



Site Development Guide
4600 Sangamore Road
Bethesda, MD 20816

FINAL DRAFT
May 21, 2011



LOYALTY – DUTY – RESPECT – SELFLESS SERVICE – HONOR – INTEGRITY – PERSONAL COURAGE
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I N T E L L I G E N C E C O M M U N I T Y C A M P U S - B E T H E S D A

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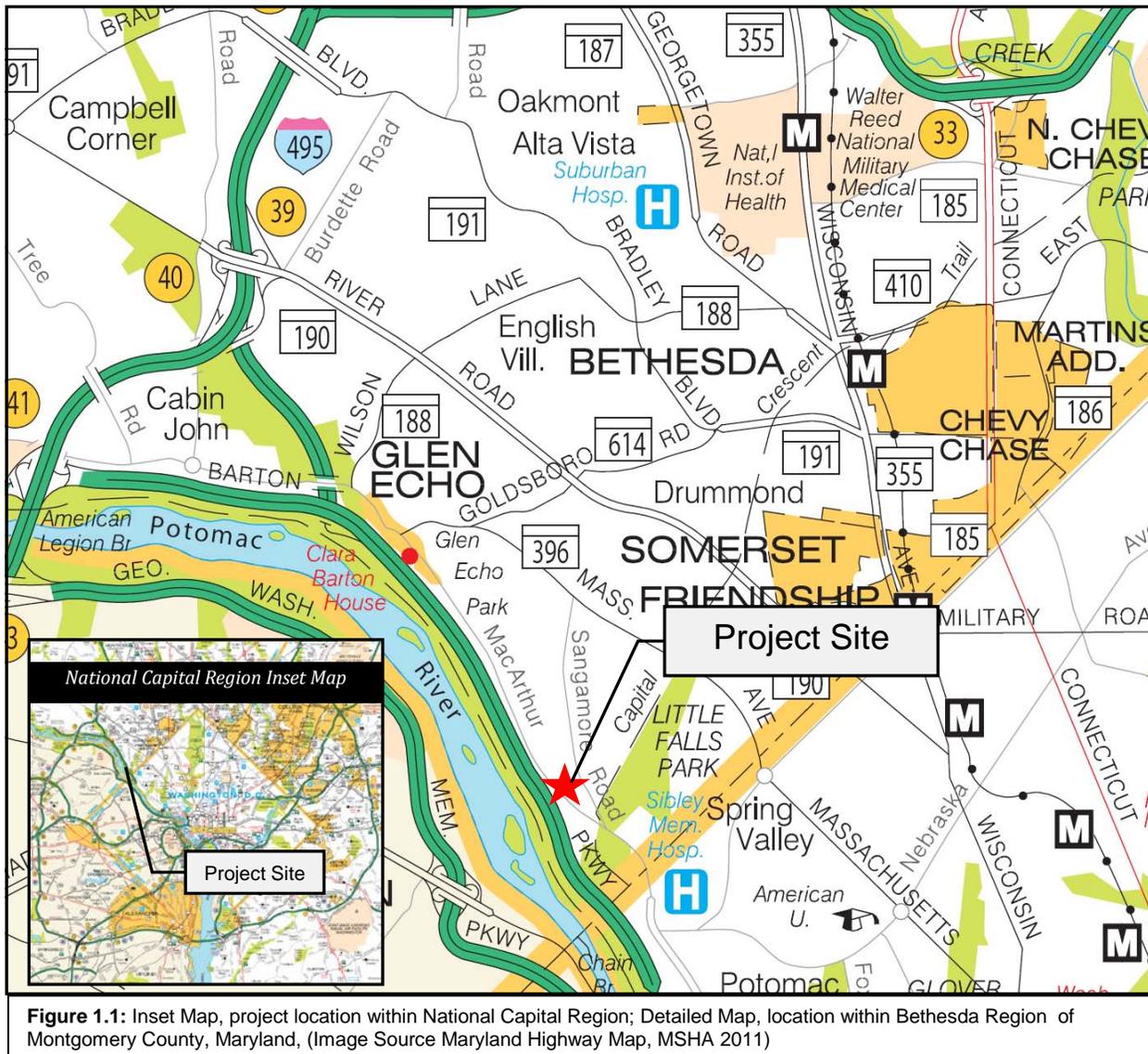
Section 1

Project Overview



1.1 Project Overview and Vision

As part of the 2005 Base Realignment and Closure Act, the National Geospatial-Intelligence Agency (NGA) is consolidating their operations in the National Capital Region in 2011. As part of this effort, NGA will vacate their current facility at 4600 Sangamore Road in Bethesda, Maryland and relocate to Ft. Belvoir, Virginia. In programming this property transition, the U.S. Army Corps of Engineers is evaluating use of the Sangamore Road property for an Intelligence Community Campus, (ICC-B). This Development Guide discusses master planning considerations relative to this programmed use and compliments parallel efforts to document potential environmental impacts of this redevelopment through the NEPA process.



This guide is intended to capture overarching planning objectives for this project based on schematic redevelopment designs to facilitate coordination with the National Capital Planning Commission (NCP) and other federal, state and local government authorities that are stakeholders in this planning process.

This document is not intended to provide detailed figures on the planned ICC-B development, this information is provided in separate facility specific analysis documents, as appropriate we have referenced this information in this planning guide.

This guide is intended to convey an integrated perspective of these conceptual plans, enabling stakeholders to obtain an overall understanding of the focus and impact of the proposed development sufficient for incorporation into regional community planning needs, including:

- Identification of any land transactions required; (No property acquisitions are planned)
- Highlighting proposed site modifications and building redevelopment objectives
- Outlining disposition of any federal land; (No land dispositions are planned)
- Outlining strategic implementation objectives
- Providing an intergovernmental coordination tool for efficient site utilization
- Summarizing environmental, historic and archeological resources affiliated with the development

Specifically, this report focuses on:

- *Community Relationships and Planning Concepts, Section 2.0*
- *Review of Overall Site Plan and Potential Building Plans, Section 3.0*
- *Regional Transportation Impacts, Section 4.0*
- *Master Architectural Plans and Facility Design Basis, Section 5.0*
- *Strategic Execution Plan, Section 6*

PROJECT NEED:

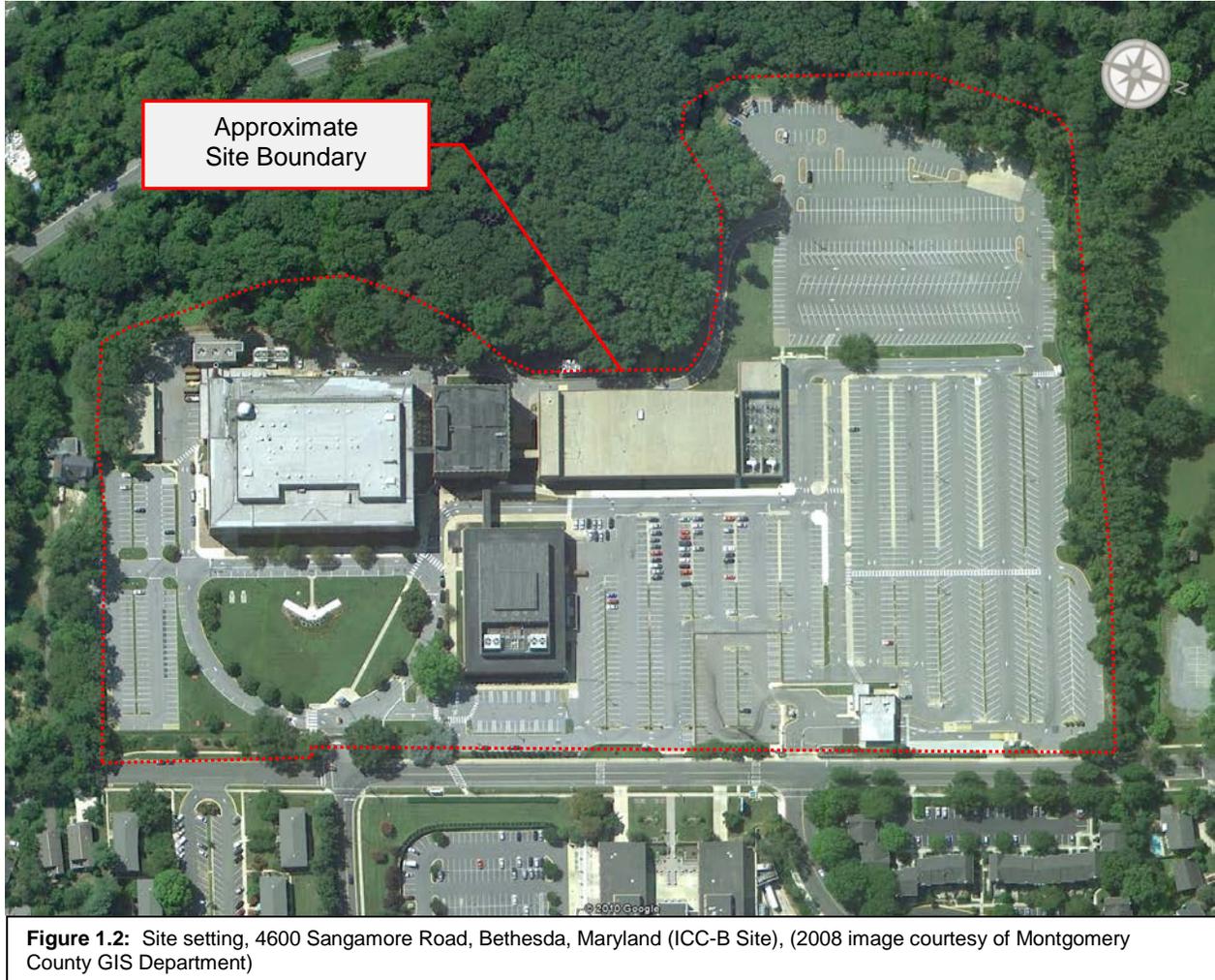
Overall the objective of this redevelopment effort is to provide a future focused, mission capable; secure complex to support the burgeoning interagency intelligence needs of the United States.

PROJECT VISION:

This will require the redevelopment of site facilities to enhance collaboration, maximize space utilization, and provide a safer and more secure work environment. This must be accomplished in the most environmentally sustainable manner consistent with the facility mission profile and operating objectives.

1.2 Site Setting:

The ICC-B site was initially developed during the 1940's and has evolved over the past 70 years to include approximately 30 acres of densely developed land on the south side of Sangamore Road in the Bethesda area of Montgomery County as shown on *Figure 1.2*.



The ICC-B site property was originally deeded to the U.S. Government in 1945 during the war through a court decree, a summary of these transactions including parcel description and current property plat is included as *Appendix A* of this document for reference purposes.

A full title report researching any ancillary property encumbrances is included in *Appendix C* of this report. Although the property is listed as exempt from local taxation, the current value of the property including existing improvements is listed as \$77,180,500 according to 2011 Montgomery County Tax Assessment Records. This includes a land value of \$9,330,500 and \$67,850,000 associated with existing facilities. Copies of this current County assessment report are provided in *Appendix A* for reference.

1.3 Regional Site Setting:

The area of Bethesda surrounding the ICC-B complex is a densely-developed, mixed-use area typical of historic growth trends in the Capital Region. Existing development includes a major retail development known as *The Shoppes at Sumner Place*, directly across from the site; a mixture of single and multi-family residential properties southeast of the complex; a large forested buffer managed by the National Park Service west of the site; and the Washington Waldorf School (a private non-sectarian K-12 school of 265 students just north of the site, (Reference **Figure 1.3**). This school site is buffered by a small strip of parkland owned by the National Capital Planning Commission and Montgomery County, named Sangamore Park.

Key Issue:

Generally, the ICC-B complex is well screened from adjoining private land uses to the north and south. However, the presence along Sangamore Road is not a positive contributor to the surrounding character. Existing facilities on site show their age, and the extensive at-grade parking and numerous interim security measures that have become permanent fixtures result in acute visual and operational impacts that negatively influence the surrounding community and site employees.



Figure 1.3: Regional Setting, 4600 Sangamore Road, Bethesda, Maryland (ICC-B Site), The site is located approximately 5 miles south of I-495 and the Bethesda Downtown Commerce District and Metro Station; and approximately 6.5 miles from the I-66 corridor in downtown D.C.; (2008 image courtesy of Montgomery County GIS Department);

Current development on the ICC-B site includes 12.5 acres of pavement for on-site vehicle management and parking, including a total of approximately 1,800 personal vehicle parking spaces. All on-site parking is at grade and there is insufficient on-site parking available for existing employee surges which approach 3,000 personnel on the site.

The surrounding community has developed around the ICC-B complex and tolerates existing traffic delays and parking impacts associated with current site operations. These impacts have grown more severe in recent years as on-site parking has become more limited and access requirements more onerous; increasing off-site impacts in the community. There is strong community interest in the future of the site and reducing these off-site impacts will be an important component of the redevelopment plan.

Key Issue:

Lack of adequate on-site parking is a significant limiting factor of the existing site as there are insufficient spaces for site visitors and employees; accessible parking is limiting, and the current parking configuration does not meet modern facility physical security design standards (Figure 1.4). The proposed Access Improvements and Parking Facility associated with the concept development plan will reduce these impacts to the surrounding community.



Figure 1.4: Existing site access parking configuration, highlighting dominance of existing on-grade parking at 4600 Sangamore Road, Bethesda, Maryland (ICC-B Site), (2010 image courtesy of Montgomery County GIS Department)

1.4 Existing Conditions:

Figure 1.5 provides a perspective of existing conditions at the ICC-B site based on the 2010 site location and topographic survey conducted as part of concept development.

Significant features shown on this figure include the river bluff drop of approximately 150 vertical feet at the rear of the site as the land slopes towards the Potomac River. This topographic relief and coincident mature forest cover on the land managed by the National Park Service provides an excellent buffer on this site viewshed.

The proposed development plan effectively utilizes this area to screen the proposed parking and building improvements from this southwestern perspective, preserving the integrity of the parkland. These conditions and the close residential and school property developments on either side of the site significantly limit the potential for site expansion or additional at-grade parking which is a significant need for the future development.

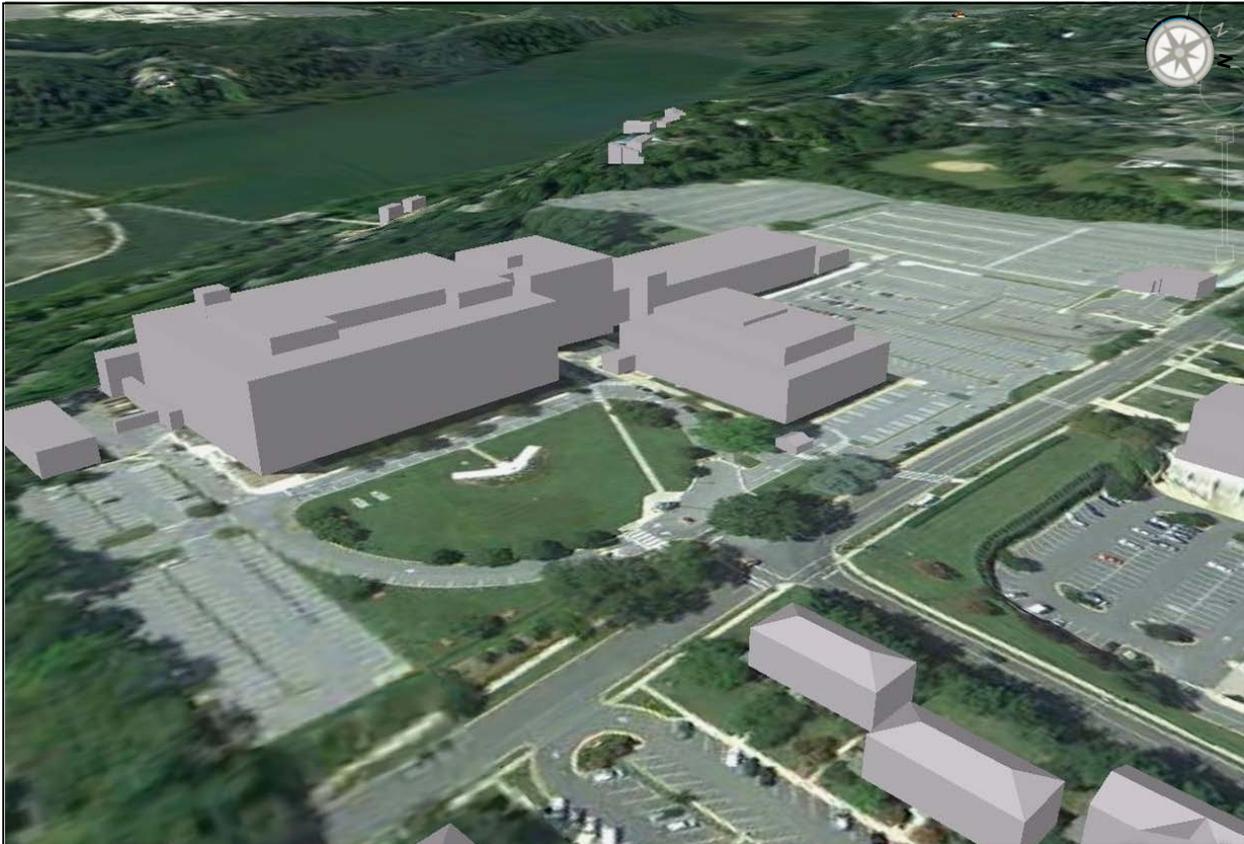


Figure 1.5: Existing site aerial ortho-perspective highlighting existing structure and parking presence along Sangamore Road, (ICC-B Site), (2011 Google Earth copyrighted image)

Currently, the ICC-B site includes 1,800 general use, employee and visitor parking spaces; all of which are at grade. Factoring in associated on-site access road pavements, existing vehicle operating areas absorb nearly half of the overall site area, (approx. 14 acres).

Given the value of this real estate, consolidating parking requirements and developing more effective on-site vehicle management strategies is a core planning objective; approximately 2,200 parking spaces will be required to support planned site missions.

Key Issue:

Site design requirements mandate minimum stand-off distances which significantly limit use of at-grade parking. This loss of vehicle operating space and limited site expansion opportunities are key elements which initiated consideration of a multi-level parking garage as a site development solution. These factors coupled with the poor and inconsistent aesthetics of the existing site increased the interest in creating a consolidated Parking Facility.

Integral to evaluation of parking needs is addressing the existing vehicle access control and building setback security deficiencies of the current site plan (Figure 1.6). All federal government facility redevelopment projects must address appropriate anti-terrorism and force protection standards, standards which will eliminate use of significant portions of the existing parking and vehicle operation areas at this site.



Figure 1.6: Existing site facilities perspective, (Courtesy of NGA site personnel)

The proposed uses associated with the current redevelopment plans indicate future use of the site will be consistent with existing uses; however, significant improvement will be required to improve site access, parking, and security needs to reduce community impacts.

Addressing these impacts will enable the government to reduce the visual impact of the existing structures on site by developing a cohesive building envelope standard. This will greatly improve the community context of the site and facilitate optimization of operational areas and collaboration space. These improvements form the core of master planning objectives for the ICC-B site. Ancillary objectives include improving environmental performance of the site following LEED™ requirements and improving the energy efficiency of site operations.

Key Issue:

Existing facilities on site do not integrate well with the community and systems within these buildings are inadequate for current design codes and will not support future mission plans for the site. Reuse of facilities is a strong component of LEED™ sustainable site design principals.

The government therefore has an opportunity to meet multiple objectives with this project, by developing a cohesive building envelope and master facilities plan; bringing existing facilities up to modern standards; accommodating new user site integration requirements; and improving overall facility operating efficiency and sustainability in accordance with federal facility requirements.

1.5 Concept Redevelopment Plan Overview

Proposed facility renovations include the removal of Abert Hall and Emory Building, and the consolidation of Erskine Hall, Roberdeau Hall and Maury Hall into one building using a new Centrum and Infill Building. The current conceptual master development plan visualizes encasement of these existing buildings with a hardened glass curtain wall to present a uniform, clean, contemporary site design aesthetic as shown in **Figure 1.7**.

This presents an option for a developing a uniform, cohesive building design standard throughout the ICC-B campus; reflecting the technology intensive history of operations within the complex. Approaching the redevelopment in this manner will enable creation of up to 854,000 square feet of secure administrative space within a consolidated building footprint; an increase of 147,800 square feet of space. This extra space and reconfiguration will be instrumental to the success of the interagency missions planned for the facility.

Consolidating the building in this manner will require similar vehicle operating area site integration efforts to enable the Centrum facility to meet vehicle clear zone requirements. Compressing vehicle operations to the northern end of the site and consolidating parking into the multi-level Parking Facility are key elements of the proposed development plan.

Further details on these concepts are discussed in the following sections of this site development guide. As these proposed improvements for the ICC-B complex are consistent with existing site operations and have been designed to minimize current community impacts, the approach is thought to be generally in conformance with the Capital Region Comprehensive Plan.

