6	2	89	81	6
5 - 6	217	153	13	13	396	370	13
6 - 7	351	234	33	42	660	585	42
7 - 8	350	369	43	97	859	719	97
8 - 9	280	474	31	122	907	754	122
9 - 10	179	290	67	143	679	469	143
10 - 11	139	200	51	153	543	339	153
11 - 12	131	262	64	167	624	393	167
12 - 1	201	271	77	172	721	472	172
1 - 2	145	240	105	175	665	385	175
2 - 3	185	223	250	218	876	408	250
3 - 4	192	283	346	201	1022	475	346
4 - 5	215	291	346	215	1067	506	346
5 - 6	264	282	231	233	1010	546	233
6 - 7	190	294	146	211	841	484	211
7 - 8	175	165	65	157	562	340	157
8 - 9	79	112	35	84	310	191	84
9 - 10	66	90	26	62	244	156	62
10 - 11	37	35	34	25	131	72	34
11 - 12	17	16	31	9	73	33	31
24 HOUR TOTAL	3486	4352	2016	2506	12360	7838	2861
PEAK HR 4 - 5	215	291	346	215	1067	506	346

WARRANT NUMBER 1 - EIGHT-HOUR VEHICULAR VOLUME (Condition A)

REQUIRED HOURLY VOLUMES	MAJOR STREET	MINOR STREET	TOTAL HOURS REQ'D	TOTAL HOURS MET
100%	500	150	8	2
80%	400	120	8	8
70%	350	105	8	10
56%	280	84	8	13

WARRANT NUMBER 1- EIGHT-HOUR VEHICULAR VOLUME(Condition B)

REQUIRED HOURLY VOLUMES	MAJOR STREET	MINOR STREET	TOTAL HOURS REQ'D	TOTAL HOURS MET
100%	750	75	8	1
80%	600	60	8	2
70%	525	53	8	3
56%	420	42	8	8

WARRANT 1 RESULT: SIGNAL NOT WARRANTED BY CONDITION A OR CONDITION B.

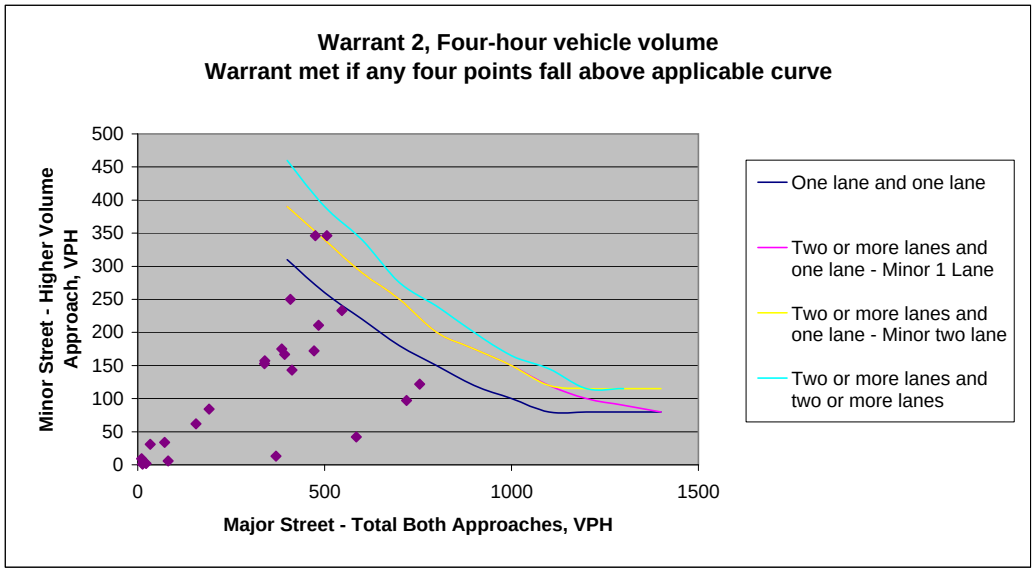
TRAFFIC SIGNAL WARRANT ANALYSIS
24 HOUR TRAFFIC VOLUME COUNT

Sangamore Road, Sentinel Drive, and project site entrance

DATE: 10/13/2010
DAY: WEDNESDAY
LOCATION: Bethesda, Maryland

BY: C. McDonald, K. Doyle
N - S Street: Sangamore Road
E - W Street: Sentinel Drive/NGA entrance

WARRANT NUMBER 2 - FOUR-HOUR VEHICULAR VOLUME



Sangamore Road and NGA entrance, and Sentinel Drive - One major lane and one minor lane

WARRANT 2 RESULT: TWO POINTS MET CRITERIA, SIGNAL NOT WARRANTED.

TRAFFIC SIGNAL WARRANT ANALYSIS
24 HOUR TRAFFIC VOLUME COUNT

Sangamore Road, Sentinel Drive, and project site entrance

DATE: 10/13/2010
DAY: WEDNESDAY
LOCATION: Bethesda, Maryland

BY: C. McDonald, K. Doyle
N - S Street: Sangamore Road
E - W Street: Sentinel Drive/NGA entrance

WARRANT NUMBER 3 - Peak Hour (Category A)

ALL THREE OF THE FOLLOWING CONDITIONS MUST BE MET:

1) Total Stopped time delay on one minor-street approach controlled by a stop sign must be equal to or exceed: 4 vehicle-hours for a one-lane approach; or 5 vehicle-hours for a two-lane approach.