Personnel loading is expected to remain at around 3,000 persons for the planning duration of this project, (25-year projection), therefore no additional traffic loads are projected in association with the redevelopment activity. The new entrance plan did include a detailed traffic impact analysis for the project which is discussed in Section 4.0 of this guide.



Figure 1.7: Conceptual ICC-B facilities aerial perspective, (2011 Planning Team Design Render and Google Earth Background)

Coordination of the proposed development with the local community is an ongoing effort and the Corps of Engineers is maintaining a dialogue with affected citizen groups in the vicinity of the installation to learn more about community concerns and incorporate their input into redevelopment decisions. Correspondence with these groups is included in *Appendix D* of this report. Further community outreach following the National Environmental Policy Act (NEPA) is planned for early summer 2011.

This NEPA process includes extensive coordination of the proposed redevelopment plans with various state, local and regional land management authorities. Full partnering with these stakeholders to facilitate expedited redevelopment of the site was initiated in November of 2010. A significant feature of this coordination effort is developing a suitable preservation strategy with the Maryland Department of Historic Resources for historic artifacts identified in and around Erskine Hall. *Appendix E* contains further details on this ongoing effort to manage potential historic resource impacts associated with the proposed redevelopment effort.

Predominant design concepts related to integrating the proposed development into the surrounding urban framework include optimizing land use to reduce off-site impacts; improving the environmental performance of the site; and enhancing energy efficiency of on-site facilities. The Montgomery County area around the ICC-B site is a mature community that has a development pattern complimentary to the proposed use, facilitating this integration effort. Salient regional planning objectives consistent with the proposed plan included incorporation and preservation of "green wedges" in the urban fabric. The site plan has strongly enhanced "green" elements inside and around the site, including improved streetscaping along Sangamore Road, and preservation of the park lands surrounding the site.

Summary Points:

The proposed redevelopment will have positive impacts on the surrounding community.

Most significantly, site access and on-site parking availability will improve; this reconfiguration will also enable recovery of substantial green space along Sangamore Road, softening and improving the building presence in the community.

The proposed cohesive architectural plan will result in a site presence that is in context with local conditions and regional comprehensive plan objectives.; green, sustainable, future focused infrastructure supporting the desired economic base in the region.

Section 2

Community Relationships & Planning Concepts



2.1 Community Planning Perspectives

The ICC-B site is located in the Glen Echo area of Bethesda in Montgomery County. This is in *Area 1* of three primary community based planning areas in the County as shown in *Figure 2.1*. Master plans for this area acknowledge the established nature of the land uses, identification of core central business districts, commercial centers and residential neighborhoods which are consistent with the proposed development. A copy of the current Montgomery County Master Plan for this area of Bethesda is included in *Appendix D*, along with regional economic development data for further reference during site planning activities.

Key Issue:

Bethesda has a well educated and wealthy populace when compared to national statistics, with 79% of the population possessing bachelors' degrees and 49% having graduate or professional degrees. This translates to a median family income of \$130,206, and per capita income of \$58,479 according to the 2000 census. This is comparable to the surrounding communities of Potomac and Chevy Chase, MD, and Great Falls and McLean, VA. The proposed ICC-B development will support similar economic and social demographics, enhancing the economic vitality of the region.

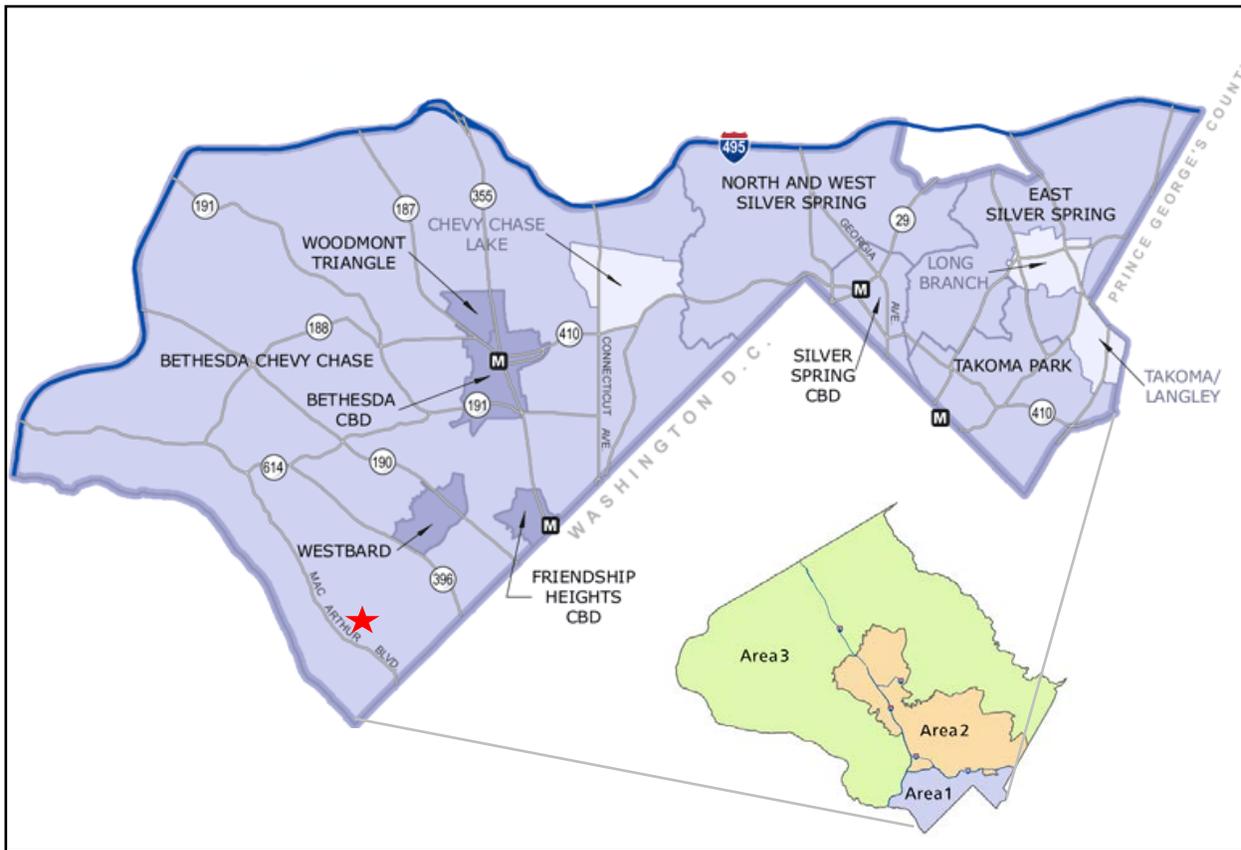


Figure 2.1: Community Planning Areas around the ICC-B Site★, (Image Source Maryland-National Capital Park and Planning) Commission, M-NCPPC

Other Federal facilities incorporated in this planning district include the National Naval Medical Center and the National Institutes of Health. The community supports these federal uses and generally acknowledge the positive effect of these uses on area businesses and the general economy of the region.

The proposed ICC-B redevelopment will:

- Enhance the existing high-quality of life and aesthetic presence of the area.
- Provide stable employment and enable sustainable growth in the community within existing utility and transportation system capacities.
- Minimize impacts to existing housing and provide for enhanced opportunities for all income levels consistent with existing development patterns.
- Protect and enhance existing ecological resources surrounding the site and incorporate sustainable features to improve stormwater management and local water quality.
- Reduce local traffic impacts, reduce air pollution associated with vehicle stagnation.
- Sustain regional community fabric and structure and integrate with existing community facilities.

Key Issue:

Existing site operations have a negative impact on the community due to vehicle access restrictions and the limited amount of on-site parking for employees.

The proposed development plan will reduce these impacts significantly by providing additional on-site parking in a consolidated facility, and by promoting internal site queuing of vehicles to limit impacts to passing motorists and residents that are not trying to enter the campus.

2.2 Regional Demographics

Bethesda is an unincorporated business district in Montgomery County, with a population approaching 86,100 persons according to the 2010 Census. Overall, Montgomery County has experienced a growth of 11.3 percent (98,436 people) from 2000 to 2010. This is a slightly lower growth rate than the county experienced during the 1990's when population growth approached 16 percent and reflects recent nationwide economic trends. During this period Area 1's population only grew at a rate of 6.2% indicating this area of the county has a relatively stable and mature economic base.

Montgomery County is still Maryland's most populous county and ranks second in the capital region with a population of 971,777 persons according to preliminary 2010 census figures. The proposed development will therefore have minor impacts to the overall regional population and employment portfolio, as it represents slightly less than 0.5 percent of the overall employment profile in the county and less than 0.3 percent of the overall county population. Current population trend information for Montgomery County and the Bethesda area are provided on *Figures 2.2 & 2.3* below.

Population Change by Race: 2000-2010 Montgomery County, Maryland				
Areas adding largest number of residents - ALL RACES COMBINED				
Place Name	All races		Change	Percent Change
	2000	2010		
Germantown	66,440	86,395	19,955	30.0%
Rockville	47,399	61,209	13,810	29.1%
Clarksburg	2,371	13,766	11,395	480.6%
Gaithersburg	60,265	68,841	8,576	14.2%
Wheaton	52,236	57,798	5,562	10.6%
Fairland	29,858	35,242	5,384	18.0%
North Bethesda	38,610	43,828	5,218	13.5%
Bethesda	86,100	90,499	4,399	5.1%
Silver Spring	68,137	71,452	3,315	4.9%
Aspen Hill	55,408	57,508	2,100	3.8%
MONTGOMERY COUNTY	873,112	971,777	98,665	11.3%

Figure 2.2: Population Trends, ICC-B Region, Statewide Maryland added 477,066 persons to the state's population over the past decade, a ten year growth rate of 9%, so Bethesda grew at about half the statewide average.
(Table Source: Montgomery County Planning Department)

COUNCIL DISTRICT POPULATION CHANGE: 2000 - 2010*

Council Districts	2000	Total Population		2000-2010		
		% of total	2010	% of total	Gain	% of change
District 1	174,556	20.0%	185,462	19.1%	10,906	6.2%
District 2	177,846	20.4%	214,315	22.1%	36,469	20.5%
District 3	172,870	19.8%	197,661	20.3%	24,791	14.3%
District 4	173,601	19.9%	189,652	19.5%	16,051	9.2%
District 5	174,468	20.0%	184,687	19.0%	10,219	5.9%
Total	873,341	100.0%	971,777	100.0%	98,436	11.3%

* District boundaries established 2001

Source: Census 2010 Redistricting Data (Public Law 94-171), U.S. Census Bureau;
prepared by Montgomery County Planning Department, M-NCPPC.

DEMOGRAPHIC SHIFTS

- Minorities (all people identifying themselves as other than non-Hispanic white) make up at least half of the population in each district except for Council District 1.
- Council District 5 has the highest percentage of minorities (113,314 people or 61.4 percent), while Council District 4 has the highest number of minorities (114,576 or 60.4 percent).
- Those of Hispanic or Latino origin, the county's fastest-growing group, became the largest minority in 2010. About 29 percent of all Hispanics in the county live in Council District 5, which has the greatest number of Latinos (47,077) among the districts. Council Districts 2, 3 and 4 each have more than 33,000 Hispanics, comprising 16 to 18 percent of each area's population. Hispanics are the second largest minority group in Council District 1, with 13,869 people or 7.5 percent of the area's population.
- Blacks make up 16.6 percent of the county's population and predominately reside in the eastern part of the county. Council District 4 has 48,342 black residents, or 25.5 percent of the population; Council District 5 has 45,281 black residents, comprising 24.5 percent.
- Council District 3 has the highest number (40,972) and the highest percentage of Asians (20.7 percent) among all the Council Districts. The percentage of Asians living in Council Districts 1, 2, and 4 range from 12 percent to 14.7 percent, which is close to the 13.9 percent found countywide. Council District 5 has the lowest concentration – 15,137 Asians or 8.2 percent.

Figure 2.3: Population Trends, ICC-B Region, (Table Source: Montgomery County Planning Department)

2.3 Regional Planning Coordination

Consistency of the proposed ICC-B development is being coordinated with a host of regional planning authorities. This began with the announcement of the 2005 Base Realignment and Closure plans for the area and culminated with the recent A-106/NEPA outreach which began for the ICC-B site in November 2010. The lead agency for this coordination is the National Capital Planning Commission (NCPC) which has coordinated support to the Army Corps of Engineers on the ICC-B project development and associated relocation of the NGA to Fort Belvoir in 2011.

Montgomery County is another collaborative partner on this community integration effort, working directly through the County's planning division as well as the Maryland National Capital Park and Planning Commission (M-NCPPC). Detailed guidance regarding regional planning objectives of these organizations

that will be useful in planning the ICC-B development and coordinating with the regional community is provided in *Appendix D* of this guide.

Project officials also are maintaining a dialogue with local elected officials and community stakeholder groups to incorporate their concerns throughout project development. Other stakeholders engaged on this collaborative redevelopment effort include the Maryland Historic Trust (SHPO) and the National Park Service. Copies of record correspondence to date with these groups is included in *Appendix D*, further community planning information will be forthcoming as part of the NEPA analysis and community coordination effort in mid-summer 2011.

2.4 Community Transportation Overview

No significant *regional* transportation impacts are projected as part of the proposed redevelopment of the ICC-B site. Further discussion of local site transportation issues are included in Section 4 of this guide but are briefly summarized below. These local improvements will be limited to closure of the existing site entrance on Sangamore Road and development of a new entrance and vehicle processing center on the north side of the site as shown in *Figure 2.4* below. These improvements will reduce existing site traffic impacts along Sangamore Road according as discussed in Section 4. In addition to this improved local traffic management, there are limited alternative means of accessing the site using regional transit and alternative transportation means to report to work as discussed below.



Figure 2.4: Proposed local transportation improvements, New Entry Control Facility, ICC-B Site (Rendered image, Project Design Team).

The Central Business District of Bethesda is served by Washington Metro Red-Line, which also stops at Friendship Heights. The Red-Line has good connectivity to the regional network with trains departing in each direction about once every 7-10 minutes during the work day. Unfortunately the closest stations to the ICC-B site are approximately 5 miles away, therefore commuters would need make alternate arrangements to get to the ICC-B site from the Metro.

There is a WMATA bus that connects from the Bethesda Metro Station to the ICC-B area, however this bus only runs every half-hour so would not be effective for managing peak travel time traffic volumes into the site which have been measured to be 760 vehicles per hour. With bus capacities limited to around 40 passengers total, and the extensive cycle time on this route, mass transit is not a feasible alternative for site personnel without some type of enhanced shuttle.

This inability of the regional mass transit system to meet site demands is indicated by the failure of a previous ride sponsorship program the existing site user implemented in 2004 to try and alleviate off-site parking concerns. Personnel were simply unable to sustain mass transit ridership given the extended transfer time to get to the site and the inconvenience of transferring between multiple transit modes. The site mission profile doesn't allow this type of workplace flexibility for reporting times and frequently off-hours work is required which necessitates use of personal transport as the metro lines are shut down after 12 AM and don't run again until 5 AM.

Furthermore, the Bethesda transit connection currently provides service to an average of 15,000 passengers per workday, and therefore has limited additional capacity to handle peak commuter loads. There are plans to expand service to the Bethesda region by extending a 16 mile light rail or rapid bus line enhancing regional connectivity with the Purple Line, which will provide broader access to adjacent metropolitan areas. That project should be monitored throughout project develop to ascertain in there would be any benefits to the ICC-B community with this proposed mass transit improvement.

Key Issue:

Although mass transit trains run within 5 miles of the ICC-B site; there is limited connectivity from the regional train service to the site and commuter parking at the nearest train station is not available.

Due to the extended travel times and limited off-peak availability; the ICC-B site plan will need to address full projected commuter vehicle loading requirement. As a planning criteria site the government should continue to monitor regional transit development programs to ascertain benefits to any proposed changes, but mass transit for employees is not a viable option at this time.

As an alternative to mass transit, Montgomery County has invested in an extensive system of intermodal pedestrian and bicycle routes to facilitate non-motorized transportation around the County. Fortunately, the ICC-B site is directly adjacent to two main cycling trails, which will accentuate green aspects of the proposed redevelopment. Section 4 provides a more detailed look at these regional trail opportunities and a copy of the traffic management planning guidance for the National Capital Region highlighting ways to maximize use of these alternative transport modes is included in *Appendix D* for further reference during project implementation.

2.5 Utilities Overview

The proposed facilities will have minimal impacts to regional utility services as the operational configuration and usage requirements will not significantly change. Renovation work is focused on improving energy efficiency and as such electrical and gas loads are projected to remain below current usage.

Water and sewer capacities around the site have also been found to be adequate for the proposed use. Utility lines within the site will be rerouted and new service connections provided as required to support the new development. This will need to be closely coordinated with the regional utility providers, particularly as the raw water pipeline for the Dalecarlia Reservoir traverses the site.

2.6 Schools Coordination

As the number of employees at the proposed ICC-B complex will not significantly change, impacts to area student populations will not be significant.

Montgomery County operates the largest school system in Maryland, consisting of over 130 elementary, 38 middle and 25 high schools, with an additional 7 special needs schools, therefore public education resources are more than adequate for the proposed redevelopment. Current enrollment statistics are provided in *Appendix D* of this guide for planning purposes.

In addition to these public schools, there are some 33 additional private schools in the area (including the adjacent Washington Waldorf School) presenting a full array of educational choices for employee's families. Professional educational opportunities in the region are also abundant, with direct access to 12 major colleges and universities with the capital region.

2.7 Public Safety Coordination

Security arrangements for the ICC-B site will not significantly change, although the physical arrangement of facilities will be improved to provide improved control of access and better management of on-site security concerns. On-site security and public safety staff will continue to work closely with the local, state and federal authorities to coordinate community fire, emergency services and police protection needs.

2.8 Regional Healthcare

Again, as the site redevelopment will not significantly change regional personnel loading, no impacts to regional healthcare providers are anticipated with the proposed development. There are numerous health care providers in the region, including the new National Naval Medical Center, National Institutes of Health Clinic Center, Suburban Hospital in the immediate area of the proposed ICC-B site.

2.9 Regional Historic and Cultural Resources

The proposed site redevelopment will not impact any *regional* or off-site historic or cultural resources as all work will be confined within the existing property and operating impacts to off-site resources will not appreciably change. As the site was developed over 70 years ago, there are some on-site features eligible for listing as historical artifacts associated with World War II era functions within the site.

These features will be accentuated during the design of the proposed facility to preserve the history of the site in coordination with the Maryland Historic Trust. This effort will follow the A-106 process outlined in the NCPC planning documents, and has already been initiated. Documentation regarding this effort to date and the process to be followed during site development is provided in *Appendix E* of this guide.

2.10 Regional Economy and Housing

The Capital regional economy will not be appreciably affected by the proposed development. Bethesda and Montgomery County have sufficient housing available to support the proposed personnel loading, particularly as the proposed staffing will replicate existing operations which are being transferred out of the region.

The proposed ICC-B functions also closely replicate the high-tech operations at the existing site. These functions compliment the areas high-tech industries which include many private enterprises focused on defense and biotechnology sectors in the Bethesda area. Regional employers include Lockheed Martin, Discovery Communications, IBM, BAE Systems which compliment planned functions within the complex. Further information regarding current economic conditions in Montgomery County is included in *Appendix D* of this report.

2.11 Regional Relationships with Other Federal Facilities

The ICC-B site has been an integral component of the regional military intelligence community since its inception as the Army Mapping Agency in 1942. There are numerous other related federal operations in the vicinity of the complex which are integrated with the existing and proposed uses and these inter-relationships are a key component of the government's future plans for this site.



Section 3
Master Site Plan
&
Building Descriptions



3.1 Master Site Plan Perspectives

Redevelopment plans for the ICC-B site will be developed in coordination with local and regional land use, utilities, regional cultural and historical elements. The focus of this redevelopment effort will be to optimize the use of existing assets on the site, while improving the safety, functionality and sustainability of site operations.

A core objective will be to significantly improve the architectural presence of the facility by reducing the amount of at-grade parking and providing enhanced green spaces around the new facilities. A cornerstone element to achieving this objective will be construction of the proposed multi-story Parking Facility into the back corner of the property. *Figure 3.1* highlights the significant components of this proposed redevelopment plan.

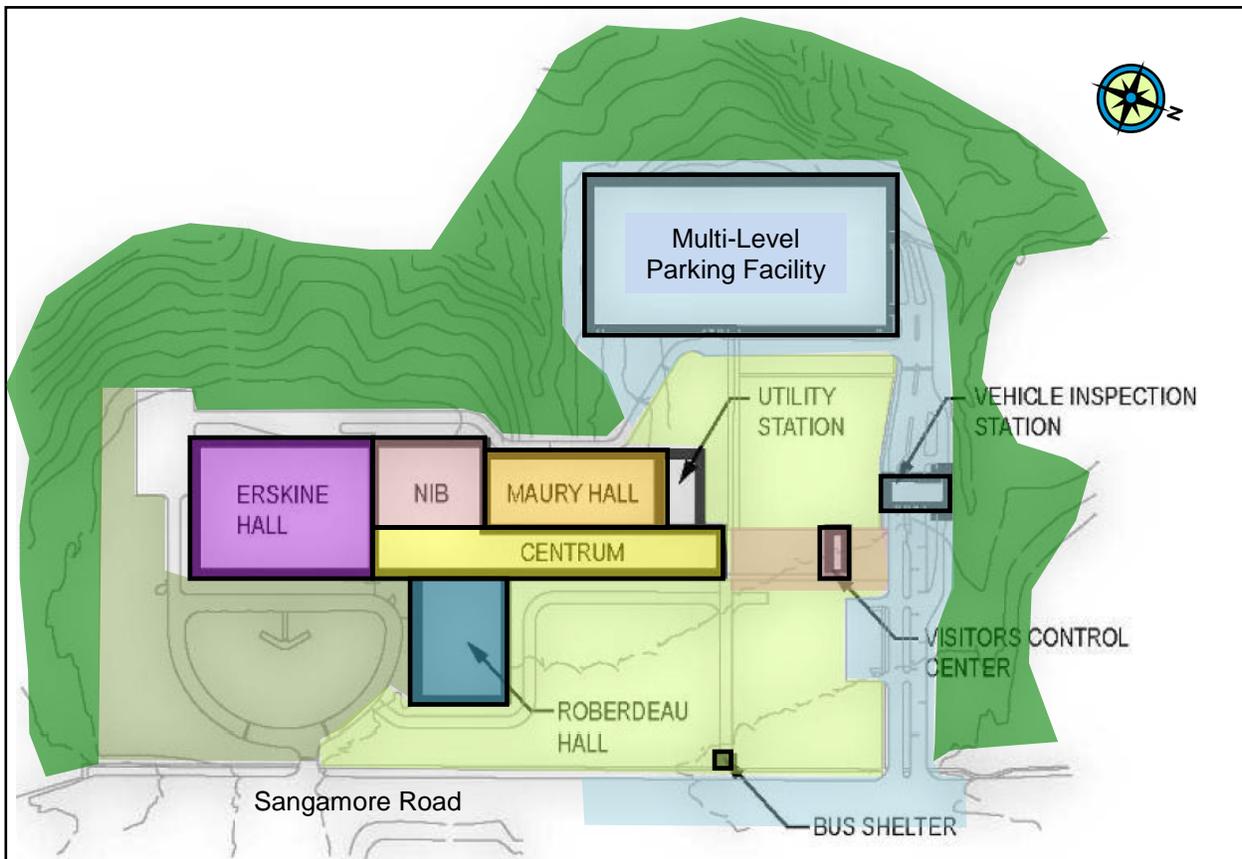


Figure 3.1: Proposed ICC-B Color Coded Sequencing Plan: Dark green area represents forested buffer to remain, light green areas will be new green area created by parking consolidation, medium green area is existing landscaping to remain. Color coded buildings to follow sequenced re-development plan, (February 2011 Concept Plan)

3.2 Parking Facility Perspectives

This parking feature is a significant element of the complex development plan. It enables significant improvement to the architectural presence of the ICC-B complex and addresses vital traffic and security issues associated with the current site development that must be corrected.

Figure 3.2 highlights the conceptual perspective of this proposed parking facility from the new vehicle access corridor. This figure highlights the balanced architectural context of the proposed master plan and the use of forested buffers to minimize massing of structures from a community viewpoint.



Figure 3.2: Northeast perspective of proposed ICC-B Parking Facility, Proposed ICC-B Development Plan, (May 2011 Concept)

This facility will greatly enhance the sustainability of the proposed development by reducing the extensive amount of impervious cover associated with the existing on-grade parking (1,800 spaces currently). This will significantly improve water quality emanating from the site and reduce the heat island effect associated with 12.5 acres of site pavement.

Key Issue:

Another core benefit of vehicle parking consolidation is the ability to meet force protection requirement setbacks for the proposed building consistent with planning objectives while providing parking for up to 2,200 vehicles. This increase in on-site parking availability will reduce on-street parking impacts associated with current operations at the facility, a key community benefit.

The parking facility enables reclamation of 6 acres of impervious acreage for green space in front of the building which will also enhance the community perspective of the site from Sangamore Road. This facility also enables reconfiguration of the main site entrance on Sangamore Road, providing enhanced space for visitor access and security checkpoints, other significant features of the proposed development as shown on *Figure 3.3* below.

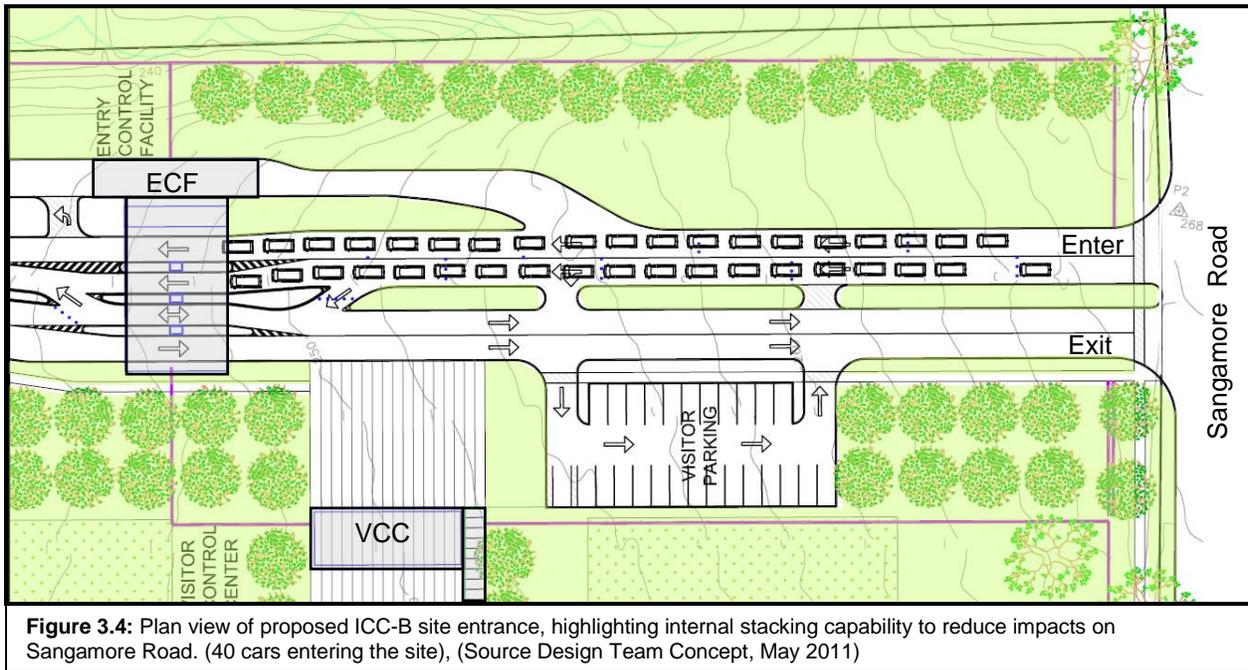
3.3 New Site Entrance Perspectives

The new vehicle entrance is proposed to shift to the northern corner of the ICC-B parcel, enabling a four lane access with two lanes exiting and entering the facility to facilitate vehicle queuing for improved vehicle screening as shown in *Figure 3.3*.



Figure 3.3: Proposed entrance and access control point perspective, ICC-B Development Plan, (February 2011 Concept Plan). Inset at top highlights improved traffic management principles, note the use of separate screening area for large vehicles and incorporation of grass medians to improve the aesthetics and sustainable design features of the site.

A key component of the new entry control facility is the ability to internally manage traffic queues through the entry control point. The new access lanes will provide normal vehicle stacking of up to 28 vehicles, which can be compressed to 40 vehicles as needed. This will eliminate current practice of stacking vehicles in Sangamore Road which has significant impacts to the non-site personnel. **Figure 3.4** below shows an enhanced perspective of this internal stacking capability for up to 40 cars waiting to access the facility at any one time.



Directly adjacent to this new entrance will be a new visitor's center and central access control facility. This has been strategically placed to improve personnel access and entry control into the ICC-B site. This will include an elevated walkway to the adjacent parking garage to improve pedestrian access to the facility.

This walkway will incorporate pervious pavement, as will all site pedestrian areas to aid with stormwater infiltration. This new Visitor Control Center (VCC), will enable central processing of all personnel accessing the main building in an efficient manner, an important component of site master planning.

3.4 Visitor Control Center (VCC) Perspectives

The VCC has also been designed to present an open welcoming facade as it is a central element of the viewshed from Sangamore Road and the ICC-B site entrance. This improved visibility enhances site oversight and access control and presents a clean modern perspective for the new building.

The extensive use of energy efficient glass in this facility design compliments site LEED objectives of daylight harvesting, natural ventilation and connectivity to the surrounding outdoor spaces, key

components of this sustainable development plan. *Figure 3.5* shows the conceptual perspectives for this new facility.



Figure 3.5: Proposed Visitor Control Center, (VCC), ICC-B Development Plan, (May 2011 Concept Plan). Insets at top highlight daylight harvesting principles, Low-E glass and sunshades will be utilized to minimize heat gain following sustainable principles of the development plan.

Key Issue:

The integrated nature of the New Site Entrance, Entry Control Facility and Visitor Control Center significantly improves the efficiency and safety of site operations. These facilities will provide state-of-the-art infrastructure for force protection and vehicle management in a secure environment. The ability to integrate this on site eliminates significant community impacts of existing operations.

3.5 Centrum Building Perspectives

The proposed VCC has been designed to compliment the main building renovation planned for the site, that is the consolidation of existing main building footprints into an integrated building using a glass curtain wall system, *Figures 3.6 & 3.7*.



Figure 3.6: Birds-eye southeast perspective, proposed Centrum Building, (May 2011, Design Team Concept)

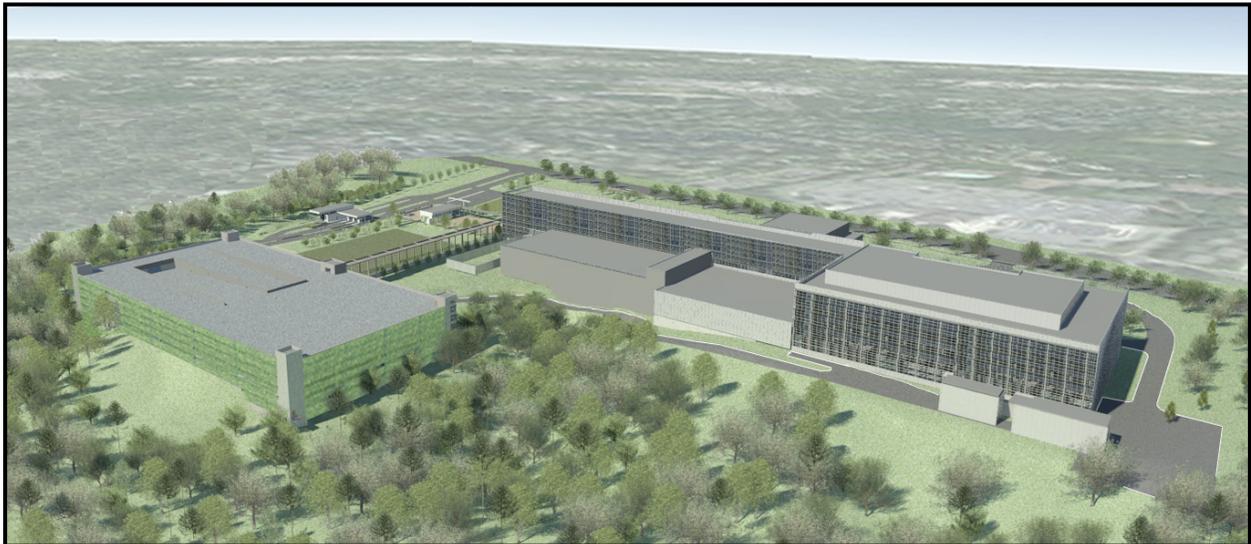


Figure 3.7: Birds-eye southern perspective, rear side of Centrum Building, (May 2011, Design Team Concept)

Integration of Erskine, Roberdeau, Maury, and the footprint of Abert Halls in this manner presents some excellent efficiency gains from an operational and capital development perspective. The oldest of these

buildings Erskine Hall, dates back to 1941; record drawings indicate that Abert Hall was then constructed in 1959, Roberdeau Hall in 1966, and Maury Hall in 1986. All of these facilities therefore do not meet modern design standards and must be structurally upgraded to meet current design codes. The disparate age of these facilities and evolutionary plan of development also leads to significant space utilization problems as they have been repurposed over the last 70 years to adapt to the ever changing high-tech mission of the ICC-B Site.

The concept design addresses these shortfalls in an integrated manner enabling redevelopment of this complex to fit future missions and meet current design codes. Use of the exterior curtain wall system will enable the facility to maintain operations during construction while meeting projected facility growth needs. This will be accomplished in a logical sequence of construction based on available funding over six to eight year planning period.

This phased development will result in a unified persona of the site when viewed from Sangamore Road, reflective of the high-tech missions housed therein. This Centrum concept enables effective utilization of the existing building structures and will reduce impacts to site operations during construction. The conceptual perspectives of this core improvement from inside the site fence line are shown in *Figure 3.8*. This space consolidation will provide 854,000 square feet of interconnected mission space.

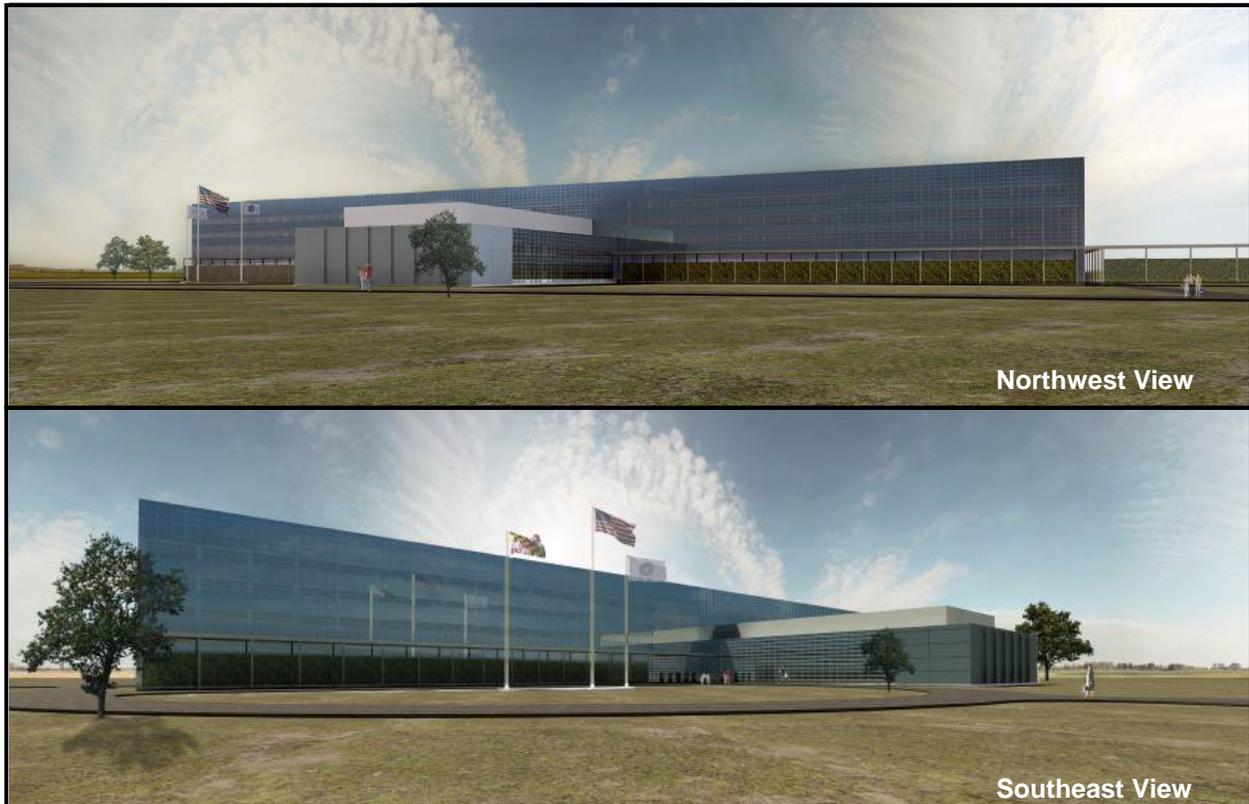


Figure 3.8: Proposed Centrum Building, perspective views encompassing Erskine, Roberdeau, Maury and Abert Halls., ICC-B Development Plan, (February 2011 Concept Plan). Use of glass curtain walls will enable improved use of natural light, reduce HVAC loads and enable reuse of existing building envelopes; sustainable building practices that will integrate well with ongoing facility operations and LEED criteria. (Site landscaping has been omitted to enhance building clarity in site perspectives).

These core ICC-B building improvements will include a multitude of support elements to integrate with the local community, including a new bus/transit platform incorporated in the site access point along Sangamore Road and improved drainage management practices following Environmental Site Design principles. *Figure 3.9* highlights some of these ancillary improvement concepts focused on improving pedestrian access and integrating with regional transit opportunities.



Figure 3.9: Proposed Ancillary Site Improvements, perspective views encompassing personnel access gates, bus transfer shelter, and permeable pavement walkways, ICC-B Development Plan, (February 2011 Concept Plan).

Incorporating these sustainability features into the concept site design is a vital aspect of this master plan, and following through to minimize impacts throughout design development will be a core focus in order to meet regional planning objectives.

3.6 Environmental Perspectives

Key components of this master development plan include optimizing energy usage at the facility to reduce overall greenhouse gas contributions, and reduce life-cycle cost of building operations. Integral to this will be maximizing the connectivity to regional intermodal transit systems, including bicycle, bus, rail and pedestrian connectivity.

Environmental studies of the site have indicated that there are no physically limiting characteristics for the proposed development, i.e. there is no documented soil or water contamination on the site. Due to the extensively developed nature of the site, the probability of cultural and archaeological resources are also thought to be minimal, both of these issues will be monitored throughout site development so they

can be appropriately addressed as needed. This will be documented during the ongoing NEPA analysis for the proposed action.

Site grading requirements have been minimized with the concept design approach and soil disturbance will be managed in accordance with local requirements.

Stormwater runoff will be significantly reduced from the site through the use of permeable pavements, vegetative infiltration areas and other best management practices. These features will be designed in accordance with Maryland Environmental Site Design principals and the proposed facility will result in significant improvements to water quality emanating from the existing site due to the reduction in the amount of impervious cover on the site. The redevelopment of this site will take the site from a 67% impervious cover condition to approximately 38% impervious cover condition, a 49% reduction.

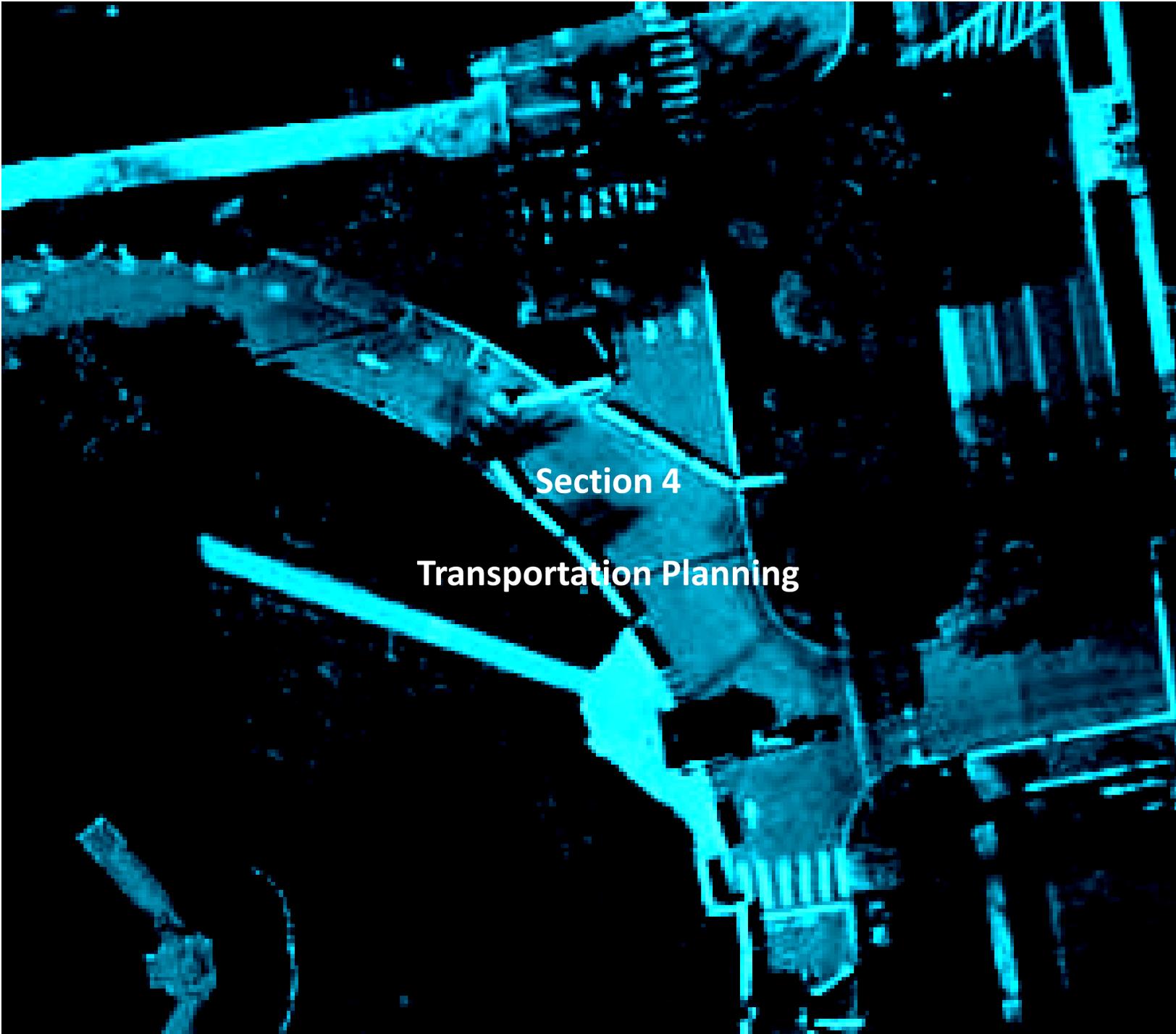
Stormwater design will be developed following federal requirements for Low-Impact Development outlined in the Energy and Infrastructure Security Act (EISA, Section 438) and governing body policies. Consolidating the parking into a tiered garage enables the proposed development to restore significant green space to the front of the building consistent with regional planning objectives. Approximately 6 acres of existing site pavements will be reclaimed for landscaping under the proposed plan.