SENTINEL DRIVE/NGA ENTRANCE MINOR STREET

EB Approach = 346 vehicles EB delay = 9.84 seconds (From HCS data)

EB Stopped time delay = 0.95 hours NOT GREATER THAN 4 HOURS

2) The volume on the same minor-street approach (one direction only) equals or exceeds 100 vph for one moving lane and 150 vph for two moving lanes.

EB Approach = 346 vehicles GREATER THAN 100 VPH

3) The total entering volume serviced during the hour equals or exceeds 650 vph for intersections with three approaches or 700 vph with intersections with four or more approaches.

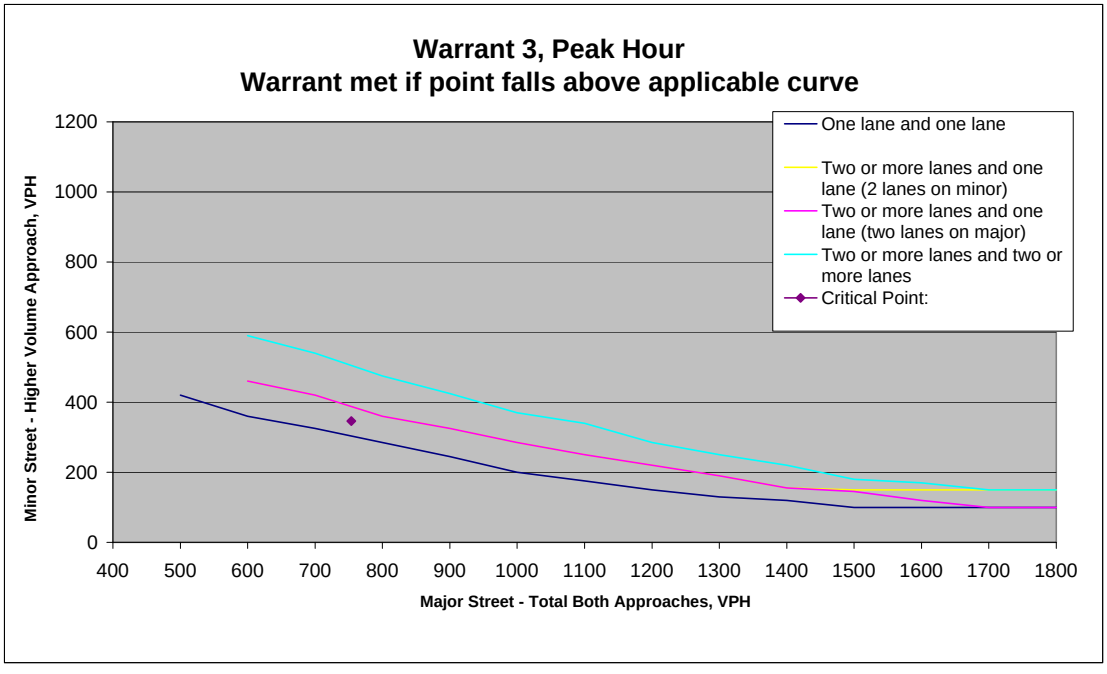
Total entering volume = 1067 vehicles GREATER THAN 650 VPH

WARRANT 3 CATEGORY A RESULT: CONDITION A NOT MET, SIGNAL NOT WARRANTED.

WARRANT NUMBER 3 - Peak Hour (Category B)

Intersection Configuration:

No. major street lanes:	1	lanes
No. higher volume minor street lanes:	1	lanes
Total volume on major street (all apprches):	754	vph
Total volume on higher volume minor street:	346	vph
Critical Point:		



WARRANT 3 CATEGORY B RESULT: CONDITION MET, SIGNAL WARRANTED.

TRAFFIC SIGNAL WARRANT ANALYSIS
24 HOUR TRAFFIC VOLUME COUNT

Sangamore Road, Sentinel Drive, and project site entrance

DATE: 10/13/2010
DAY: WEDNESDAY
LOCATION: Bethesda, Maryland

BY: C. McDonald, K. Doyle
N - S Street: Sangamore Road
E - W Street: Sentinel Drive/NGA entrance

WARRANT NUMBER 4 - Pedestrian Volume (Category A)

WARRANT 4 CATEGORY A RESULT: CONDITION NOT MET, PEDESTRIAN VOLUME CROSSING MAJOR STREET LESS THAN 100 FOR FOUR HOURS ON AVERAGE DAY AND LESS THAN 190 PER HOUR, SIGNAL NOT WARRANTED.

WARRANT NUMBER 4 - Pedestrian Volume (Category B)

WARRANT 4 CATEGORY B RESULT: CONDITION NOT MET, MORE THAN 60 GAPS PER HOUR AVAILABLE FOR PEDESTRIAN CROSSING, SIGNAL NOT WARRANTED.

WARRANT NUMBER 5 - School Crossing

WARRANT 5 RESULT: SCHOOL TRAFFIC NOT FOOUND TO CONFLICT WITH STUDY AREA, SIGNAL NOT WARRANTED.

WARRANT NUMBER 6 - Coordinated Signal System (Category A)

WARRANT 6 CATEGORY A RESULT: CONDITION NOT APPLICABLE, STUDY AREA IS NOT A ONE-WAY STREET AND DOES NOT HAVE TRAFFIC PREDOMINANTLY IN ONE DIRECTION, SIGNAL NOT WARRANTED.

WARRANT NUMBER 6 - Coordinated Signal System (Category B)

WARRANT 6 CATEGORY B RESULT: ADJACENT TRAFFIC SIGNALS PROVIDE DESIRABLE PLATOONING AND PROGRESSIVE MOVEMENT OF VEHICLES.