A comprehensive landscaping plan will be developed in conjunction with the proposed facilities to provide an enhanced viewshed from Sangamore Road and break up building masses. This will incorporate native species endemic to the region to accentuate connectivity to the adjacent parkland. The new Centrum Building will be very effective in shielding the parking garage from view and the elimination of 1,800 at grade parking spots will greatly improve the site persona from the core business corridor.

Overall the proposed facilities enable targeted reuse of this site in environmentally sustainable manner and the architectural concepts result in a demeanor consistent with regional planning objectives. Achievement of these objectives will be documented through the LEED process. The proposed development is focused on achieving a minimum of a LEED Silver certification. These targets will be tracked throughout design to be sure they can be met cost-effectively.

Key Issue:

LEED™ Certification will enable us to ensure that design team recommendations are followed and we deliver an efficient, environmentally sustainable design.



Section 4

Transportation Planning



4.1 Site Transportation Planning

A detailed traffic study for the proposed ICC-B redevelopment was conducted in December of 2010. This study indicated that transportation improvements could be limited to reconfiguration of the main site entrance and defined that ICC-B impacts to the surrounding community will be minimal with these improvements. The existing site entrance currently has several limitations which impede efficient traffic flow around the complex, particularly during peak commuting times and these will be addressed with the proposed redevelopment.

Figure 4.1 shows the configuration of the existing site entrances onto Sangamore Road, the Sentinel Road entrance is the only entrance currently in active use due to security concerns. Sangamore Road currently consists of two travel ways (one southbound and one northbound), with on-street parking permitted along the northbound lane. The roadway has a suburban collector character with a posted speed limit of 30 mph. Sangamore is not a major throughway for the region, and principally serves as a conduit for the adjacent residential areas to access regional arterial streets and highways.

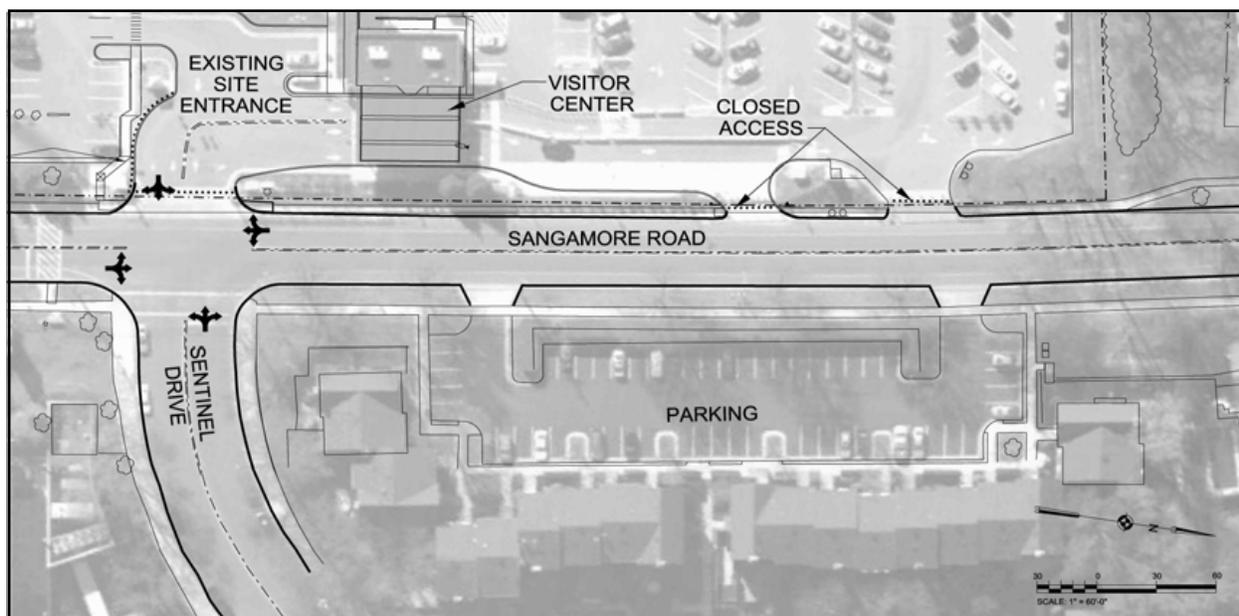


Figure 4.1: Existing Site Access, 4600 Sangamore Road, (December 2010 Traffic Study).

The 2010 traffic study utilized the *McTrans Highway Capacity Software* to model the existing conditions and proposed traffic management alternatives for the ICC-B site. Model runs indicated the existing configuration actually performs at an acceptable Level of Service (LOS), even during peak rush hour times. The minimum LOS identified with the existing configuration was LOS C, which is acceptable based on standards for urban roadways published by the Institute of Transportation Engineers.

Model input was created based on monitoring existing traffic flows into the facility and on adjacent streets to record total vehicle movements around the facility on a timed basis. This indicated peak vehicle movements into the site occur between 5:45 and 6:45 AM with an average peak of 528 vehicles

entering the facility during this hour. As this does not coincide with regional traffic peaks on Sangamore Road (7:30 to 8:30 AM), direct site impacts to peak regional traffic movements are minimized. Future site operations are predicted to mimic this usage pattern and are therefore were used as the basis of the ICC-B traffic analysis.

4.2 Proposed Site Entrance Configuration

Future site operations are predicted to entail 760 vehicles entering the facility during the peak period, which was used as the basis for developing the dual entrance lane access configuration proposed inside the complex and reconfiguring Sangamore Road in front of the ICC-B complex. The functionality of these improvements were then modeled with various vehicle in-processing operations to configure on-site traffic management alternatives to reduce vehicle cycle times and potential off-site impacts.

The main improvements recommended for Sangamore Road include a new consolidated site entrance at the north end of the site, a dedicated left turn lane from the northbound travelway of Sangamore Road, and a limited area of right-turn widening at the new entrance. The dedicated left-turn lane can be readily integrated into the existing width of Sangamore Road as it was originally designed for on-street parking on both sides of the road. Currently on-street parking is prohibited along this side of the roadway due to ICC-B site security requirements, therefore elimination of the southbound on-street parking will not adversely impact local parking availability. *Figure 4.2* outlines the configuration of these proposed improvements to improve traffic flow in front of the ICC-B Complex .

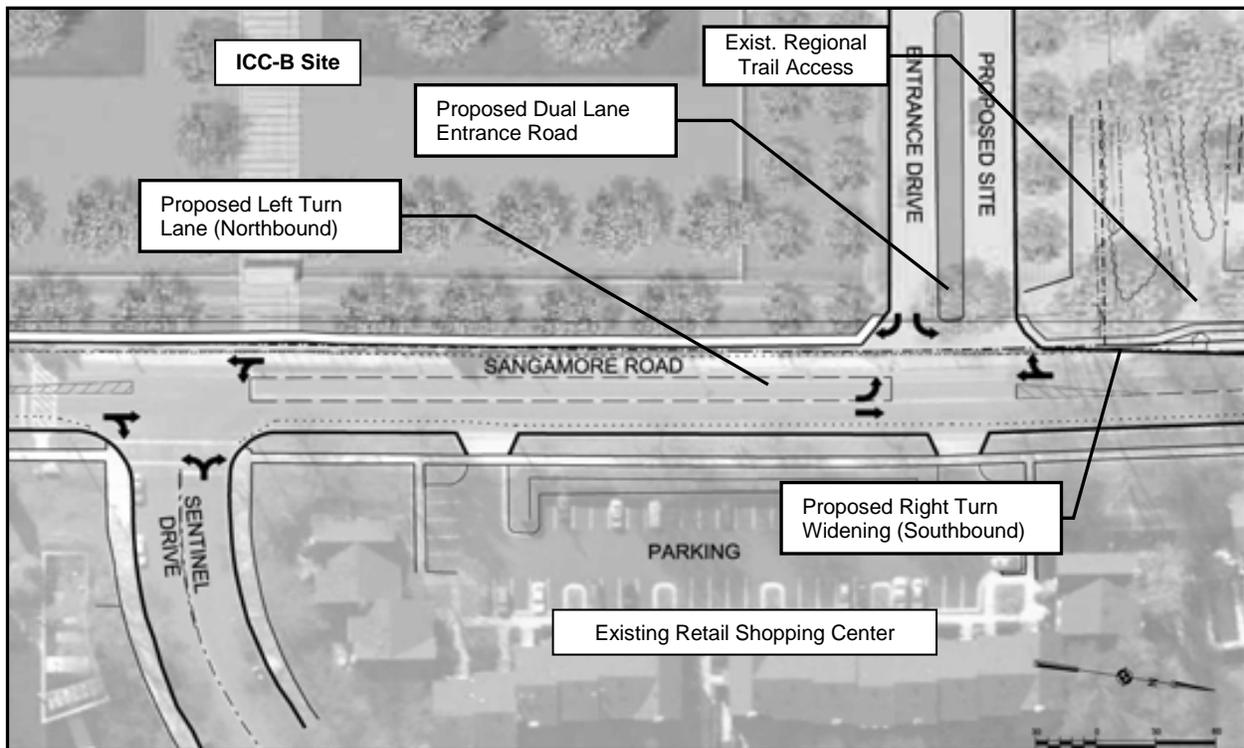


Figure 4.2: Proposed Access Improvements, ICC-B Site, 4600 Sangamore Road, (December 2010 Traffic Study).

This conceptual plan was based on detailed analysis of daily traffic flows into and out of the site and included comprehensive traffic counts and vehicle surveys for the existing facility to define future needs in relation to the surrounding infrastructure. This resulted in development of a the new 450-foot long multi-lane entrance to reduce traffic queuing impacts on Sangamore Road. The new entrance lanes will provide storage for up to 28 vehicles based on dual lane intake processing and the proposed configuration enables a third lane of intake processing as required during peak hours to further reduce off-site traffic impacts along Sangamore Road. Up to 40 vehicles can be stored in this space if required.

Key Issue:

The new entrance lanes will provide for vehicle queuing based on dual lane intake processing, and the proposed configuration enables a third lane of intake processing as required during peak hours to further reduce off-site traffic impacts along Sangamore Road. Up to 40 vehicles can be queued in this space if required. This will provide significant community and site security benefits.

The traffic analysis determined that existing roadways adjacent to the site can handle projected loads without any significant impacts once the new entry control facility is constructed. The study included an assessment of future area traffic loads based on census data and density of current developments in the area and found that the existing roadway capacities will be sufficient to handle the proposed development and future regional growth. Traffic flow analysis along Sangamore Road completed in conjunction with the proposed entryway reconfiguration indicates that even with potential site traffic counts increasing by 44 percent, local commuters traveling past the ICC-B complex will see a reduction in travel times due to removal of the existing four-way stop associated with the new entrance configuration and provision of the new dedicated left turn lane into the complex.

Within the proposed ICC-B site, transportation impacts will be very positive due to the provision of the new entrance, improved vehicle checkpoint configuration and consolidation of parking greatly improving traffic flow. The new parking facility will enable consolidation of approximately 2,200 parking spaces into a space just under 3 acres, enabling significant improvements to the existing site footprint which includes approximately 12 acres of parking currently.

Key Issue:

The proposed Parking Facility will provide approximately 400 more spaces than the current configuration which will reduce off-site parking impacts associated with current site operations. This will be a positive community benefit as a significant number of existing employees park off-site, adversely impacting area businesses and residents, particularly at the adjacent shopping center.

These proposed improvements will reduce congestion on Sangamore Road and provide improved LOS for all motorists accessing the facility and passing through the area.

4.3 Construction Phase Planning

There will be some temporary impacts to regional traffic flow during construction of the improvements, however impacts will be minimized by following standard highway safety guidelines during construction activities. Two-way traffic flow will be maintained along Sangamore Road throughout the construction period. It is anticipated that construction may require a *partial* lane closure in the southbound lane of Sangamore Road between Sentinel Drive and the proposed entrance to enable construction of the additional left-hand turn lane in this area. The west sidewalk and bike lane in this area may also be closed during the construction period, cyclists and pedestrians will be routed to the sidewalk adjacent to the northbound lane of Sangamore Road during these improvements. *Traffic impacts associated with this work will be minimal as street improvements will be scheduled to occur during planned drawdown of personnel at the site.*

On-site parking impacts associated with construction will be significant, but will be managed to reduce impact to ongoing operations. The new parking facility will be constructed at the rear of the site on the existing 3 acres of at-grade parking in this area during the operational transition period. This will result in the loss of approximately 460 on-site parking spaces during construction, but it is planned that impacts will be reduced due to the transition of staff into the new facility (i.e. peak personnel loads will not coincide with construction phasing).

4.4 Regional Transportation Coordination

The region has a robust transportation network and the proposed improvements and personnel loadings will not significantly impact area roadways or mass transit systems. The proposed redevelopment currently includes a new bus stop shelter along Sangamore Road to encourage staff utilization of mass transit but due to the length of connection times and expected mission requirements at the site, mass transit opportunities appear to be minimal for normal site commuting. *Figure 4.3* highlights the availability of these regional transit alternatives to the ICC-B site.

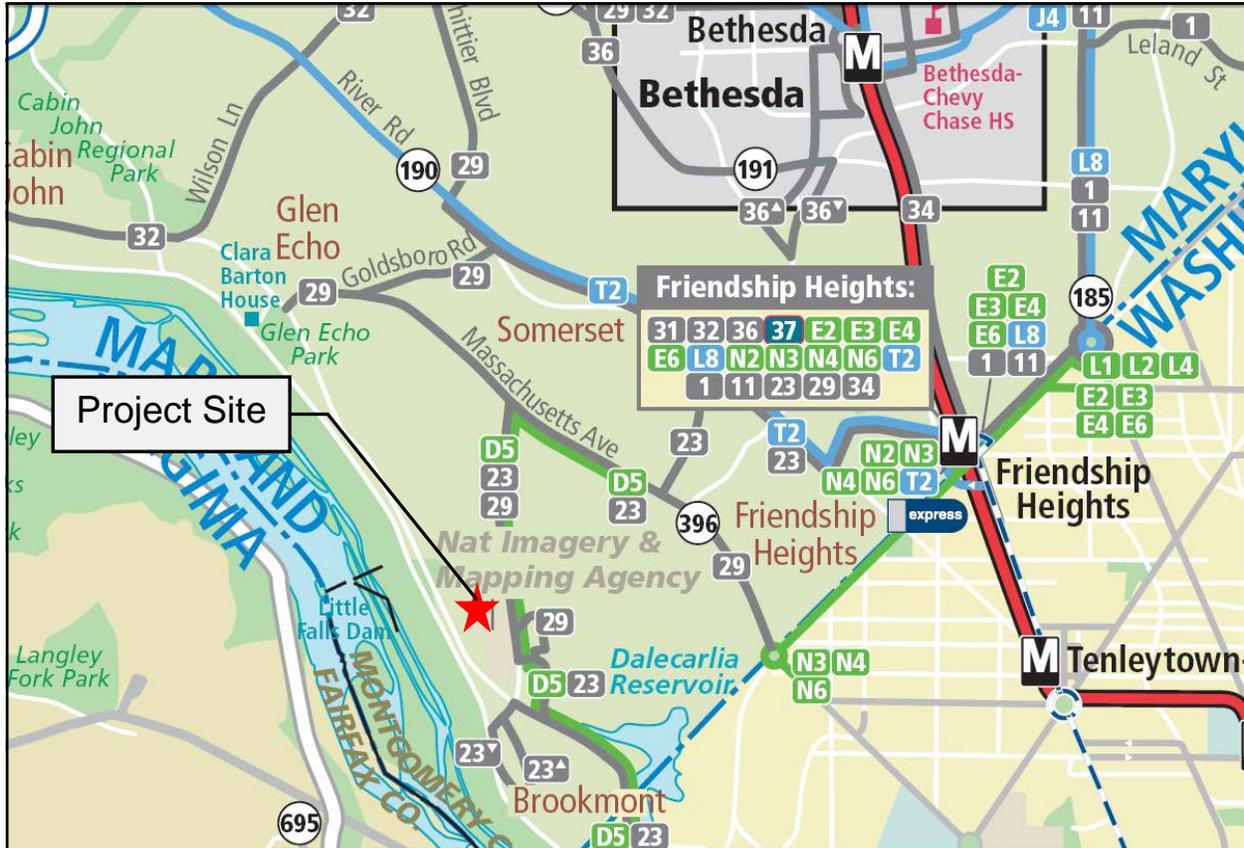


Figure 4.3: Regional Transit Mapping, Red-Line Metro to Bethesda, Bus #29 to 4600 Sangamore Road, ICC-B Site (★) (2011 WMATA Service Area Map).

In addition to the motorized means of accessing the ICC-B site, Montgomery County maintains an extensive network of walking and cycling trails nearby that will enable site employees to utilize alternative commuting methods to report to work. The Capital Crescent Trail provides connectivity from Bethesda to Georgetown via a 13 mile paved trail. This trail follows an old railroad corridor within a half mile of the ICC-B site and therefore provides an excellent profile for non-motorized commuting, *Figure 4.4* highlights the local connectivity of these trails to the ICC-B site.