WARRANT NUMBER 7 - Crash Experience

ALL THREE OF THE FOLLOWING CONDITIONS MUST BE MET:

1) Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency; and

2) Five or more reported crashes, of types susceptible to correction by a traffic control signal, have occurred within a 12-month period, each crash involving personal injury or property damage apparently exceeding the applicable requirements for a reportable crash; and

3) For each of any 8 hours of an average day, the vehicles per hour (vph) given in both of the 80 percent columns of Condition A in Table 4C-1 (see Section 4C.02), or the vph in both of the 80 percent columns of Condition B in Table 4C-1 exists on the major-street and the higher-volume minor-street approach, respectively, to the intersection, or the volume of pedestrian traffic is not less than 80 percent of the requirements specified in the Pedestrian Volume warrant. These major street and minor-street volumes shall be for the same 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of the 8 hours.

WARRANT 7 RESULT: CONDITIONS 1 AND 2 NOT MET, SIGNAL NOT WARRANTED.

WARRANT NUMBER 8 - Roadway Network

ONE OR BOTH OF THE FOLLOWING CONDITIONS MUST BE MET:

1) The intersection has a total existing, or immediately projected, entering volume of at least 1,000 vehicles per hour during the peak hour of a typical weekday and has 5-year projected traffic volumes, based on an engineering study, that meet one or more of Warrants 1, 2, and 3 during an average weekday; or

2) The intersection has a total existing or immediately projected entering volume of at least 1,000 vehicles per hour for each of any 5 hours of a nonnormal business day (Saturday or Sunday).

WARRANT 8 RESULT: CONDITIONS 1 MET, SIGNAL WARRANTED.

Appendix C
ECF Inbound Lane Analysis

DIA: ICC-B, ECF Inbound Lane Requirements Worksheet			
Line	**Field**	**Calculation**	**Value**
1	Number of Vehicles Process in Peak Hour (**section 2.3.2.4**)		522
2	Number of Queued Vehicles at end of Peak Hour (**section 2.3.2.4**)		6
3	TOTAL EXISTING DEMAND	Line1 + Line2	528
4	Deployment Adjustment [DA] (**section 2.3.2.3**) *Percent of Total Base Population Deployed*	100%/(100% -DA%)	*0.0% *Deployment* = 1.00
5	TOTAL ADJUSTED EXISTING DEMAND	Line3 X Line4	528
6	Local Growth at ECF [LG] (**section 2.3.2.2**) *Percent of Estimated Local Growth*	(100% + LG%)/100%	*0% Local Growth* = 1
7	Future Growth [FG] (**section 2.3.2.1**) Percent of Estimated Future Growth	(100% + FG%)/100%	*44% Future Growth* = 1.44
8	DESIGN DEMAND	Line5 X Line6 X Line7	760
9	Design Processing Rate (**Exhibit 2.5**) *Single - Default 350 veh per hour per lane*		350
10	CALCULATED LANE REQUIREMENTS	Line8 / Line9	2.2
11	ROUNDED LANE REQUIREMENTS *Round to Next Highest Whole Number*		**3 Lanes**
12	Design Processing Rate (**Exhibit 2.5**) *Tandem - Default 500 veh per hour per lane*		500
13	CALCULATED LANE REQUIREMENTS	Line8 / Line12	1.5
14	ROUNDED LANE REQUIREMENTS *Round to Next Highest Whole Number*		**2 Lanes**

Notes:

1. Refer to Traffic and Safety Engineering for Better Entry Control Facilities SDDCTEA Pamphlet 55-15 by Military Surface Deployment and Distribution Command Transportation Enginnering Agency dated 2006 for the section and Exhibit callouts.

2. Existing peak hour of traffic entering the facility at this gate was 522 vehicles during the time period of 0545 - 0645.

3. There were 6 vehicles in que at the gate entrance at the end of the peak hour. Therefore, the demand equals those processed and those waiting to be processed at the end of the peak hour.

4. No deployment and no local growth, so factors for both are 1.0. Local growth deals with the pass through traffic and since this is a developed area and the population in the area has remained steady or declined, it is assumed 0% local growth.

5. Future growth is based on the increase in parking that is accessible at this gate.
   Future parking = 2225 spaces and existing parking = 1550 spaces.
   Thus increase equals 2225/1550 = 0.44.

Appendix D
HCS+ Analysis

ALL-WAY STOP CONTROL ANALYSIS- EXISTING AM

General Information

Analyst	*Kim Kossmann*
Agency/Co.	*Black & Veatch*
Date Performed	*11/4/2010*
Analysis Time Period	*October 13, 2010*

Site Information

Intersection	
Jurisdiction	*Montgomery Co.*
Analysis Year	*2010*

Project ID *ICC-B Traffic Study - Existing AM*

East/West Street: *Sentinel Dr/Site* North/South Street: *Sangamore Rd*

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	*9*	*0*	*12*	*26*	*31*	*58*
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	*235*	*81*	*4*	*122*	*248*	*112*
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	*LTR*		*LTR*		*LTR*		*LTR*	
PHF	*0.58*		*0.72*		*0.87*		*0.87*	
Flow Rate (veh/h)	*35*		*159*		*367*		*553*	
% Heavy Vehicles	*0*		*0*		*0*		*2*	
No. Lanes	*1*		*1*		*1*		*1*	
Geometry Group	*1*		*1*		*1*		*1*	
Duration, T	*0.25*							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	*0.4*		*0.2*		*0.7*		*0.3*	
Prop. Right-Turns	*0.6*		*0.5*		*0.0*		*0.2*	
Prop. Heavy Vehicle	*0.0*		*0.0*		*0.0*		*0.0*	
hLT-adj	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*
hRT-adj	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*
hHV-adj	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*
hadj, computed	*-0.3*		*-0.3*		*0.1*		*-0.1*	