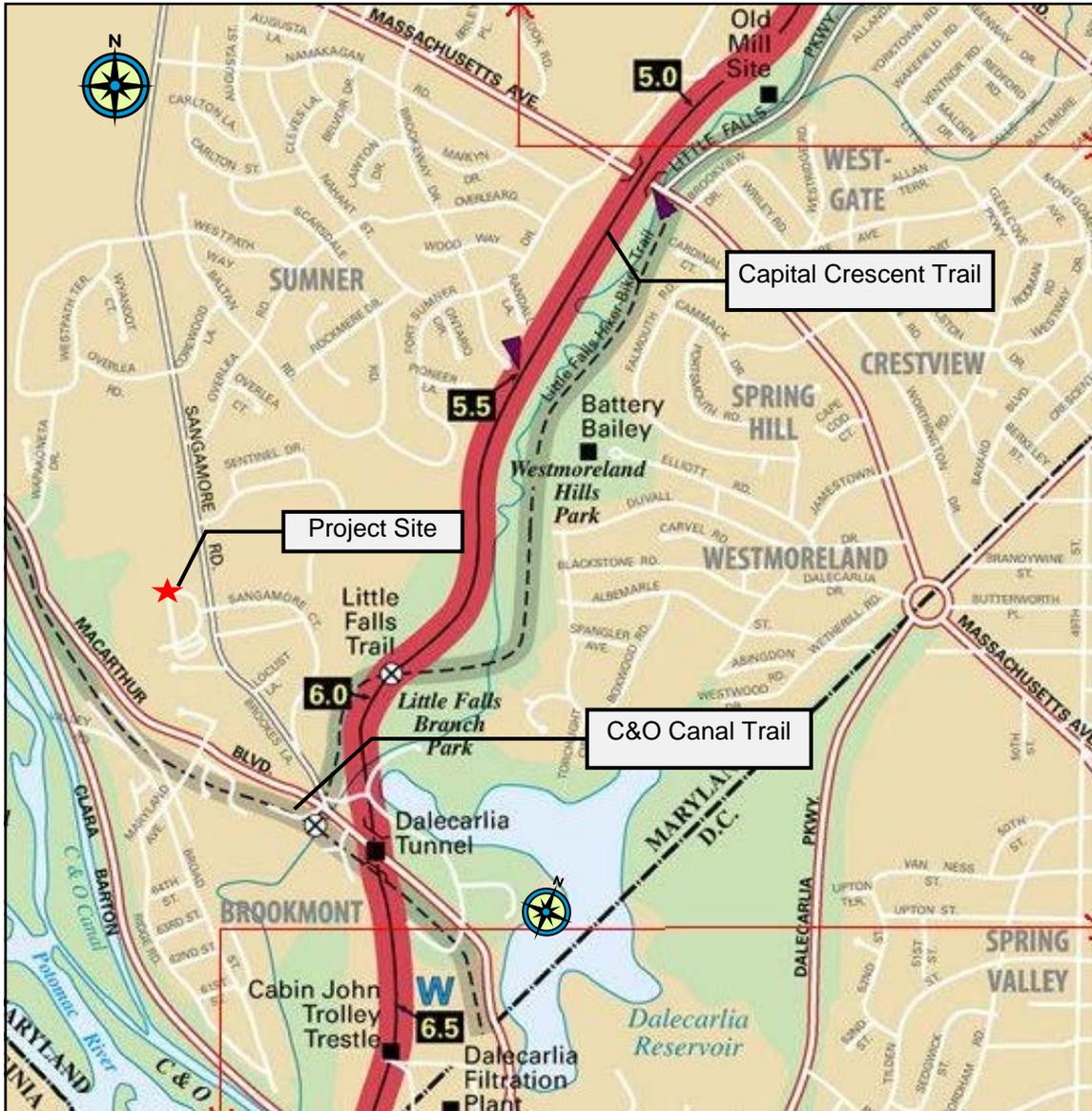


Figure 4.4: Regional Trail Mapping, Capital Crescent Trail runs 13 miles into the center of Washington D.C.; C&O Canal Trail runs 184 miles to West Virginia, providing excellent trail coverage for the ICC-B Site. (2011, Coalition for the Capital Crescent Trail Map).

This interconnectivity to the intermodal regional transportation network significantly improves the sustainability of the ICC-B site redevelopment and will assist in meeting LEED™ objectives for the redevelopment.

Other sustainable transportation features currently considered include provision of E-Vehicle charging stations within the parking facility, assignment of choice parking locations to carpool, compact and alternate energy vehicles, bicycles and motorcycles. Internal traffic circulation will also be designed to accommodate ride-share drop-off and collection points to promote employee carpooling. Parking for up to 140 bicycles is also being integrated into the site development plan.

4.5 Future Transportation Planning

Traffic analysis of the proposed redevelopment has been focused on identified build out conditions for this site. The detailed traffic study completed in December, 2010 does not project any additional traffic loadings other than outlined herein, and notes that the existing regional development densities and corresponding traffic patterns are not likely to change during the planning period of this project. Given these analyses, the ICC-B site redevelopment is projected to improve traffic conditions around the area and will not adversely impact future regional transportation needs.

From a regional perspective, Montgomery County is actively engaged in developing transportation improvements to enable at least 37 percent of commuters to utilize alternatives to car based travel during peak commuting times. A significant component of this strategy is the recent approval of *The Purple Line* a new 16-mile east-west light rail project which will connect central Bethesda with New Carrollton just inside the eastern edge of the Capital Beltway (I-95/495) as shown in *Figure 4.5*. It is estimated it will take ten years or more to complete this effort.

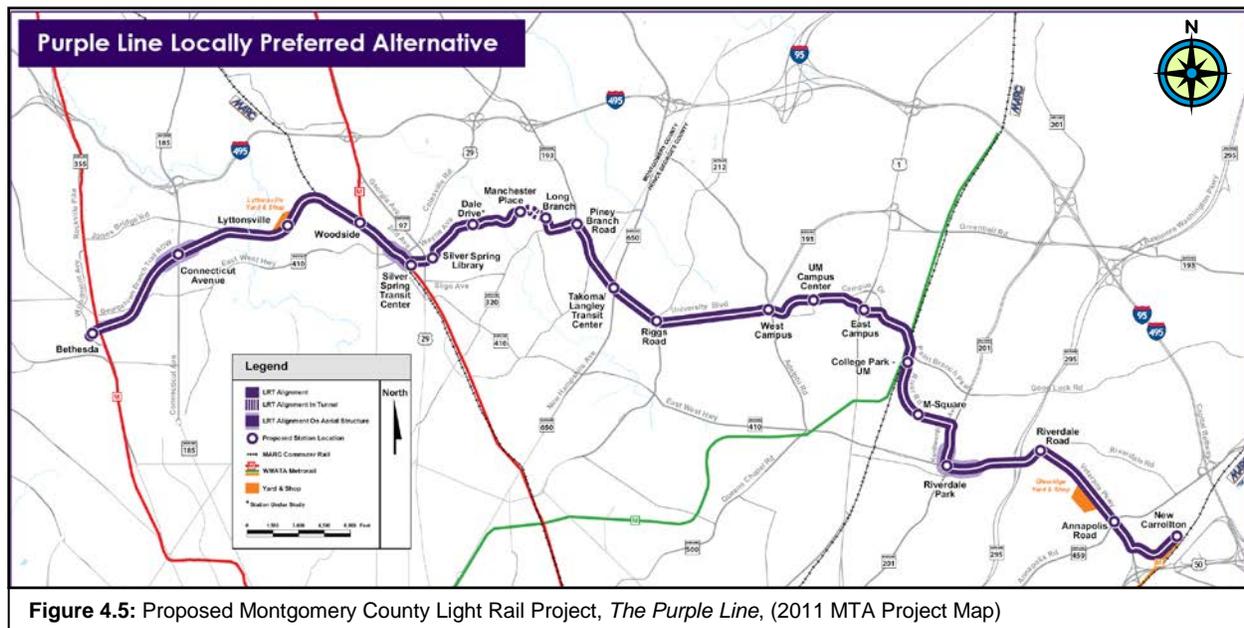


Figure 4.5: Proposed Montgomery County Light Rail Project, *The Purple Line*, (2011 MTA Project Map)

These integrated transportation options are major sustainability components for the ICC-B site and form a core basis of future transportation planning for the proposed redevelopment.

4.6 Landscape Planning

Consolidating the parking into a tiered garage enables the proposed development to restore significant green space to the front of the building consistent with regional planning objectives. Approximately 6 acres of existing site pavements will be reclaimed for landscaping under the proposed plan.

A comprehensive landscaping plan will be developed in conjunction with the proposed facilities to provide an enhanced viewshed from Sangamore Road and break up building masses. This will incorporate native

species endemic to the region to accentuate connectivity to the adjacent parkland. The new Centrum Building will be very effective in shielding the parking garage from view and the elimination of 1,800 at grade parking spots will greatly improve the site character from the core business corridor.

Overall the proposed facilities enable targeted reuse of this site in environmentally sustainable manner and the architectural concepts result in a demeanor consistent with regional planning objectives.

Section 5

**Architectural Concepts
&
Installation Design Guide**



5.1 Architectural Concepts

The ICC-B site redevelopment effort is focused on redefining the existing complex at 4600 Sangamore Road in Bethesda, Maryland to serve the emerging operational and secure space needs of the national intelligence community in the Capital Region. The project is focused on redeveloping the site in context sensitive manner, improving the neighborhood aesthetic and reducing environmental impacts associated with site operations. This effort will include replacement of existing support infrastructure and building systems that are fragmented, out-of-date and no longer serviceable for the projected site mission.

Key architectural objectives of the ICC-B planning include renewal of facilities that date back over 70 years to serve technical missions for a future 25-year planning horizon. This redevelopment must effectively increase connectivity within the complex to foster a collaborative environment suitable for coordination between multiple agency groups and incorporate allowances for technology integration not envisioned when these facilities were originally constructed.



Figure 5.1: Architectural perspectives of the existing site at 4600 Sangamore Road. **1.** Aerial view from northeast perspective, facility mass is a strong presence in the residential setting. **2.** Main Entry at Sentinel Drive, view of Erskine Hall in background, mature street trees a valuable component of site integration with surrounding community. **3.** View through wintertime woods from MacArthur Blvd. **4.** View from Potomac River overlook (south side of river.)

Projected space needs at the ICC-B site include operational space for up to approximately 3,000 persons, including relevant support infrastructure, i.e. parking, roads, utilities, and mechanical/electrical systems.

The proposed redevelopment is focused on blending organizational culture and historic features associated with past operations at the site. Given the technology driven missions projected within the campus, a clean, minimalist design with broad IT system flexibility inherent to secure computing environments is a key design consideration. Melding this with the existing building envelopes in a cost effective manner will be a considerable challenge, but must be managed to enable portions of the site to remain in use throughout construction and deliver an attractive, responsive building design representative of the character and presence of the mission of the site facilities.

Other significant challenges with this reuse effort include the age of existing campus support infrastructure, (water, sewer, steam and chilled water systems); the presence of historical artifacts in front of Erskine Hall, including elements of Erskine Hall itself; the requirement to improve setbacks and minimize impacts to adjacent property owners; the lack of available on-site parking; and the need to connect fragmented building spaces which currently impede team collaboration.

Details on conceptual building envelope characteristics and preliminary detail renderings are included in **Section 3** of this site development guide. The following discussion focuses on the design principles guiding this redevelopment effort and the regional setting context of the site.

Key Issue:

The campus architectural design concept focuses on a contemporary high-tech aesthetic appearance using a precast panel and glass curtain wall system. This may be refined to include the use of metal panel systems to reflect the historic character of the existing buildings on site and blend into the neighborhood architecture more effectively.

5.2 Installation Design Principles

Redevelopment of the site is focused on incorporating sustainable practices in the renewal of the facilities on campus. A key guiding element to this redevelopment will be the use of LEED principles in the design in order to achieve at least a LEED Silver Certification for the development. A core element of the proposed approach to achieve this standard is maximum reuse of the existing facilities on-site. This will include reuse of Erskine, Maury and Roberdeau Halls. The other two core buildings in the complex, Abert Hall and Emory Bldg will be removed and replaced with a new Infill Building and Centrum structure to provide interconnectivity of the buildings to remain.

Due to structural limitations of the existing buildings the new Infill and Centrum Buildings will be structurally independent of the existing facilities to remain. This will also enable improvements to the energy efficiency of these existing facilities and facilitate construction of secure computing environments suitable for the intended missions to be housed in this facility.

This configuration will present some interesting challenges when blending the architectural style of the proposed contemporary building envelope with the 70 year old structures to remain. We expect to accomplish this through the use of transitional materials between the two structures and designing the new building additions to present a light, atmospheric element that promotes a transparent envelope using light colored building elements and a significant amount of glass. This will create an open atmosphere that bridges the space between the indoor environment of the existing structure with the planned greenscaping outside the facility and provide unique collaboration spaces within the buildings.

The use of the glass curtain wall system will also help break up the building mass from the outside perspective, with the reflective properties of the glass facade utilized to capture the surrounding landscape and imbed the community imagery on the building elevations through natural light reflectance. This architectural balance is vital to meeting the challenges of the competitive building environment in the capital region, and will foster the commitment of prospective occupants to fully utilize the site.

It is vital that the redevelopment must capture all the functionality of a new state-of-the-art campus while preserving the history and community context of the existing facilities.

Key Issue:

Interior space planning will need to be developed around expected interagency coordination needs to ensure spaces are effectively programmed and the new architectural system is compatible with operational requirements.

It will be critical to understand expected infrastructure loads early in this process so that building mechanical and electrical systems can be appropriately sized for anticipated needs.

Figure 5.2 highlights the configuration of the existing buildings on the conceptual redevelopment plan showing the difference in massing associated with the proposed redevelopment.

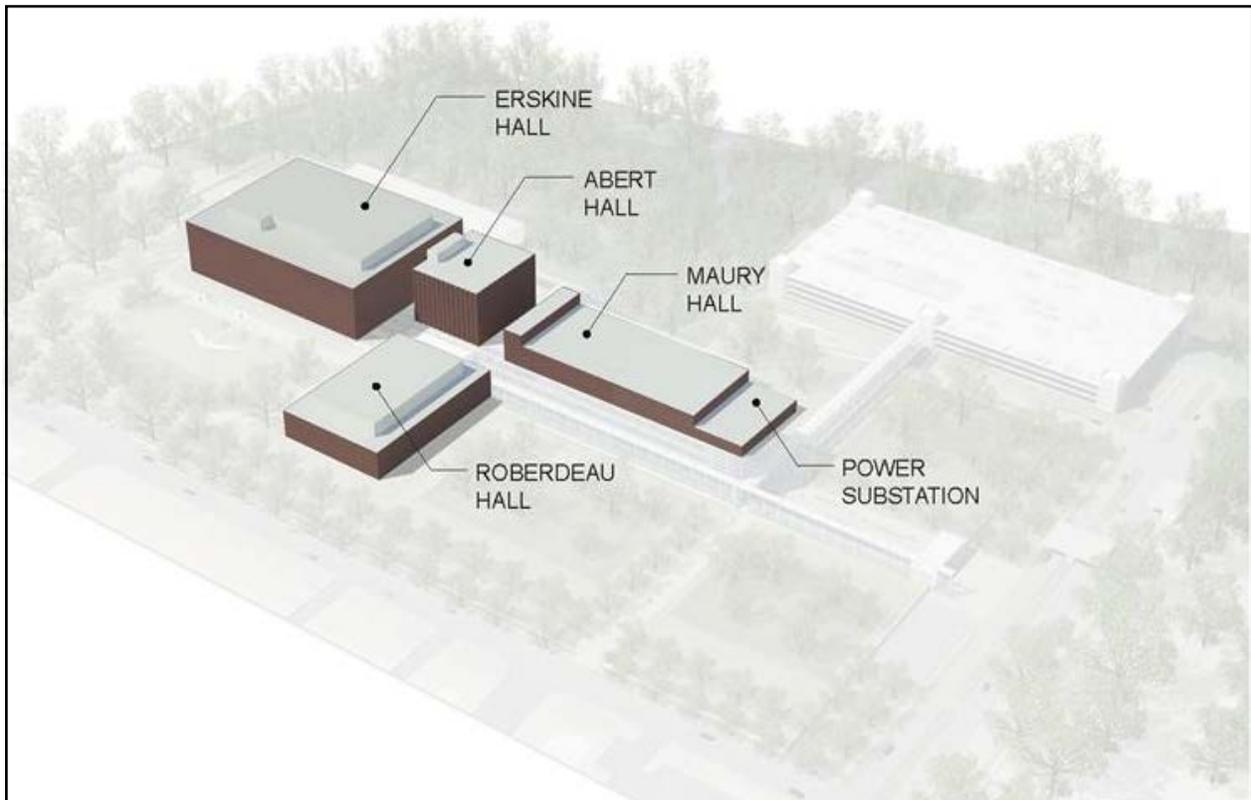


Figure 5.2: Existing building massing overlay on proposed development plan

This is where the quality of interior workspaces must be very attractive, with demonstrated collaboration opportunities not present in other built environments within the region in order to make the envisioned interagency configuration work effectively.

Figures 5.3 and 5.4 bring the conceptual redevelopment plan to the forefront, demonstrating how the proposed design maximizes the surrounding green buffer spaces and enhances the campus features with re-establishment of 6 acres of new trees and open spaces consistent with regional "green corridor" wedge development objectives along Sangamore Road and MacArthur Boulevard.



Figure 5.3: Proposed site development plan aerial rendering from northwest perspective.

The proposed concept further integrates green elements into the building fabric, including the use of a rooftop terrace to promote employee collaboration and improved building performance.. Rain water harvesting will also be a feature of the new roof systems, providing makeup water for the building mechanical systems reducing potable water demands and improving the energy efficiency of these systems in accordance with LEED specifications.

Figure 5.3 also demonstrates the landscape screening principles incorporated in the site design, providing a streetscape that is consistent with regional planning objectives and reflective of the adjacent residential setting. The Glen Echo community will reap numerous benefits from this softening of the edge lines around this facility.

Figure 5.4 presents a reverse angle view into the development from the northwest perspective, demonstrating how the proposed parking facility is integrated into the existing site topography to maximize space utilization and breakup building outlines from this viewpoint. This view also highlights the high-tech aerospace feel of the new exterior cladding system reflective of the missions housed inside.



Figure 5.4: Proposed site development plan aerial rendering from northwest perspective.

Other sustainable features that will be evaluated as part of design development will include the use of porous pavement or rainwater harvesting to limit impacts of runoff from the roof of the parking facility as well as the new site access road paving and pedestrian walkways. The configuration of proposed development also enables development of on-site amenities for employee fitness, including a perimeter walking/running trail with good connectivity to regional trail systems for fitness oriented personnel.

Centrum Building features will be carried throughout the complex development, including the new Visitor's Center and Entry Control Facility insuring architectural consistency within the complex. The new greenscape created will also enhance security features of the site, enabling threat deterrence and countermeasure devices to be integrated with site design, presenting a more visually appealing context.

5.3 Sustainable Design Principles

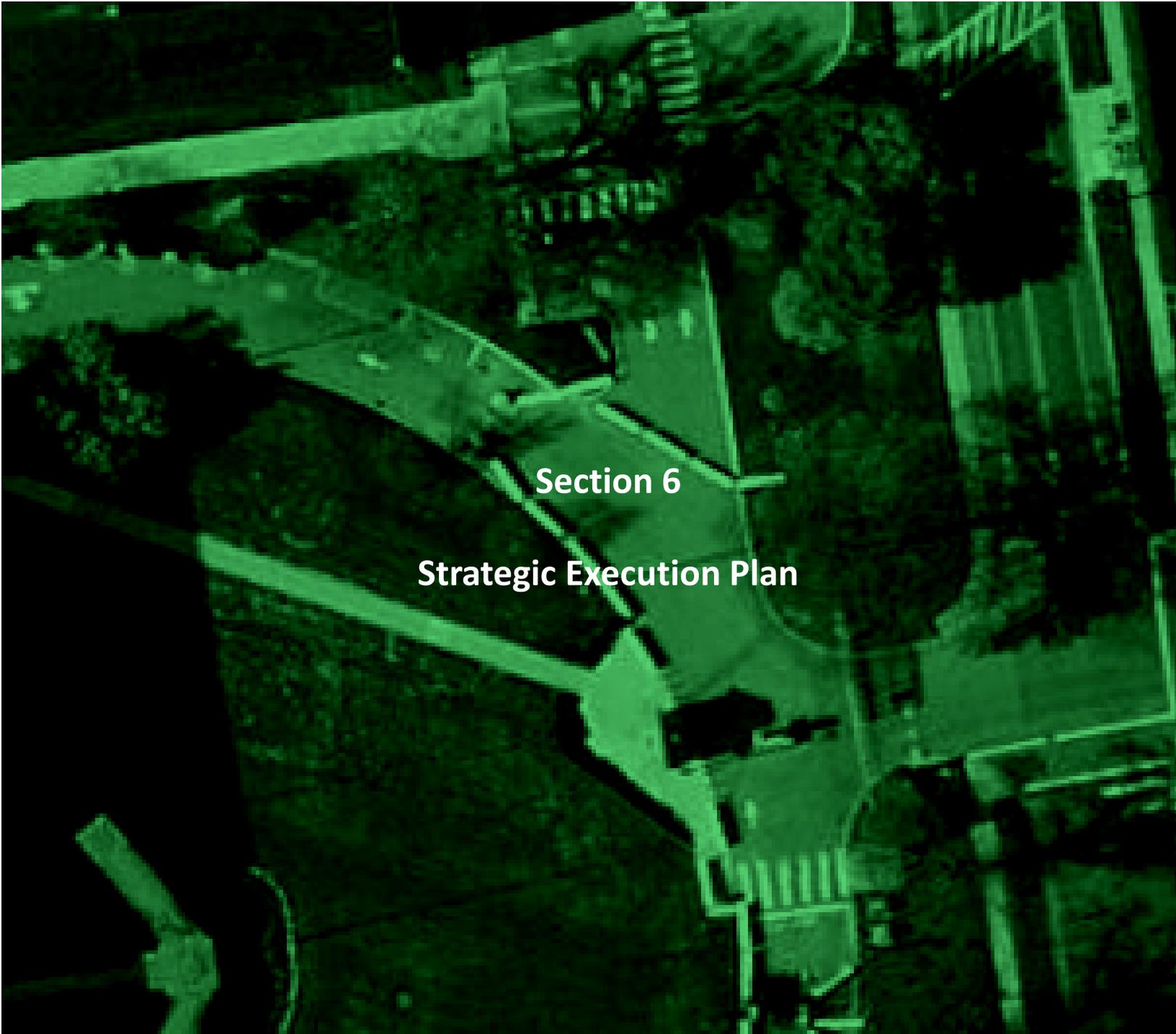
Several LEED guides are applicable to redevelopment of this complex, including the Neighborhood Planning Guide, Guide for Campus Development and New Building and Renovation Guides. Preliminary evaluation of the concept development using the 2010 Guide for New Construction and Major Renovation indicates that the proposed campus redevelopment will be able to achieve a minimum of LEED Silver

performance given the design objectives highlighted above. This preliminary evaluation also indicated that the proposed concept will fully comply with local, state and federal building code and zoning requirements, (example LEED checklist provided in *Figure 5.5* below for reference to project sustainability focus).