Departure Headway and Service Time

hd, initial value (s)	*3.20*		*3.20*		*3.20*		*3.20*	
x, initial	*0.03*		*0.14*		*0.33*		*0.49*	
hd, final value (s)	*6.41*		*6.04*		*5.43*		*5.02*	
x, final value	*0.06*		*0.27*		*0.55*		*0.77*	
Move-up time, m (s)	*2.0*		*2.0*		*2.0*		*2.0*	
Service Time, t_s (s)	*4.4*		*4.0*		*3.4*		*3.0*	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	*285*		*409*		*617*		*706*	
Delay (s/veh)	*9.84*		*11.22*		*14.96*		*22.79*	
LOS	*A*		*B*		*B*		*C*	
Approach: Delay (s/veh)	*9.84*		*11.22*		*14.96*		*22.79*	
LOS	*A*		*B*		*B*		*C*	
Intersection Delay (s/veh)	*18.15*							
Intersection LOS	*C*							

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ALL-WAY STOP CONTROL ANALYSIS - EXISTING PM

General Information

Analyst	*Kim Kossmann*
Agency/Co.	*Black & Veatch*
Date Performed	*11/4/2010*
Analysis Time Period	*October 13, 2010*

Site Information

Intersection	*Sangamore Rd/Sentinel Dr/Site*
Jurisdiction	*Montgomery Co.*
Analysis Year	*2010*

Project ID *ICC-B Traffic Study - Existing PM*

East/West Street:

North/South Street: *Sangamore Rd*

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	*101*	*11*	*156*	*20*	*7*	*230*
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	*16*	*238*	*13*	*202*	*99*	*2*
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	*LTR*		*LTR*		*LTR*		*LTR*	
PHF	*0.81*		*0.90*		*0.92*		*0.88*	
Flow Rate (veh/h)	*329*		*284*		*289*		*343*	
% Heavy Vehicles	*0*		*0*		*0*		*2*	
No. Lanes	*1*		*1*		*1*		*1*	
Geometry Group	*1*		*1*		*1*		*1*	
Duration, T	*0.25*							

Saturation Headway Adjustment Worksheet

	Eastbound		Westbound		Northbound		Southbound	
Prop. Left-Turns	*0.4*		*0.1*		*0.1*		*0.7*	
Prop. Right-Turns	*0.6*		*0.9*		*0.0*		*0.0*	
Prop. Heavy Vehicle	*0.0*		*0.0*		*0.0*		*0.0*	
hLT-adj	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*
hRT-adj	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*
hHV-adj	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*
hadj, computed	*-0.3*		*-0.5*		*-0.0*		*0.2*	

Departure Headway and Service Time

	Eastbound		Westbound		Northbound		Southbound	
hd, initial value (s)	*3.20*		*3.20*		*3.20*		*3.20*	
x, initial	*0.29*		*0.25*		*0.26*		*0.30*	
hd, final value (s)	*6.62*		*6.52*		*6.92*		*6.94*	
x, final value	*0.61*		*0.51*		*0.56*		*0.66*	
Move-up time, m (s)	*2.0*		*2.0*		*2.0*		*2.0*	
Service Time, t_s (s)	*4.6*		*4.5*		*4.9*		*4.9*	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	*494*		*482*		*465*		*482*	
Delay (s/veh)	*19.25*		*16.23*		*18.25*		*22.45*	
LOS	*C*		*C*		*C*		*C*	
Approach: Delay (s/veh)	*19.25*		*16.23*		*18.25*		*22.45*	
LOS	*C*		*C*		*C*		*C*	
Intersection Delay (s/veh)	*19.21*							
Intersection LOS	*C*							

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ALL-WAY STOP CONTROL ANALYSIS - OPTION 1 AM

General Information

Analyst	*Kim Kossmann*
Agency/Co.	*Black & Veatch*
Date Performed	*11/4/2010*
Analysis Time Period	*October 13, 2010*

Site Information

Intersection	
Jurisdiction	*Montgomery Co.*
Analysis Year	*2010*

Project ID *ICC-B Traffic Study - Existing AM with future traffic*

East/West Street: *Sentinel Dr/Site* North/South Street: *Sangamore Rd*

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	*13*	*0*	*17*	*26*	*45*	*58*
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	*338*	*81*	*4*	*122*	*248*	*162*
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	*L*	*TR*	*LTR*		*LTR*		*LTR*	
PHF	*0.58*	*1.00*	*0.72*		*0.87*		*0.87*	
Flow Rate (veh/h)	*22*	*17*	*178*		*485*		*611*	
% Heavy Vehicles	*0*	*0*	*0*		*0*		*2*	
No. Lanes	*2*		*1*		*1*		*1*	
Geometry Group	*5*		*4a*		*2*		*2*	
Duration, T	*0.25*							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	*1.0*	*0.0*	*0.2*		*0.8*		*0.2*	
Prop. Right-Turns	*0.0*	*1.0*	*0.4*		*0.0*		*0.3*	
Prop. Heavy Vehicle	*0.0*	*0.0*	*0.0*		*0.0*		*0.0*	
hLT-adj	*0.5*	*0.5*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*
hRT-adj	*-0.7*	*-0.7*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*
hHV-adj	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*
hadj, computed	*0.5*	*-0.7*	*-0.2*		*0.2*		*-0.1*	