As the project moves forward continued collaboration with local authorities and stakeholder groups will be vital to the success of the redevelopment. Standards are continually evolving and design teams must track these changes to ensure project objectives are actualized during the six to eight year development window projected for this site.

LEED 2009 for New Construction and Major Renovation				Project Name		
Project Checklist				Date		
Sustainable Sites		Possible Points: 26	Materials and Resources, Continued			
<input checked="" type="checkbox"/>	Prereq 1	Construction Activity Pollution Prevention	<input type="checkbox"/>	Credit 4	Recycled Content	1 to 2
<input type="checkbox"/>	Credit 1	Site Selection	<input type="checkbox"/>	Credit 5	Regional Materials	1 to 2
<input type="checkbox"/>	Credit 2	Development Density and Community Connectivity	<input type="checkbox"/>	Credit 6	Rapidly Renewable Materials	1
<input type="checkbox"/>	Credit 3	Brownfield Redevelopment	<input type="checkbox"/>	Credit 7	Certified Wood	1
<input type="checkbox"/>	Credit 4.1	Alternative Transportation—Public Transportation Access				
<input type="checkbox"/>	Credit 4.2	Alternative Transportation—Bicycle Storage and Changing Rooms				
<input type="checkbox"/>	Credit 4.3	Alternative Transportation—Low-Emitting and Fuel-Efficient Vehicles				
<input type="checkbox"/>	Credit 4.4	Alternative Transportation—Parking Capacity				
<input type="checkbox"/>	Credit 5.1	Site Development—Protect or Restore Habitat				
<input type="checkbox"/>	Credit 5.2	Site Development—Maximize Open Space				
<input type="checkbox"/>	Credit 6.1	Stormwater Design—Quantity Control				
<input type="checkbox"/>	Credit 6.2	Stormwater Design—Quality Control				
<input type="checkbox"/>	Credit 7.1	Heat Island Effect—Non-roof				
<input type="checkbox"/>	Credit 7.2	Heat Island Effect—Roof				
<input type="checkbox"/>	Credit 8	Light Pollution Reduction				
Water Efficiency		Possible Points: 10	Indoor Environmental Quality		Possible Points: 15	
<input checked="" type="checkbox"/>	Prereq 1	Water Use Reduction—20% Reduction	<input type="checkbox"/>	Prereq 1	Minimum Indoor Air Quality Performance	
<input type="checkbox"/>	Credit 1	Water Efficient Landscaping	<input type="checkbox"/>	Prereq 2	Environmental Tobacco Smoke (ETS) Control	
<input type="checkbox"/>	Credit 2	Innovative Wastewater Technologies	<input type="checkbox"/>	Credit 1	Outdoor Air Delivery Monitoring	1
<input type="checkbox"/>	Credit 3	Water Use Reduction	<input type="checkbox"/>	Credit 2	Increased Ventilation	1
Energy and Atmosphere		Possible Points: 35	<input type="checkbox"/>	Credit 3.1	Construction IAQ Management Plan—During Construction	1
<input checked="" type="checkbox"/>	Prereq 1	Fundamental Commissioning of Building Energy Systems	<input type="checkbox"/>	Credit 3.2	Construction IAQ Management Plan—Before Occupancy	1
<input checked="" type="checkbox"/>	Prereq 2	Minimum Energy Performance	<input type="checkbox"/>	Credit 4.1	Low-Emitting Materials—Adhesives and Sealants	1
<input checked="" type="checkbox"/>	Prereq 3	Fundamental Refrigerant Management	<input type="checkbox"/>	Credit 4.2	Low-Emitting Materials—Paints and Coatings	1
<input type="checkbox"/>	Credit 1	Optimize Energy Performance	<input type="checkbox"/>	Credit 4.3	Low-Emitting Materials—Flooring Systems	1
<input type="checkbox"/>	Credit 2	On-Site Renewable Energy	<input type="checkbox"/>	Credit 4.4	Low-Emitting Materials—Composite Wood and Agrifiber Products	1
<input type="checkbox"/>	Credit 3	Enhanced Commissioning	<input type="checkbox"/>	Credit 5	Indoor Chemical and Pollutant Source Control	1
<input type="checkbox"/>	Credit 4	Enhanced Refrigerant Management	<input type="checkbox"/>	Credit 6.1	Controllability of Systems—Lighting	1
<input type="checkbox"/>	Credit 5	Measurement and Verification	<input type="checkbox"/>	Credit 6.2	Controllability of Systems—Thermal Comfort	1
<input type="checkbox"/>	Credit 6	Green Power	<input type="checkbox"/>	Credit 7.1	Thermal Comfort—Design	1
Materials and Resources		Possible Points: 14	<input type="checkbox"/>	Credit 7.2	Thermal Comfort—Verification	1
<input checked="" type="checkbox"/>	Prereq 1	Storage and Collection of Recyclables	<input type="checkbox"/>	Credit 8.1	Daylight and Views—Daylight	1
<input type="checkbox"/>	Credit 1.1	Building Reuse—Maintain Existing Walls, Floors, and Roof	<input type="checkbox"/>	Credit 8.2	Daylight and Views—Views	1
<input type="checkbox"/>	Credit 1.2	Building Reuse—Maintain 50% of Interior Non-Structural Elements				
<input type="checkbox"/>	Credit 2	Construction Waste Management				
<input type="checkbox"/>	Credit 3	Materials Reuse				
			Innovation and Design Process		Possible Points: 6	
			<input type="checkbox"/>	Credit 1.1	Innovation in Design: Specific Title	1
			<input type="checkbox"/>	Credit 1.2	Innovation in Design: Specific Title	1
			<input type="checkbox"/>	Credit 1.3	Innovation in Design: Specific Title	1
			<input type="checkbox"/>	Credit 1.4	Innovation in Design: Specific Title	1
			<input type="checkbox"/>	Credit 1.5	Innovation in Design: Specific Title	1
			<input type="checkbox"/>	Credit 2	LEED Accredited Professional	1
			Regional Priority Credits		Possible Points: 4	
			<input type="checkbox"/>	Credit 1.1	Regional Priority: Specific Credit	1
			<input type="checkbox"/>	Credit 1.2	Regional Priority: Specific Credit	1
			<input type="checkbox"/>	Credit 1.3	Regional Priority: Specific Credit	1
			<input type="checkbox"/>	Credit 1.4	Regional Priority: Specific Credit	1
			Total		Possible Points: 110	
			Certified 40 to 49 points Silver 50 to 59 points Gold 60 to 79 points Platinum 80 to 110			

Figure 5.5: Typical LEED evaluation checklist, (U.S. Green Building Council).



Section 6

Strategic Execution Plan



6.1 Short Range Execution Strategy

In order to prepare the ICC-B site for future use, the highest priority is to implement life-safety force protection measures to protect building occupants. The critical item on this is establishing the appropriate setback zones around the occupied building on site and consolidating parking to a central facility where vehicle borne threats can be managed more appropriately.

This will require implementation of the north zone improvements as the first part of the execution strategy as shown on *Figure 6.1*. These improvements include construction of the new Parking Facility, Entry Control Point, Visitor's Control Center and Access Road Improvements as described in Section 3 of this guide. These improvements are expected to require a period of approximately 15 months to be completed depending on the extent of related underground utility work that must be conducted in association with these projects.

As this phase of construction gets underway, design of the south campus improvements can begin so there is no delay in completing required building safety upgrades. Given the need to coordinate this work with ongoing site operations a detailed construction phasing plan will need to be developed to avoid any mission conflicts during construction.

Provided construction of the north campus improvements is initiated in 2011, we expect the site could be ready for full personnel loading by the end of 2016. Integral to this plan is the focus on providing core building completion suitable for occupants to fit out with required mission equipment, user IT infrastructure and furnishings as part of the building rehabilitation efforts.

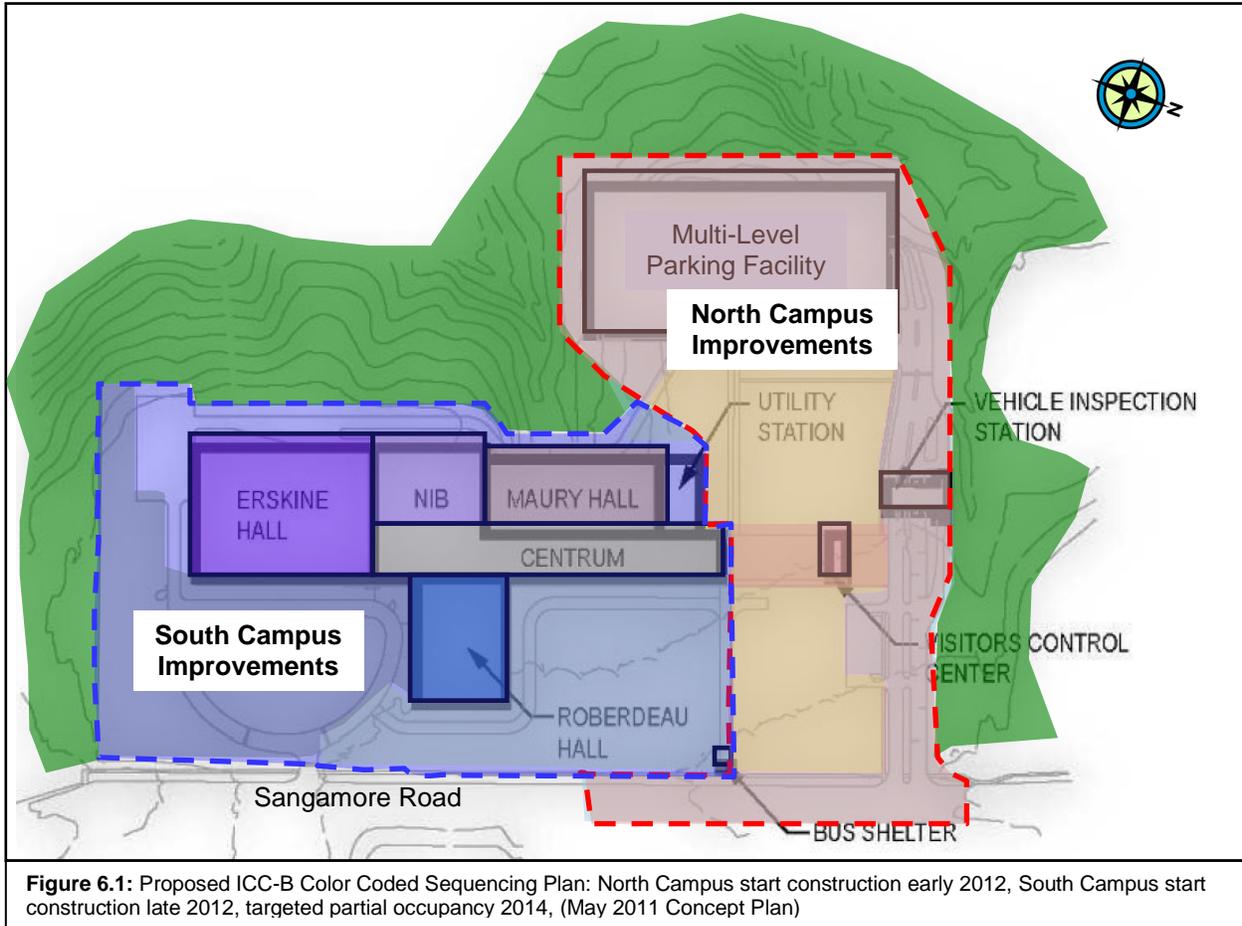
6.2 Long Range Execution Strategy

The design basis for these space planning redevelopment efforts is based upon 25-year site occupancy projections. These include operational space for up to 3,000 employees at the site and all expected future mission equipment that may be required during this planning window.

6.3 Project Milestones

The ICC-B redevelopment project was a result of the 2005 series of Base Re-Alignment and Closure (BRAC) decisions which consolidated existing site operations to Ft. Belvoir, Virginia. Planning for reuse of the Sangamore Road site began in 2008 when the Department of Defense requested authorization to evaluate the site for alternate uses.

Over the last three years there has been a significant number of site evaluations conducted to adapt the site for future missions. The current program identifies requirements for redeveloping the site over the next six to eight years as an integrated intelligence community campus. This will be accomplished in a phased manner as funding permits. The interim objective is to have the initial site upgrades complete and ready for use by the end of 2016.



Appendices

- A. Property Deed
- B. Covenants and Easements
- C. Legal Description
- D. Community Coordination
- E. Historic Preservation



Appendix A

ICC-B Property Deed

LOYALTY

**“BEAR TRUE FAITH AND ALLEGIANCE TO THE U.S. CONSTITUTION,
THE ARMY, YOUR UNIT AND OTHER SOLDIERS.”**

U.S. Army Core Value #1



Maryland Department of Assessments and Taxation
Real Property Data Search (vw1.1A)
MONTGOMERY COUNTY

[Go Back](#)
[View Map](#)
[New Search](#)
[GroundRent Redemption](#)
[GroundRent Registration](#)

Account Identifier: District - 07 Account Number - 00437145

Owner Information

Owner Name: UNITED STATES OF AMERICA
DEFENSE MAP ATTN CM
Use: EXEMPT COMMERCIAL
Mailing Address: 3838 VOGEL RD
ARNOLD MO 63010-6205
Principal Residence: NO
Deed Reference: 1)
2)

Location & Structure Information

Premises Address
4600 SANGAMORE RD
BETHESDA 20816-0000
Legal Description
EQ 2662 OAK HILL ARM
Y MAP SERVICE

Map	Grid	Parcel	Sub District	Subdivision	Section	Block	Lot	Assessment Area	Plat No:	Plat Ref:
GM62	0000	P495		0502				2		

Special Tax Areas
Town NONE
Ad Valorem
Tax Class 38

Primary Structure Built	Enclosed Area	Property Land Area	County Use
		1555092.0000 AC	675

Stories **Basement** **Type** **Exterior**

Value Information

	Base Value	Value		
		As Of	Phase-in Assessments	
		01/01/2011	07/01/2010	07/01/2011
Land	9,330,500	9,330,500		
Improvements:	67,850,000	67,850,000		
Total:	77,180,500	77,180,500	77,180,500	77,180,500
Preferential Land:	0			0

Transfer Information

Seller:	Date:	Price:
Type:	Deed1:	Deed2:
Seller:	Date:	Price:
Type:	Deed1:	Deed2:
Seller:	Date:	Price:
Type:	Deed1:	Deed2:

Exemption Information

Partial Exempt Assessments	Class	07/01/2011	07/01/2012
County	100	77,180,500.00	0.00
State	100	77,180,500.00	0.00
Municipal	100		0.00

Tax Exempt: OFFICE BUILDINGS
Exempt Class: OFFICE BUILDINGS
Special Tax Recapture: * NONE *

No. 2662 CIVIL ACTION

UNITED STATES OF AMERICA

VS.

32.881 ACRES OF LAND, MORE OR LESS, SITUATE IN
MONTGOMERY COUNTY, STATE OF MARYLAND, AND W. C.
AND A. N. MILLER DEVELOPMENT COMPANY, ET AL.,

RECORDED

No. 2662 CIVIL ACTION

Date 1945.	Clerk's Memorandum	No.
July 9	Petition for Condemnation and Order of Court thereon, fd.	1
" "	Declaration of Taking, fd.	2
" "	Judgment on Declaration of Taking, fd.	3
" "	Summons issued.	4
Aug. 4	Answer of County of Montgomery and Exhibit A filed.	5
" 11	Answer of W. C. and A. N. Miller Development Company, and Exhibit A, fd.	6
Feb. 7 1946	Answer of County of Montgomery and State of Maryland, fd.	7
Apr. 10	Petition of W. C. and A. N. Miller Development Company, answer of United States of America, and order of court directing the clerk to pay to petitioner, the sum of \$31,500. on account of ultimate award as to Parcel 4 fd.	8
" "	Order to enter a credit of \$31,500. on any judgment hereafter to be entered in favor of W. C. and A. N. Miller Development Company as to Parcel 4 fd.	9
May 20	Jury empanelled and sworn.	
" 21	Defendant's (6) prayers, fd.	10
" "	Jury's Inquisition, fd.	11
Aug. 17	Petn. of W. C. & A. N. Miller Development Co., and order of court directing payment on account of judgment, fd.	12
" "	Order to enter judgment in favor of W.C. and A.N. Miller Development Co., for the sum of \$65,762.00, plus interest, "Settled & Satisfied", fd.	13

UNITED STATES OF AMERICA,	:	IN THE DISTRICT COURT OF THE
Petitioner	:	UNITED STATES
vs.	:	
	:	FOR THE DISTRICT OF MARYLAND
32.881 ACRES OF LAND, MORE	:	CIVIL NO. <u>2662</u>
OR LESS, SITUATE IN MONT-	:	
GOMERY COUNTY, STATE OF	:	
MARYLAND, AND W.C. AND A.M.	:	
MILLER DEVELOPMENT COMPANY,	:	
ET AL.,	:	
Defendants	:	

PETITION FOR CONDEMNATION

TO THE HONORABLE, THE JUDGES OF SAID COURT:

The petition of the United States of America, represented herein by Wilmer H. Driver, Special Assistant to the Attorney General, acting under the instructions of the Attorney General of the United States and at the request of the Secretary of War, respectfully shows:

1. That under and by virtue of the provisions of an Act of Congress approved February 26, 1931 (46 Stat. 1421. 40 U.S.C. sec. 258a) and acts supplementary thereto and amendatory thereof, and under the further authority of the Act of Congress approved August 18, 1890 (26 Stat. 316) as amended by the Acts of Congress approved July 2, 1917 (40 Stat. 241), April 11, 1918 (40 Stat. 518, 50 U.S.C. sec 171) and March 27, 1942 (Public Law 507 - 77th Congress), as amended by the Act of Congress approved December 20, 1944 (Public Law 509 - 78th Congress) which acts authorize the acquisition of land for military and other war purposes, and the Act of Congress approved June 28, 1944 (Public Law 374 - 78th Congress), which act appropriated funds for such purposes; and all other acts or parts of acts supplementary to or amendatory of the said acts, the Secretary of War is authorized to acquire on behalf of the United States of America by condemnation under judicial process such tracts or parcels of land in the State of Maryland as may be necessary in his discretion for use in connection with the

①
Filed 9 July 1945.

Army Map Service Expansion, Dalecarlia, Montgomery County, Maryland, and for other public uses; and that the necessary money has been duly appropriated under the said Acts of Congress to acquire the lands necessary for the purpose and that ample funds are available and unexpended for the payment for the lands or interest in the lands to be condemned in this proceeding.

2. That under the authority in him vested by the said Acts of Congress, the Secretary of War has found and determined that it is necessary and advantageous to the interests of the United States of America to acquire the hereinafter described lands for the said public use by condemnation under judicial process, and the Secretary of War has selected and designated the hereinafter described land for use in connection with the Army Map Service Expansion, Dalecarlia, Montgomery County, Maryland, and for other public uses. That the Secretary of War, by letter dated June 16, 1945, to the Attorney General of the United States, has requested that the necessary proceedings be instituted to condemn the fee simple title to the hereinafter described lands, subject, however, to existing easements for public roads and highways, for public utilities, for railroads and for pipe lines.

3. That under the Act of Congress approved March 27, 1942 (Second War Powers Act, 1942), petitioner is authorized to take immediate possession of the lands hereinafter described, and the Secretary of War has requested that an order be obtained granting to petitioner the right to take immediate possession thereof, with the right to use, occupy, and improve the property.

4. That the lands to be condemned in this proceeding for the public uses aforesaid are shown upon the plat hereto annexed, marked Exhibit "A", which plat is by reference made

a part hereof, and which lands are situate in the County of Montgomery, State of Maryland and are described as follows:

TRACT NO. 4

All that certain piece or parcel of land situate, lying and being in Montgomery County, State of Maryland, and more particularly described as follows:

Beginning for the same at a pipe in the center line of Sangamore Road at a corner common to the land now or formerly belonging to Frank Bock and the land now or formerly belonging to W.C. and A.N. Miller Development Company, of which the herein described land is a part, and running thence with and binding on the center line of Sangamore Road the three following courses and distances, viz: South 11 degrees 09 minutes 44 seconds East 38.54 feet, Southerly by a line curving toward the right with a radius of 2865 feet for a distance of 142.97 feet (the chord of said arc bears South 9 degrees 43 minutes 57 seconds East and is 142.88 feet long) and South 8 degrees 18 minutes 11 seconds East 1346.16 feet to a pipe and to the land now or formerly belonging to H. H. Donally, thence with and binding on said Donally land and along a wire fence there situate the four following courses and distances, viz: South 79 degrees 59 minutes 57 seconds West 15.64 feet, South 80 degrees 45 minutes 57 seconds West 250 feet to a pipe, South 85 degrees 46 minutes 57 seconds West 296.86 feet to a pipe and South 89 degrees 39 minutes 57 seconds West 133 feet to a monument heretofore planted on the outline of the land belonging to National Park Service, thence with and binding thereon the thirteen following courses and distances, viz: North 12 degrees 08 minutes 13 seconds West 173.13 feet to a monument heretofore planted, Northerly by a line curving toward the right with a radius of 524 feet for a distance of 233.93 feet to a monument heretofore planted (the chord of said arc bears North 19 degrees 25 minutes 37 seconds West and is 231.99 feet long), Northerly by a line curving toward the right with a radius of 524 feet for a distance of 131.75 feet to a monument heretofore planted (the chord of said arc bears North 0 degrees 33 minutes 54 seconds East and is 131.40 feet long) North 7 degrees 46 minutes 05 seconds East 45 feet to a monument heretofore planted, Northeasterly by a line curving toward the right with a radius of 125 feet for a distance of 81.89 feet to a monument heretofore planted (the chord of said arc bears North 26 degrees 32 minutes 10 seconds East and is 80.43 feet long), Northerly by a line curving toward the left with a radius of 100 feet for a distance of 90.98 feet to a monument heretofore planted (the chord of said arc bears North 19 degrees 14 minutes 17 seconds East and is 87.88 feet long), North 6 degrees 49 minutes 38 seconds West 84.84 feet to a monument heretofore planted, South 74 degrees 21 minutes 02 seconds West 271.96 feet to a monument heretofore planted, South 74 degrees 32 minutes 27 seconds West 193.39 feet to a monument heretofore planted, North 30 degrees 22 minutes 34 seconds West 127.50 feet to a monument heretofore planted, North 30 degrees 23 minutes 31 seconds West 142.27 feet to a monument heretofore planted, North 32 degrees 09 minutes 07 seconds East 181.94 feet to a monument hereto-

fore planted, North 4 degrees 22 minutes 34 seconds West 199.57 feet to a monument heretofore planted, and South 74 degrees 54 minutes 35 seconds West 11.70 feet to a corner common to the National Park Service land and the land now or formerly belonging to A.W. Walker, thence with and binding on said Walker land and the land now or formerly belonging to Frank Bock mentioned above the four following courses and distances, viz: North 14 degrees 59 minutes 12 seconds East 68.07 feet to a monument heretofore planted, North 67 degrees 29 minutes 12 seconds East 79.08 feet to a monument heretofore planted, North 1 degree 29 minutes 12 seconds East 47.40 feet to a monument heretofore planted and North 79 degrees 38 minutes 12 seconds East 954.70 feet to the place of beginning.

Containing 32.881 acres of land, more or less.
The bearings are referred to the Meridian of Dome of United States Capitol Building.

Being a part of the same tract of land which by deed dated March 16, 1942 and recorded among the land records of Montgomery County, Maryland, in Liber 875, folio 37, was granted and conveyed by Ida V. Garrity and Emma F. Garrity to W.C. and A.N. Miller Development Company.

5. That according to the information presently available to your petitioner the purported owners of the aforementioned land are as follows:

W.C. and A.N. Miller Development Co.
A.N. Miller, President
4830 Massachusetts Avenue, N.W.
Washington 16, D.C.

Corporation Trust, Inc., Resident Agent
10 Light Street
Baltimore 2, Maryland

and the County of Montgomery and the State of Maryland may have or claim to have some right, title or interest in and to the said lands by reason of unpaid taxes and assessments.

6. That in addition to the parties above-named there may be other persons, firms, and corporations whose names are unknown to petitioner who may have, or claim to have some right, title or interest in and to the said tract or parts thereof, or who may claim to be entitled to compensation with respect of the taking thereof, and petitioner, therefore, makes parties defendant hereto all persons, firms, and corporations, known or unknown, who have, or who may claim to have, any

right, title, estate, claim, or interest in, to, and out of the said lands hereinbefore described, or who may claim to be entitled to compensation with respect of the taking thereof.

TO THE END, THEREFORE, that your petitioner may have said lands condemned for the use and benefit of the United States of America your petitioner prays:

(a) That this Court pass an order requiring the Clerk of the Court to give notice to the owners and other persons interested in the lands herein described to appear in this Court at a time to be fixed by the Court to answer this petition.

(b) That this Court pass an order authorizing petitioner to take immediate possession of the above unoccupied described lands, and further authorizing the petitioner to take possession of the occupied lands on some date to be fixed by this Honorable Court.

(c) That judgment be given to petitioner against the lands described, condemning the same, and every interest and estate therein, and the fee simple title thereto, to the sole use of the United States of America, subject, however, to existing easements for public roads and highways, for public utilities, for railroads and for pipe lines.

(d) That the value of said lands and property, including the improvements on the said lands and the several interests or estates therein, and liens thereon, be determined and adjudged and the award therefor, when so paid by the petitioner herein be decreed to be full and just compensation for the taking of said lands and improvements and all interests therein and for the said property.

(c) That this Court may take such further action and pass such other orders, judgments, and decrees as may be necessary and proper in the premises.

AND as in duty bound, etc.

UNITED STATES OF AMERICA

By Wilmer H. Driver
Wilmer H. Driver,
Special Assistant to
the Attorney General

720 Munsey Building
Baltimore 2, Maryland

UNITED STATES OF AMERICA,
DISTRICT OF MARYLAND, To Wit:

Before me, the undersigned, personally appeared
Wilmer H. Driver, Special Assistant to the Attorney General,
in and for the District of Maryland and made oath in due
form of law that the matters and facts set forth in the
foregoing petition are true to the best of his knowledge
and belief.

Sworn to before me this 9th day of July,
1945.

SEAL

Chas. W. Zimmerman
CLERK, DISTRICT COURT OF THE UNITED
STATES FOR THE DISTRICT OF MARYLAND

ORDER OF COURT

Upon the foregoing petition for condemnation, it is
the 9th day of July, 1945,

ORDERED AND ADJUDGED that the Clerk of this Court
issue summons to be served, together with a copy of the
original petition for condemnation, this order, and a copy
of the judgment on the declaration of taking upon each of the
persons named in the said petition, said summons commanding
them and each of them to show cause by filing in writing in
this Court within ten days after the 28th of July,
1945, their reasons, if any they have, why the property
mentioned in said petition, or said defendants' interests
therein, should not be condemned as prayed; and commanding
and notifying them to set forth their separate ownerships,
claims, interests, titles, estates, rights, or liens, if
any; and notifying them that their interests in said
property will be adjudicated and forever determined by
these proceedings and that the award for said lands will be
disposed of as the Court may direct.

Walter Chasnet
UNITED STATES DISTRICT JUDGE

IN THE
UNITED STATES DISTRICT COURT
IN AND FOR THE DISTRICT OF MARYLAND

UNITED STATES OF AMERICA,
Petitioner,

Vs.

32.881 ACRES OF LAND, MORE OR LESS,
SITUATE IN MONTGOMERY COUNTY, STATE
OF MARYLAND, AND W.C. AND A.N.
MILLER DEVELOPMENT COMPANY, ET AL,
Defendants.

DECLARATION
OF TAKING

TO THE HONORABLE,
THE UNITED STATES DISTRICT COURT:

I, Henry L. Stinson, Secretary of War of
the United States, do hereby declare that:

1. (a) The lands hereinafter described are taken under and in accordance with the Act of Congress approved February 26, 1931 (46 Stat. 1421, 40 U.S.C. sec. 258a) and acts supplementary thereto and amendatory thereof, and under the further authority of the Act of Congress approved August 18, 1890 (26 Stat. 316) as amended by the Acts of Congress approved July 2, 1917 (40 Stat. 241), April 11, 1918 (40 Stat. 518, 50 U.S.C. sec. 171) and March 27, 1942 (Public Law 507 - 77th Congress), as amended by the Act of Congress approved December 20, 1944 (Public Law 509 - 78th Congress) which acts authorize the acquisition of land for military and other war purposes, and the Act of Congress approved June 28, 1944 (Public Law 374 - 78th Congress), which act appropriated funds for such purposes.

(b) The public uses for which said lands are taken are as follows:
The said lands are necessary adequately to provide a site for construction of additional facilities for use of the United States Army and for related military purposes. The said lands have been selected by me for use in connection with the Army Map Service Expansion, and for such other uses as

② Filed 9 July 1945.

may be authorized by Congress, or by Executive Order, and are required for immediate use.

2. A general description of the lands being taken is set forth in Schedule "A" attached hereto and made a part hereof and is a description of the same land described in the petition in the above entitled cause.

3. The estate taken for said public use is the full fee simple title thereto, subject however, to existing easements for public roads and highways, for public utilities, for railroads and for pipe lines.

4. A plan showing the lands taken is annexed hereto as Schedule "B" and made a part hereof.

5. The sum estimated by me as just compensation for said land with all buildings and improvements thereon and all appurtenances thereto and including any and all interests hereby taken in said lands is set forth in Schedule "A" herein, which sum I cause to be deposited herewith in the registry of said Court for the use and benefit of the persons entitled thereto. I am of the opinion that the ultimate award for said lands will probably be within any limits prescribed by law as the price to be paid therefor.

IN WITNESS WHEREOF, the petitioner, by its Secretary of War, thereunto authorized, has caused this Declaration of Taking to be signed in its name by said Henry L. Stimson, Secretary of War, this the 16th day of June, A.D., 1945, in the City of Washington, District of Columbia.

Henry L. Stimson
Secretary of War of the United States

SCHEDULE "A"

The land which is the subject matter of this Declaration of Taking aggregates 32.881 acres, more or less, situate in Montgomery County, State of Maryland. A description of the land taken, together with a list of the purported owners thereof and a statement of the sum estimated to be just compensation therefor is as follows:

TRACT NO. 4

All that certain piece or parcel of land situate, lying and being in Montgomery County, State of Maryland, and more particularly described as follows:

Beginning for the same at a pipe in the center line of Sangamore Road at a corner common to the land now or formerly belonging to Frank Bock and the land now or formerly belonging to W.C. and A.N. Miller Development Company, of which the herein described land is a part, and running thence with and binding on the center line of Sangamore Road the three following courses and distances, viz: South 11 degrees 09 minutes 44 seconds East 38.54 feet, Southerly by a line curving toward the right with a radius of 2865 feet for a distance of 142.97 feet (the chord of said arc bears South 9 degrees 43 minutes 57 seconds East and is 142.88 feet long) and South 8 degrees 18 minutes 11 seconds East 1346.16 feet to a pipe and to the land now or formerly belonging to H.H. Donally, thence with and binding on said Donally land and along a wire fence there situate the four following courses and distances, viz: South 79 degrees 59 minutes 57 seconds West 15.64 feet, South 80 degrees 45 minutes 57 seconds West 250 feet to a pipe, South 85 degrees 46 minutes 57 seconds West 296.86 feet to a pipe and South 89 degrees 39 minutes 57 seconds West 133 feet to a monument heretofore planted on the outline of the land belonging to National Park Service, thence with and binding thereon the thirteen following courses and distances, viz: North 12 degrees 08 minutes 13 seconds West 173.13 feet to a monument heretofore planted, Northerly by a line curving toward the right with a radius of 524 feet for a distance of 233.93 feet to a monument heretofore planted (the chord of said arc bears North 19 degrees 25 minutes 37 seconds West and is 231.99 feet long), Northerly by a line curving toward the right with a radius of 524 feet for a distance of 131.75 feet to a monument heretofore planted (the chord of said arc bears North 0 degrees 33 minutes 54 seconds East and is 131.40 feet long) North 7 degrees 46 minutes 05 seconds East 45 feet to a monument

heretofore planted, Northeasterly by a line curving toward the right with a radius of 125 feet for a distance of 81.89 feet to a monument heretofore planted (the chord of said arc bears North 26 degrees 32 minutes 10 seconds East and is 80.43 feet long), Northerly by a line curving toward the left with a radius of 100 feet for a distance of 90.98 feet to a monument heretofore planted (the chord of said arc bears North 19 degrees 14 minutes 17 seconds East and is 87.88 feet long), North 6 degrees 49 minutes 38 seconds West 84.84 feet to a monument heretofore planted, South 74 degrees 21 minutes 02 seconds West 271.96 feet to a monument heretofore planted, South 74 degrees 32 minutes 27 seconds West 193.39 feet to a monument heretofore planted, North 30 degrees 22 minutes 34 seconds West 127.50 feet to a monument heretofore planted, North 30 degrees 23 minutes 31 seconds West 142.27 feet to a monument heretofore planted, North 32 degrees 09 minutes 07 seconds East 181.94 feet to a monument heretofore planted, North 4 degrees 22 minutes 34 seconds West 199.57 feet to a monument heretofore planted, and South 74 degrees 54 minutes 35 seconds West 11.70 feet to a corner common to the National Park Service land and the land now or formerly belonging to A.W. Walker, thence with and binding on said Walker land and the land now or formerly belonging to Frank Bock mentioned above the four following courses and distances, viz: North 14 degrees 59 minutes 12 seconds East 68.07 feet to a monument heretofore planted, North 67 degrees 29 minutes 12 seconds East 79.08 feet to a monument heretofore planted, North 1 degree 29 minutes 12 seconds East 47.40 feet to a monument heretofore planted and North 79 degrees 38 minutes 12 seconds East 954.70 feet to the place of beginning.

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Being a part of the same tract of land which by deed dated March 16, 1942 and recorded among the land records of Montgomery County, Maryland, in Liber 875, folio 37, was granted and conveyed by Ida V. Garrity and Emma F. Garrity to W.C. and A.N. Miller Development Company.

Name of Purported Owner:	W.C. and A.N. Miller Development Co. A.N. Miller, President
Address of Purported Owner:	4830 Massachusetts Avenue, N.W. Washington 16, D.C.
	Corporation Trust, Inc., Resident Agent 10 Light Street Baltimore 2, Maryland
Estimated Compensation:	\$42,000.00

The gross sum estimated to be just compensation for the lands hereby taken is \$42,000.00.

UNITED STATES OF AMERICA,	:	IN THE DISTRICT COURT OF
Petitioner,	:	
	:	THE UNITED STATES
vs.	:	
	:	FOR THE DISTRICT OF MARYLAND
32.881 ACRES OF LAND, MORE OR LESS, :	:	
SITUATE IN MONTGOMERY COUNTY, STATE :	:	
OF MARYLAND, AND W. C. AND A. N. :	:	CIVIL NO. <u>2662</u>
MILLER DEVELOPMENT COMPANY, ET AL, :	:	
Defendants.	:	

JUDGMENT ON THE DECLARATION OF TAKING

This cause coming on for hearing upon motion of Wilmer A. Driver, Special Assistant to the Attorney General, attorney for the petitioner herein, to enter a judgment on the declaration of taking filed herein and for an order fixing the date for the surrender of possession of the land herein described to the petitioner, and upon consideration thereof and of the petition and declaration of taking filed herein and the statutes in such case made and provided, and it appearing to the satisfaction of the Court:

FIRST, that the United States of America is entitled to acquire property by condemnation under judicial process for the purposes set forth and prayed in said petition;

SECOND, that the declaration of taking filed herein contains or has annexed thereto a statement of the authority under which and the public use for which the lands hereinafter described are taken, a description of the said lands taken sufficient for the identification thereof, a statement of the estate or interest taken for the said public use, a plan showing the lands taken, and a statement of the sum of money estimated by

③ Filed 9 July 1945

the Secretary of War of the United States to be just compensation for the land taken in the total sum of \$42,000.00 and that said amount has been deposited into the registry of this Court for the use and benefit of the persons entitled thereto;

THIRD, that the said declaration of taking filed herein contains a statement that the Secretary of War of the United States, the head of the acquiring agency, is of the opinion that the ultimate award of just compensation will be within the limits prescribed by Congress as the price to be paid therefor;

NOW THEREFORE, IT IS ORDERED, ADJUDGED AND DECREED that the title to the said land in fee simple, subject however, to existing easements for public roads and highways, for public utilities, for railroads and for pipe lines, be vested in the United States of America upon the filing of the said declaration of taking and depositing in the registry of this Court the amount of estimated just compensation, which land is situate in the County of Montgomery, State of Maryland, and described as follows:

TRACT NO. 4

All that certain piece or parcel of land situate, lying and being in Montgomery County, State of Maryland, and more particularly described as follows:

Beginning for the same at a pipe in the center line of Sangamore Road at a corner common to the land now or formerly belonging to Frank Bock and the land now or formerly belonging to W.C. and A.N. Miller Development Company, of which the herein described land is a part, and running thence with and binding on the center line of Sangamore Road the three following courses and distances, viz: South 11 degrees 09 minutes 44 seconds East 38.54 feet, Southerly by a line curving toward the right with a radius of 2865 feet for a distance of 142.97 feet (the chord of said arc bears South 9 degrees

43 minutes 57 seconds East and is 142.88 feet long) and South 8 degrees 18 minutes 11 seconds East 1346.16 feet to a pipe and to the land now or formerly belonging to H.H. Donally, thence with and binding on said Donally land and along a wire fence there situate the four following courses and distances, viz: South 79 degrees 59 minutes 57 seconds West 15.64 feet, South 80 degrees 45 minutes 57 seconds West 250 feet to a pipe, South 85 degrees 46 minutes 57 seconds West 296.86 feet to a pipe and South 89 degrees 39 minutes 57 seconds West 133 feet to a monument heretofore planted on the outline of the land belonging to National Park Service, thence with and binding thereon the thirteen following courses and distances, viz: North 12 degrees 08 minutes 13 seconds West 173.13 feet to a monument heretofore planted, Northerly by a line curving toward the right with a radius of 524 feet for a distance of 233.93 feet to a monument heretofore planted (the chord of said arc bears North 19 degrees 25 minutes 37 seconds West and is 231.99 feet long), Northerly by a line curving toward the right with a radius of 524 feet for a distance of 131.75 feet to a monument heretofore planted (the chord of said arc bears North 0 degrees 33 minutes 54 seconds East and is 131.40 feet long) North 7 degrees 46 minutes 05 seconds East 45 feet to a monument heretofore planted, Northeasterly by a line curving toward the right with a radius of 125 feet for a distance of 81.89 feet to a monument heretofore planted (the chord of said arc bears North 26 degrees 32 minutes 10 seconds East and is 80.43 feet long), Northerly by a line curving toward the left with a radius of 100 feet for a distance of 90.98 feet to a monument heretofore planted (the chord of said arc bears North 19 degrees 14 minutes 17 seconds East and is 87.88 feet long), North 6 degrees 49 minutes 38 seconds West 84.84 feet to a monument heretofore planted, South 74 degrees 21 minutes 02 seconds West 271.96 feet to a monument heretofore planted, South 74 degrees 32 minutes 27 seconds West 193.39 feet to a monument heretofore planted, North 30 degrees 22 minutes 34 seconds West 127.50 feet to a monument heretofore planted, North 30 degrees 23 minutes 31 seconds West 142.27 feet to a monument heretofore planted, North 32 degrees 09 minutes 07 seconds East 181.94 feet to a monument heretofore planted, North 4 degrees 22 minutes 34 seconds West 199.57 feet to a monument heretofore planted, and South 74 degrees 54 minutes 35 seconds West 11.70 feet to a corner common to the National Park Service land and the land now or formerly belonging to A.W. Walker, thence with and binding on said Walker land and the land now or formerly belonging to Frank Bock mentioned above the four following courses and distances, viz: North 14 degrees 59 minutes 12 seconds East 68.07 feet to a monument heretofore planted, North 67 degrees 29 minutes 12

seconds East 79.08 feet to a monument heretofore planted, North 1 degree 29 minutes 12 seconds East 47.40 feet to a monument heretofore planted and North 79 degrees 38 minutes 12 seconds East 954.70 feet to the place of beginning.

Containing 32.881 acres of land, more or less. The bearings are referred to the Meridian of Dome of United States Capitol Building.

Being a part of the same tract of land which by deed dated March 16, 1942 and recorded among the land records of Montgomery County, Maryland, in Liber 875, folio 37, was granted and conveyed by Ida V. Garrity and Emma F. Garrity to W.C. and A.N. Miller Development Company.

and that said land is doomed to be condemned and taken for the United States of America, and the right to just compensation for the property so taken is vested in the persons entitled thereto; and the amount of such just compensation shall be ascertained and awarded in this proceeding and established by judgment herein pursuant to law, and

IT IS FURTHER ORDERED, ADJUDGED AND DECREED that immediate possession of all unoccupied portions of the said property shall be surrendered to the United States of America or its duly authorized agents, and that possession of all occupied portions of the above-described lands shall be surrendered to the United States of America or its duly authorized agents on or before the 20th day of July, 1945.

Entered this 9th day of July, 1945, at Baltimore, Maryland.