Departure Headway and Service Time

hd, initial value (s)	*3.20*	*3.20*	*3.20*		*3.20*		*3.20*	
x, initial	*0.02*	*0.02*	*0.16*		*0.43*		*0.54*	
hd, final value (s)	*8.49*	*7.25*	*6.78*		*5.79*		*5.39*	
x, final value	*0.05*	*0.03*	*0.34*		*0.78*		*0.91*	
Move-up time, m (s)	*2.3*		*2.0*		*2.0*		*2.0*	
Service Time, t_s (s)	*6.2*	*5.0*	*4.8*		*3.8*		*3.4*	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	*272*	*267*	*428*		*611*		*664*	
Delay (s/veh)	*11.66*	*10.21*	*13.17*		*26.21*		*39.92*	
LOS	*B*	*B*	*B*		*D*		*E*	
Approach: Delay (s/veh)	*11.02*		*13.17*		*26.21*		*39.92*	
LOS	*B*		*B*		*D*		*E*	
Intersection Delay (s/veh)	*30.37*							
Intersection LOS	*D*							

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ALL-WAY STOP CONTROL ANALYSIS - OPTION 1 PM

General Information

Analyst	*Kim Kossmann*
Agency/Co.	*Black & Veatch*
Date Performed	*11/4/2010*
Analysis Time Period	*October 13, 2010*

Site Information

Intersection	*Sangamore Rd/Sentinel Dr/Site*
Jurisdiction	*Montgomery Co.*
Analysis Year	*2010*

Project ID *ICC-B Traffic Study - Existing PM with future traffic*

East/West Street:

North/South Street: *Sangamore Rd*

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	*145*	*16*	*225*	*20*	*10*	*230*
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	*23*	*238*	*13*	*202*	*99*	*3*
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	*L*	*TR*	*LTR*		*LTR*		*LTR*	
PHF	*0.81*	*1.00*	*0.90*		*0.92*		*0.88*	
Flow Rate (veh/h)	*179*	*241*	*288*		*296*		*344*	
% Heavy Vehicles	*0*	*0*	*0*		*0*		*2*	
No. Lanes	*2*		*1*		*1*		*1*	
Geometry Group	*5*		*4a*		*2*		*2*	
Duration, T	*0.25*							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	*1.0*	*0.0*	*0.1*		*0.1*		*0.7*	
Prop. Right-Turns	*0.0*	*0.9*	*0.9*		*0.0*		*0.0*	
Prop. Heavy Vehicle	*0.0*	*0.0*	*0.0*		*0.0*		*0.0*	
hLT-adj	*0.5*	*0.5*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*
hRT-adj	*-0.7*	*-0.7*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*
hHV-adj	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*
hadj, computed	*0.5*	*-0.7*	*-0.5*		*-0.0*		*0.2*	

Departure Headway and Service Time

hd, initial value (s)	*3.20*	*3.20*	*3.20*		*3.20*		*3.20*	
x, initial	*0.16*	*0.21*	*0.26*		*0.26*		*0.31*	
hd, final value (s)	*8.10*	*6.91*	*6.91*		*7.19*		*7.20*	
x, final value	*0.40*	*0.46*	*0.55*		*0.59*		*0.69*	
Move-up time, m (s)	*2.3*		*2.0*		*2.0*		*2.0*	
Service Time, t_s (s)	*5.8*	*4.6*	*4.9*		*5.2*		*5.2*	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	*417*	*483*	*470*		*460*		*472*	
Delay (s/veh)	*16.16*	*15.43*	*18.12*		*20.08*		*24.62*	
LOS	*C*	*C*	*C*		*C*		*C*	
Approach: Delay (s/veh)	*15.74*		*18.12*		*20.08*		*24.62*	
LOS	*C*		*C*		*C*		*C*	
Intersection Delay (s/veh)	*19.47*							
Intersection LOS	*C*							

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HCS+™ DETAILED REPORT - OPTION 2 AM

General Information		Site Information	
Analyst	*Kim Kossmann*	Intersection	
Agency or Co.	*Black & Veatch*	Area Type	*All other areas*
Date Performed	*12/9/2010*	Jurisdiction	*Montogomery Co.*
Time Period		Analysis Year	
		Project ID	*Existing Conditions with Signal and Future traffic- AM Peak*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	*0*	*1*	*0*	*0*	*1*	*0*	*0*	*1*	*0*	*0*	*1*	*0*
Lane group		*LTR*			*LTR*			*LTR*			*LTR*	
Volume, V (vph)	*13*	*0*	*17*	*26*	*45*	*58*	*338*	*81*	*4*	*122*	*248*	*112*
% Heavy vehicles, %HV	*0*		*0*	*0*	*0*	*0*	*0*	*0*	*0*	*2*	*2*	*2*
Peak-hour factor, PHF	*0.56*	*1.00*	*0.60*	*0.66*	*0.60*	*0.81*	*0.90*	*0.78*	*0.93*	*0.85*	*0.91*	*0.80*
Pretimed (P) or actuated (A)	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*		*P*	*P*	
Start-up lost time, l_1		*2.0*			*2.0*			*2.0*			*2.0*	
Extension of effective green, e		*2.0*			*2.0*			*2.0*			*2.0*	
Arrival type, AT		*3*			*3*			*3*			*3*	
Unit extension, UE		*3.0*			*3.0*			*3.0*			*3.0*	
Filtering/metering, I		*1.000*			*1.000*			*1.000*			*1.000*	
Initial unmet demand, Q_b		*0.0*			*0.0*			*0.0*			*0.0*	
Ped / Bike / RTOR volumes	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Lane width		*12.0*			*12.0*			*12.0*			*12.0*	
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*
Parking maneuvers, N_m												
Buses stopping, N_B		*0*			*0*			*0*			*0*	
Min. time for pedestrians, G_p	*3.2*			*3.2*			*3.2*			*3.2*		

Phasing	EW Perm	02	03	04	Excl. Left	SB Only	Thru Only	08
Timing	G = *11.8*	G = *0.0*	G = *0.0*	G = *0.0*	G = *10.3*	G = *11.2*	G = *26.7*	G = *0.0*
	Y = *4*	Y = *0*	Y = *0*	Y = *0*	Y = *4*	Y = *0*	Y = *0*	Y = *0*
Duration of Analysis, T =						Cycle Length, C = *68.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		*51*			*186*			*484*			*557*	
Lane group capacity, c		*255*			*290*			*717*			*990*	
v/c ratio, X		*0.20*			*0.64*			*0.68*			*0.56*	
Total green ratio, g/C		*0.17*			*0.17*			*0.39*			*0.56*	
Uniform delay, d_1		*24.1*			*26.1*			*17.1*			*9.7*	
Progression factor, PF		*1.000*			*1.000*			*1.000*			*1.000*	

I factor		*1.000*			*1.000*			*1.000*			*1.000*	
Delay calibration, k		*0.50*			*0.50*			*0.50*			*0.50*	
Incremental delay, d_2		*1.8*			*10.4*			*5.0*			*2.3*	
Initial queue delay, d_3		*0.0*			*0.0*			*0.0*			*0.0*	
Back of Queue		*0.9*			*3.9*			*9.0*			*8.0*	
Queue Storage Ratio												
Control delay		*25.8*			*36.6*			*22.1*			*12.0*	
Lane group LOS		*C*			*D*			*C*			*B*	
Approach delay	*25.8*			*36.6*			*22.1*			*12.0*		
Approach LOS	*C*			*D*			*C*			*B*		
Intersection delay	*20.0*			X_C = *0.00*			Intersection LOS			*B*		

HCS+™ DETAILED REPORT - OPTION 2 PM

General Information		Site Information	
Analyst	*Kim Kossmann*	Intersection	
Agency or Co.	*Black & Veatch*	Area Type	*All other areas*
Date Performed	*12/9/2010*	Jurisdiction	*Montogomery Co.*
Time Period		Analysis Year	
		Project ID	*Existing Conditions with Signal and Future traffic- PM Peak*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	*0*	*1*	*0*	*0*	*1*	*0*	*0*	*1*	*0*	*0*	*1*	*0*
Lane group		*LTR*			*LTR*			*LTR*			*LTR*	
Volume, V (vph)	*101*	*16*	*225*	*20*	*10*	*230*	*23*	*238*	*13*	*202*	*99*	*3*
% Heavy vehicles, %HV	*0*		*0*	*0*	*0*	*0*	*0*	*0*	*0*	*2*	*2*	*2*
Peak-hour factor, PHF	*0.56*	*1.00*	*0.60*	*0.71*	*0.35*	*0.93*	*0.90*	*0.94*	*0.81*	*0.94*	*0.75*	*0.80*
Pretimed (P) or actuated (A)	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*
Start-up lost time, l_1		*2.0*			*2.0*			*2.0*			*2.0*	
Extension of effective green, e		*2.0*			*2.0*			*2.0*			*2.0*	
Arrival type, AT		*3*			*3*			*3*			*3*	
Unit extension, UE		*3.0*			*3.0*			*3.0*			*3.0*	
Filtering/metering, I		*1.000*			*1.000*			*1.000*			*1.000*	
Initial unmet demand, Q_b		*0.0*			*0.0*			*0.0*			*0.0*	
Ped / Bike / RTOR volumes	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Lane width		*12.0*			*12.0*			*12.0*			*12.0*	
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*
Parking maneuvers, N_m												
Buses stopping, N_B		*0*			*0*			*0*			*0*	
Min. time for pedestrians, G_p	*3.2*			*3.2*			*3.2*			*3.2*		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = *34.9*	G = *0.0*	G = *0.0*	G = *0.0*	G = *25.1*	G = *0.0*	G = *0.0*	G =
	Y = *4*	Y = *0*	Y = *0*	Y = *0*	Y = *4*	Y = *0*	Y = *0*	Y =
Duration of Analysis, T =						Cycle Length, C = *68.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		*571*			*304*			*295*			*351*	
Lane group capacity, c		*707*			*811*			*664*			*402*	
v/c ratio, X		*0.81*			*0.37*			*0.44*			*0.87*	
Total green ratio, g/C		*0.51*			*0.51*			*0.37*			*0.37*	
Uniform delay, d_1		*13.8*			*10.0*			*16.2*			*20.0*	
Progression factor, PF		*1.000*			*1.000*			*1.000*			*1.000*	

I factor		*1.000*			*1.000*			*1.000*			*1.000*	
Delay calibration, k		*0.50*			*0.50*			*0.50*			*0.50*	
Incremental delay, d_2		*9.6*			*1.3*			*2.1*			*22.2*	
Initial queue delay, d_3		*0.0*			*0.0*			*0.0*			*0.0*	
Back of Queue		*11.6*			*3.9*			*4.8*			*8.6*	
Queue Storage Ratio												
Control delay		*23.4*			*11.3*			*18.3*			*42.2*	
Lane group LOS		*C*			*B*			*B*			*D*	
Approach delay	*23.4*			*11.3*			*18.3*			*42.2*		
Approach LOS	*C*			*B*			*B*			*D*		
Intersection delay	*24.3*			X_C = *0.83*			Intersection LOS			*C*		

TWO-WAY STOP CONTROL SUMMARY - OPTION 3 AM

General Information		Site Information	
Analyst	*K. Kossmann*	Intersection	*Sangamore Rd/Sentinel Dr*
Agency/Co.	*Black & Veatch*	Jurisdiction	*Montgomery Co.*
Date Performed	*10/29/2010*	Analysis Year	*2010*
Analysis Time Period	*10/13/20*		

Project Description *Sentinel/Sangamore w/o entrance & SB Left AM Peak Hour*

East/West Street: *Sentinel Dr* | North/South Street: *Sangamore Rd*

Intersection Orientation: *North-South* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*419*	*4*	*122*	*265*	
Peak-Hour Factor, PHF	*0.90*	*0.78*	*0.93*	*0.85*	*0.91*	*0.80*
Hourly Flow Rate, HFR (veh/h)	*0*	*537*	*4*	*143*	*291*	*0*
Percent Heavy Vehicles	*0*	--	--	*2*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*1*	*1*	*0*
Configuration			*TR*	*L*	*T*	
Upstream Signal		*1*			*1*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*26*		*103*
Peak-Hour Factor, PHF	*0.56*	*1.00*	*0.60*	*0.66*	*0.60*	*0.81*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*39*	*0*	*127*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*		*LR*				
v (veh/h)		*143*		*166*				
C (m) (veh/h)		*1028*		*388*				
v/c		*0.14*		*0.43*				
95% queue length		*0.48*		*2.09*				
Control Delay (s/veh)		*9.1*		*21.0*				
LOS		*A*		*C*				
Approach Delay (s/veh)	--	--	*21.0*					
Approach LOS	--	--	*C*					

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TWO-WAY STOP CONTROL SUMMARY - OPTION 3 PM

General Information		Site Information	
Analyst	*K. Kossmann*	Intersection	*Sangamore Rd/Sentinel Dr*
Agency/Co.	*Black & Veatch*	Jurisdiction	*Montgomery Co.*
Date Performed	*10/29/2010*	Analysis Year	*2010*
Analysis Time Period	*10/13/20*		

Project Description *Sentinel/Sangamore w/o entrance & SB Left -PM Peak Hour*

East/West Street: *Sentinel Dr* | North/South Street: *Sangamore Road*

Intersection Orientation: *North-South* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*261*	*13*	*218*	*324*	
Peak-Hour Factor, PHF	*0.90*	*0.94*	*0.81*	*0.94*	*0.75*	*0.80*
Hourly Flow Rate, HFR (veh/h)	*0*	*277*	*16*	*231*	*432*	*0*
Percent Heavy Vehicles	*0*	--	--	*2*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*1*	*1*	*0*
Configuration			*TR*	*L*	*T*	
Upstream Signal		*1*			*1*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*20*		*240*
Peak-Hour Factor, PHF	*0.56*	*1.00*	*0.60*	*0.71*	*0.35*	*0.93*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*28*	*0*	*258*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*		*LR*				
v (veh/h)		*231*		*286*				
C (m) (veh/h)		*1269*		*569*				
v/c		*0.18*		*0.50*				
95% queue length		*0.66*		*2.81*				
Control Delay (s/veh)		*8.5*		*17.5*				
LOS		*A*		*C*				
Approach Delay (s/veh)	--	--	*17.5*					
Approach LOS	--	--	*C*					

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TWO-WAY STOP CONTROL SUMMARY - OPTION 3 AM

General Information

Analyst	*K. Kossmann*
Agency/Co.	*Black & Veatch*
Date Performed	*10/29/2010*
Analysis Time Period	*10/13/20*

Site Information

Intersection	*Sangamore Rd/Site Entrance*
Jurisdiction	*Montgomery Co.*
Analysis Year	*2010*

Project Description *Traffic Stdy-Sagamore w/new Site Entran & NB turn AM Peak Hr*

East/West Street: *Site Entrance* North/South Street: *Sangamore Rd*

Intersection Orientation: *North-South* Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*383*	*139*			*370*	*162*
Peak-Hour Factor, PHF	*0.90*	*0.78*	*0.93*	*1.00*	*0.91*	*0.80*
Hourly Flow Rate, HFR (veh/h)	*425*	*178*	*0*	*0*	*406*	*202*
Percent Heavy Vehicles	*0*	--	--	*2*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*1*	*1*	*0*	*0*	*1*	*0*
Configuration	*L*	*T*				*TR*
Upstream Signal		*1*			*1*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*13*		*17*			
Peak-Hour Factor, PHF	*0.56*	*1.00*	*0.60*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*23*	*0*	*28*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*1*	*0*	*1*	*0*	*0*	*0*
Configuration	*L*		*R*			

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*					*L*		*R*
v (veh/h)	*425*					*23*		*28*
C (m) (veh/h)	*980*					*73*		*570*
v/c	*0.43*					*0.32*		*0.05*
95% queue length	*2.23*					*1.16*		*0.15*
Control Delay (s/veh)	*11.5*					*75.5*		*11.6*
LOS	*B*					*F*		*B*
Approach Delay (s/veh)	--	--				*40.5*		
Approach LOS	--	--				*E*		

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TWO-WAY STOP CONTROL SUMMARY - OPTION 3 PM

General Information

Analyst	*K. Kossmann*
Agency/Co.	*Black & Veatch*
Date Performed	*10/29/2010*
Analysis Time Period	*10/13/20*

Site Information

Intersection	*Sangamore Rd/Site Entrance*
Jurisdiction	*Montgomery Co.*
Analysis Year	*2010*

Project Description *Sangamore Rd w/relocate Site & exc. NBturn lane - PM Peak Hr*

East/West Street: *Site Entrance* | North/South Street: *Sangamore Road*

Intersection Orientation: *North-South* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*33*	*468*			*301*	*3*
Peak-Hour Factor, PHF	*0.80*	*0.94*	*0.93*	*1.00*	*0.75*	*0.80*
Hourly Flow Rate, HFR (veh/h)	*41*	*497*	*0*	*0*	*401*	*3*
Percent Heavy Vehicles	*0*	--	--	*2*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*1*	*1*	*0*	*0*	*1*	*0*
Configuration	*L*	*T*				*TR*
Upstream Signal		*1*			*1*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*145*		*241*			
Peak-Hour Factor, PHF	*0.70*	*1.00*	*0.89*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*207*	*0*	*270*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*1*	*0*	*1*	*0*	*0*	*0*
Configuration	*L*		*R*			

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*					*L*		*R*
v (veh/h)	*41*					*207*		*270*
C (m) (veh/h)	*1166*					*269*		*653*
v/c	*0.04*					*0.77*		*0.41*
95% queue length	*0.11*					*5.75*		*2.03*
Control Delay (s/veh)	*8.2*					*52.1*		*14.3*
LOS	*A*					*F*		*B*
Approach Delay (s/veh)	--	--				*30.7*		
Approach LOS	--	--				*D*		

APPENDIX E

ACCRONYMS AND ABBRIVIATIONS

ACRONYMS AND ABBREVIATIONS

ACM	Asbestos Containing Materials
ACP	Access Control Point
AMS	Army Map Service
AMSL	Above Mean Sea Level
APE	Area of Potential Effect
AQCR	Air Quality Control Region
ARMA	Air and Radiation Management Administration
AST	Aboveground Storage Tank
AT/FP	Anti-Terrorism/Force Protection
AVB	Active Vehicle Barriers
AWWA	American Water Works Association
BHP	Brake Horsepower
BMP	Best Management Practice
BRAC	Base Realignment and Closure
Corps	U.S. Army Corps of Engineers, Baltimore District
CAA	Clean Air Act
CEQ	Council on Environmental Quality
cfh	Cubic Feet per Hour
CFR	Code of Federal Regulations
COMAR	Code of Maryland Regulations
CPCN	Certificate of Public Convenience and Necessity
dBA	Decibel
DIA	Defense Intelligence Agency
DoD	Department of Defense
EA	Environmental Assessment
EB	Eastbound
EBS	Environmental Baseline Survey
ECP	Erosion Control Plan
EISA	Energy Independence and Security Act
EO	Executive Order
ESD	Environmental Site Design
FCA	Forest Conservation Act
FDC	Fire Department Connection
FEDS	Facility Engineering Design Standards
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FHWA	Federal Highway Administration
FONSI	Finding of No Significant Impact
fps	Feet Per Second
FR	Federal Regulation
GBCI	Green Building Certification Institute
gpm	Gallons Per Minute
HCM	Highway Capacity Manual
HTRS	Hazardous, Toxic, and Radioactive Substance

ICC-B	Intelligence Community Campus – Bethesda
ITE	Institute of Transportation Engineers
kV	Kilo Volt
kVA	Kilo Volt Ampere
kW	Kilowatt
LBP	Lead-based Paint
LEED	Leadership in Engineering and Environmental Design
LAER	Lowest Achievable Emission Rate
LF	Linear feet
LID	Low Impact Development
LOD	Limit of Disturbance
LOS	Level of Service
MDE	Maryland Department of the Environment
MDP	Maryland Department of Planning
MOA	Memorandum of Agreement
MUTCD	Manual on Unified Traffic Control Devices
MW	Megawatt
N/A	Not applicable
NAAQS	National Ambient Air Quality Standards
NB	Northbound
NCPC	National Capital Planning Commission
NEPA	National Environmental Policy Act
NGA	National Geospatial-Intelligence Agency
NHPA	National Historic Preservation Act
NIB	New Infill Building
NNSR	Nonattainment New Source Review
NOA	Notice of Availability
NOI	Notice of Intent
NOx	Nitrogen Oxides
NPDES	National Pollution Discharge Elimination System
NPS	National Park Service
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
OSHA	Occupational Safety and Health Administration
OTR	Ozone Transport Region
PCB	Polychlorinated Biphenyls
PHF	Peak Hour Factor
PIV	Post Indicator Valve
PM	Particulate Matter
POV	Privately Owned Vehicle
PSC	Public Service Commission
psi	Pounds Per Square Inch
RONA	Record of Non-Applicability
SB	Southbound
SF	Square Feet
SHPO	State Historic Preservation Office

SIP	State Implementation Plan
SPF	System Planning Forecast
SWPPP	Stormwater Pollution Prevention Plan
TAP	Toxic Air Pollutant
tpy	Tons Per Year
UFC	Unified Facilities Criteria
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGBC	U.S. Green Building Council
UST	Underground Storage Tank
V	Volt
VC	Vitrified Clay
VOC	Volatile Organic Compound
WB	Westbound
WSSC	Washington Suburban Sanitary Commission