UNITED STATES DISTRICT JUDGE

(ORIGINAL)
WRIT OF SUMMONS

No. 2662
Civil

THE UNITED STATES OF AMERICA
DISTRICT OF MARYLAND, TO WIT:

The President of the United States of America to the
Marshal for the Maryland District, Greeting:

We command you that you summon

W. C. and A. N. MILLER DEVELOPMENT COMPANY, A. N. MILLER,
PRESIDENT; CORPORATION TRUST, INC., Resident Agent; COUNTY OF MONT-
GOMERY; STATE OF MARYLAND; and any and all of the unknown owners,
claimants and other persons interested in the land described in the
petition hereinafter referred to, and any and all of the unknown
heirs, alienees, devisees, claimants, executors, administrators and
assigns of the foregoing defendants, and any and all other persons
interested or claiming to be interested in said land, whose places
of residence and addresses are unknown

if they be found in your district to show cause by filing in writing
in the District Court of the United States for the District of Mary-
land, in the City of Baltimore, within ten days after the 28th day
of July, 1945, their reasons, if any they have, why the property
mentioned in the Petition of the United States of America for the
condemnation of 32.881 Acres of Land, more or less, situate in
Montgomery County, State of Maryland, or the said defendants in-
terests therein, should not be condemned as prayed, and said de-
fendants are hereby commanded and notified to set forth their
separate ownerships, claims, interests, titles, estates, rights or
liens, if any in on or against said property; and said defendants
are further notified that their interests in said property will be
adjudicated and forever determined by these proceedings and that
the award for said land will be disposed of as the Court may direct;

and how you shall
execute this precept you make known to us in our District Court for
the District aforesaid, and have you then and there this Writ.

WITNESS the Honorable WILLIAM C. COLEMAN, Judge
of our District Court this 9th day of July,
in the year of our Lord, one thousand nine
hundred forty-five.

Issued 9th July, 1945.

Charles W. Zimmermann
CHARLES W. ZIMMERMANN,
Clerk.

4 Filed 23 July 1945.

Summoned W. C. and A. N. Miller Development Co., A. N. Miller President by service on the Corporation Trust Inc. by serving James Watson its Res. Agt.; also summoned County of Montgomery by service upon Edith Allnut, Asst. Clerk to the Board; also the State of Maryland by service upon William Curran, its Attorney General and a copy of Writ - Petition for Condemnation - Judgment on the Declaration of Taking and Order of Court left with each of them this 17th. day of July, 1945

All nonresident and unknown defendants' summoned by posting on the premises described in the Petition, a copy of the Petition - Judgment on the Declaration of Taking - Writ and Order this 17th. day of July, 1945

August Klecka, U. S. Marshal

By *William J. Paul* Deputy

253
20548

135 Lencov (Court 1945)

IN THE DISTRICT COURT OF THE UNITED STATES
FOR THE DISTRICT OF MARYLAND

UNITED STATES OF AMERICA, :
 :
 Petitioner, :
 :
 vs. :
 : CIVIL No. 2662.
 :
 32.881 ACRES OF LAND, MORE OR :
 LESS, SITUATE IN MONTGOMERY :
 COUNTY, STATE OF MARYLAND, AND :
 W.C. AND A.N. MILLER DEVELOPMENT :
 COMPANY, ET AL., :
 :
 Defendants. :

ANSWER OF THE COUNTY OF MONTGOMERY, AND THE
STATE OF MARYLAND, TO PETITION FOR CONDEMNATION HEREIN.

TO THE HONORABLE, THE JUDGES OF SAID COURT:-

Now comes the Board of County Commissioners of Montgomery County, Maryland, a body corporate, as a party in interest in the above-entitled cause, by and through its Attorney, Joseph A. Cantrel, and for Answer to the petition for condemnation filed herein, states as follows:

1,2,3,4,5,6. That it admits all of the allegations contained in said petition for condemnation in paragraphs 1,2,3,4,5 and 6 thereof.

For further answer to said petition it says that it is a party in interest in said condemnation proceedings, and that there is due it for State and County taxes upon the lands sought to be condemned, the aggregate amount of One Thousand One Hundred Ninety-five Dollars and Seventy Cents (\$1,195.70), for the levy of 1945, for the fiscal year commencing July 1, 1945, in accordance with the tax bill pertaining thereto and hereto annexed as "Exhibit A", and specifically made part hereof, and for which it claims a lien on said lands, and requests judgment in that amount.

And having fully answered, etc.

BOARD OF COUNTY COMMISSIONERS OF
MONTGOMERY COUNTY, MARYLAND, A BODY
CORPORATE

(5)
Filed August 1945

By: *Joseph A. Cantrel*
Joseph A. Cantrel
Attorney
Court House, Rockville, Md.

DISTRICT OF COLUMBIA, ss:-

Before me, the undersigned, a Notary Public in and for the District of Columbia, personally appeared JOSEPH A. CANTREL, Attorney to the Board of County Commissioners of Montgomery County, Maryland, a Body Corporate, and made oath in due form of law that the matters and facts set forth in the foregoing annexed Answer by him subscribed are true to the best of his knowledge, information and belief.

SWORN to before me this 3rd day of August, 1945.

Letitia Armistead
Letitia Armistead
Notary Public, D.C.

A copy of the foregoing annexed Answer was served upon Wilmer H. Driver, Esq., Special Assistant to the Attorney General, as Attorney for the Petitioner, by mailing same postpaid to him, this 3rd day of August, 1945, addressed to him at 720 Mansey Building, Baltimore 2, Maryland.

Joseph A. Cantrel
Joseph A. Cantrel
Attorney for defendant, Board of County Commissioners of Montgomery County, Maryland, a Body Corporate.

EXHIBIT A

LEVY 1945
 NEXT APPROPRIATIONS FOR FISCAL
 YEAR BEGINNING JULY 1, 1945

To: **JOHN B. DIAMOND, Treasurer of Montgomery County, Md., Dr.**
 ROCKVILLE, MARYLAND

TAXABLE YEAR
 JULY 1, 1945 TO JUNE 30, 1946
 PER CHAPTER 278 ACTS OF 1941

TREASURER'S COPY (RETURN WITH REMITTANCE)				IMPORTANT NOTICES				AMOUNT OF TAX (See Rate Schedule Enclosed) NOW DUE							
SEE IMPORTANT NOTICE ON REVERSE OF TAXPAYER'S COPY				MAKE CHECKS PAYABLE TO JOHN B. DIAMOND, Treasurer OFFICE HOURS 9 A. M. to 3 P. M.—SATURDAY 9 A. M. to 12 M. PAYMENTS BY MAIL SHOULD BE ADDRESSED TO TREASURER OF MONTGOMERY COUNTY COURT HOUSE, ROCKVILLE, MD.				STATE & COURT TAX				SPECIAL AREA TAX			
								INTEREST AT 6 PER CENT FROM OCTOBER 1, 1945				To Salary Commission Front Foot Bench Charge			
DESCRIPTION OF PROPERTY LAND IMPROVEMENTS PERSONAL ASSESSMENT 50865 1000 51865 C&D LOT BLOCK ADDRESS, PT. RATE SYMBOL 121.743A MSDR OAK HILL				ADVERTISING COSTS				GRAND TOTAL							
				780-3387				1,195.70							

FIRST AND LAST NOTICE EXCEPT UPON REQUEST—BRING BOTH COPIES OF BILL WITH YOU WHEN PAYING TAX

W. C. & A. N. MILLER DEV CO.
 1119 - 17TH STREET, N.W.
 WASHINGTON, D.C.

EXHIBIT A

IN THE DISTRICT COURT OF THE UNITED STATES
FOR THE DISTRICT OF MARYLAND

UNITED STATES OF AMERICA :
 :
 Petitioner :
 :
 vs. : Civil No. 2662
 :
 32.881 ACRES OF LAND, MORE :
 OR LESS, SITUATED IN MONT- :
 GOMERY COUNTY, STATE OF :
 MARYLAND, AND W.C. AND A.N. :
 MILLER DEVELOPMENT COMPANY, :
 ET AL., :
 :
 Defendants :

ANSWER OF W.C. AND A.N. MILLER DEVELOPMENT COMPANY
TO PETITION FOR CONDEMNATION

TO THE HONORABLE, THE JUDGES OF SAID COURT:

Comes now the respondent, W.C. and A.N. Miller Development Company, a Delaware corporation, and for answer to the petition for condemnation, filed herein, respectfully shows:

1. The respondent is without sufficient information to either admit or deny the allegations with respect to the appropriation or availability as alleged; and is informed that the other allegations are conclusions of law which it is not called upon to answer herein.

2. This respondent is without sufficient information to either admit the allegations in this paragraph contained or deny the same.

3. This respondent admits that the United States has taken the property proposed to be condemned, but is without sufficient information to either admit or deny the other allegations in said paragraph three contained.

4. This respondent admits that the land proposed to be condemned contains approximately 32.881 acres and is located

6

Filed 11th August, 1945.

in Montgomery County, Maryland, but is without sufficient information to either admit or deny the further allegations in said paragraph four contained.

5. Answering the allegations in paragraph five contained, this respondent admits that it is the owner of the land proposed to be condemned subject to the balance remaining due and unpaid under a purchase money first trust, and denies that there are any unpaid taxes and assessments of which it has knowledge. Attached hereto as a part hereof, marked "Respondent's Exhibit A" is Certificate of Title of The Suburban Title and Investment Corporation showing the condition of the title of the land proposed to be condemned, all of which is embraced within the "Caption" of said certificate, which title is unchanged as therein reported, excepting that the amount due upon the aforesaid purchase money first trust has been reduced in amount so that there is now due and unpaid the sum of Eight Thousand Ten and 45/100 -- Dollars (\$8,010.45) with interest thereon at the rate of four per cent (4%) per annum until paid.

6. This respondent is without information as to any interest on the part of anyone in the land proposed to be condemned other than (a) this respondent, (b) the State of Maryland for taxes not yet due and payable when the taking by the United States of America took place, and (c) the trustees and the parties secured under the purchase money first trust as shown in the "Respondent's Exhibit A" hereto attached.

Further answering, this respondent says that the land taken was of the fair market value as of the date of taking of Seven Thousand Dollars (\$7,000.00) per acre; and it is respect-

fully requested that just compensation be promptly awarded respondent, pending which the sum of Forty-two Thousand Dollars deposited into the Registry of the Court, or such part thereof as to the Court may seem meet and proper, may be paid over to the parties entitled thereto as enumerated herein, and that interest be allowed respondent as permitted by law.

W.C. AND A.N. MILLER
DEVELOPMENT COMPANY

By *Dean J. Lockman*
Vice President

Attest:

John H. Miller Jr.
Secretary

(Corporation Seal)

W. Carroll Beatty
W. Carroll Beatty
4316 Hamilton Street
Hyattsville, Maryland

Dion S. Birney
Dion S. Birney
1422 F Street, N.W.
Washington, D.C.

WILKES, MCGARRAGHY & ARTIS

By *James C. Wilkes*
1405 K Street, N.W.
Washington 3, D.C.

LANDS DIVISION

720 Mausey Building
Baltimore 2, Maryland
October 11, 1946

The Attorney General
Lands Division
Condemnation Section
Department of Justice
Washington 25, D. C.

United States v. 32.881 Acres of Land, more or
less, situate in Montgomery County, State of
Maryland, and W. C. and A. N. Miller Development
Company, et al. Civil 2662 33-21-316-1

Dear Sir:

Enclosed herewith is the final certificate of title
in connection with the above-captioned condemnation proceeding.

Our records on this case have now been marked "Closed."

Very truly yours,

August A. Koslovsky
Special Attorney

mek

Enclosure

CC: Mr. Charles W. Zimmermann, Clerk
of the United States District Court

to

ALL th at certain piece or parcel of land and premises situate, lying and being in Montgomery County, in the State of Maryland, known and distinguished as Part of "Friendship", "Brooke Park", etc., described according to plat of survey made by C. J. Maddox, dated January 26, 1942, as follows:- SEE ANNEXED SCHEDULE "A",

The Suburban Title and Investment Corporation

for a valuable consideration, hereby certifies that an examination of the title to the property described above among the Land Records for said County, to the date hereof, shows the same to be, according to said Records, as indexed in the office of the Clerk, good in fee simple in

W. C. AND A. N. MILLER DEVELOPMENT COMPANY (a Delaware Corporation),

subject only to such taxes and assessments, if any, as may be due and unpaid, and to such covenants, liens, encumbrances, objections, defects or other matters as are noted or mentioned in the annexed Schedule "A".

This Certificate is issued to W. C. and A. N. Miller Development Company, owner,

and for its benefit only and upon condition that the liability of this Company shall be limited in any event to the sum of Ninety Thousand, Five Hundred and Ten and 45/100 (90,510.45) Dollars.

DATED:

May 8, 1942
2:33 o'clock P.M.

THE SUBURBAN TITLE AND
INVESTMENT CORPORATION

BY


President

ATTEST:


Secretary

January, 1937 by the Loughborough Development Corporation to Ida V. Garrity, et al, for 142.6165 acres of land, and recorded in Liber 654, at folio 72, one of the Land Records of Montgomery County, Maryland; thence with the lines of said land (1) South 76 degrees 19 minutes 15 seconds West, 196.22 feet to a stone marked "E-1"; (2) South 76 degrees 39 minutes 45 seconds West, 1478.93 feet to an iron pipe in the center of Sangamore Road extended; (3) South 79 degrees 40 minutes 40 seconds West, 955.50 feet to a stone marked "L-1"; (4) South 01 degrees 19 minutes 50 seconds West, 47.40 feet to a stone; (5) South 67 degrees 34 minutes 55 seconds West, 79.16 feet to a stone; (6) South 14 degrees 59 minutes 12 seconds West, 68.07 feet to a monument placed at the end of the third line of a conveyance made the 9th day of August, 1932, by the Loughborough Development Corporation to United States of America for 7.602 acres of land, and recorded in Liber 542 at folio 40, one of the Land Records of said County; thence with the lines of said conveyance (7) North 74 degrees 54 minutes 35 seconds East 11.70 feet to a monument (8) South 04 degrees 22 minutes 34 seconds East, 199.57 feet to a monument; (9) South 32 degrees 09 minutes 07 seconds West, 181.94 feet to a monument; (10) South 30 degrees 23 minutes 31 seconds East, 142.27 feet to a monument; (11) South 30 degrees 22 minutes 34 seconds East, 127.50 feet to a monument; (12) North 74 degrees 32 minutes 27 seconds East, 193.39 feet to a monument; (13) North 74 degrees 21 minutes 02 seconds East, 271.96 feet to a monument; (14) South 06 degrees 49 minutes 38 seconds East, 84.84 feet to a monument; (15) thence on a curve to the right, having a radius of 100 feet for a distance of 90.98 feet to a monument; (16) thence on a curve to the left, having a radius of 125 feet, for a distance of 81.89 feet to a monument; (17) thence South 07 degrees 46 minutes 05 seconds West, 45.00 feet to a monument; (18) thence on a curve to the left, having a radius of 524 feet for a distance of 131.75 feet to a monument; (19) thence still on a curve to the left, having a radius of 524.00 feet for a distance of 233.93 feet to a monument; (20) South 12 degrees 08 minutes 13 seconds East, 173.13 feet to a monument now placed at the end of the 12th line of the first mentioned conveyance from Loughborough Development Corporation to Garrity; thence with the lines of said conveyance (21) North 89 degrees 41 minutes 10 seconds East, 133.00 feet to an iron pipe; (22) North 85 degrees 50 minutes 15 seconds East, 297.19 feet to an iron pipe; (23) North 80 degrees 48 minutes 25 seconds East, 250.05 feet to an iron pipe; (24) North 80 degrees 02 minutes 30 seconds East, 877.44 feet to an iron pipe; (25) North 01 degree 47 minutes 10 seconds West, 1187.40 feet to a large white oak tree; (26) North 70 degrees 18 minutes 20 seconds East, 544.77 feet to a stone marked "B"; (27) South 60 degrees 15 minutes 40 seconds East, 330.56 feet to a stone marked "C"; (28) South 36 degrees 35 minutes 40 seconds East, 535.84 feet to a stone, the end of the third line of 3.92 acres of land acquired from Ida V. Garrity et al by the Metropolitan Southern Railroad Company, and recorded in Liber J. A. No. 8 at folio 213, one of the Judgment Records of said County; thence along the Westerly line of said conveyance (29) North 02 degrees 55 minutes East, 517.73 feet to a stone; (30) thence on a curve to the right, having a radius of 1206.00 feet for a distance of 573.57 feet to a stone; (31) North 30 degrees 10 minutes East, 566.71 feet to a stone, the end of 772.04 feet on the 25th line of the first mentioned conveyance from Loughborough to Garrity; thence leaving said railroad line and with the line of said conveyance, (32) North 04 degrees 52 minutes 24 seconds West, 408.52 feet to a stone; (33) North 29 degrees 51 minutes 20 seconds East, 1088.85 feet to a stone marked "B.P." in the right of way for Massachusetts Avenue; thence (34) South 79 degrees 11 minutes West, 1591.83 feet to a stone marked "B.L."; thence (35) South 01 degrees 58 minutes 30 seconds East, 1632.50 feet to the place of beginning, containing 121.8806 acres of land;

Item No. 2

W. C. and A. N. Miller
Development Company
(Delaware Corp.)

to

Frederick Stohlman
William Copenhaver

TRUST

Dated May 4, 1942

Recorded May 8, 1942

Liber , folio

Caption.

SECURES Ida V. Garrity and Emma F. Garrity, or the survivor, \$70,510.45, deferred purchase money; one note bearing even date herewith, with interest until paid on said principal sum or on so much thereof as may from time to time remain unpaid at the rate of 4 per centum per annum, payable semi-annually; said principal sum payable as follows:- \$12,500.00 on the 4th day of June, 1943 and \$12,500.00 on the 4th day of each December and June thereafter until paid.

Said note provides that if default be made in the payment of any one of the aforesaid instalments, the unpaid balance of the aforesaid principal sum shall, at the option of the holder thereof, at once become and be due and payable.

Privilege is reserved of making additional payments on account of the principal at any time after date of said above noted deed of trust in sums of \$1,000.00 or multiples thereof.

Said note has been identified by The Suburban Title and Investment Corporation as is evidenced by its certificate thereon.

Said deed of trust provides for partial releases.

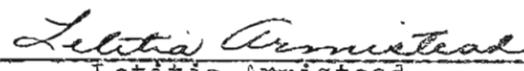
Item No. 3

The Treasurer reports State and County Taxes paid thru the year ending June 30, 1942.

DISTRICT OF COLUMBIA, ss:-

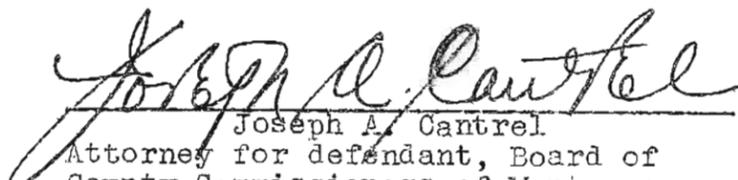
Before me, the undersigned, a Notary Public in and for the District of Columbia, personally appeared JOSEPH A. CANTREL, Attorney to the Board of County Commissioners of Montgomery County, Maryland, a Body Corporate, and made oath in due form of law that the matters and facts set forth in the foregoing annexed Supplemental Answer by him subscribed are true to the best of his knowledge, information and belief.

SWORN to before me this 6th day of February, 1946.



Letitia Armistead
Notary Public, D.C.
My Commission expires Feb. 1, 1947

A copy of the foregoing Supplemental Answer was served upon Wilmer H. Driver, Esq., Special Assistant to the Attorney General and Attorney for the Petitioner, by mailing same postpaid to him, this 6th day of February, 1946, addressed to him at 720 Munsey Building, Baltimore, 2, Maryland.



Joseph A. Cantrel
Attorney for defendant, Board of
County Commissioners of Montgomery
County, Maryland, a Body Corporate.

UNITED STATES DISTRICT COURT

OFFICE OF THE CLERK
DISTRICT OF MARYLAND

BALTIMORE, MD.

Dear Sir or Madam:

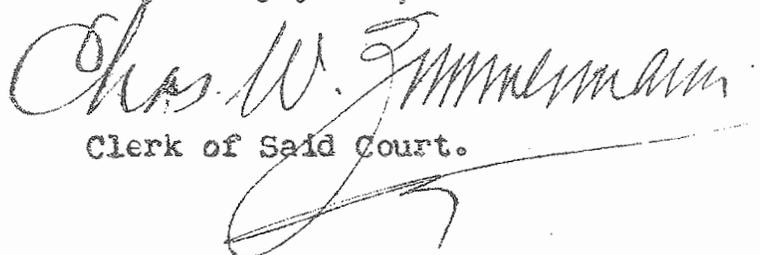
Re: No. 262 Civil Docket.

It appears that you are one of the property owners in the above entitled Government condemnation proceeding which, along with a number of other similar cases, the Government has asked the Court to set down for trial on a definite date since these cases have been pending for a long while.

You were duly served in this proceeding with copy of the Government's petition and notice to answer the same but no further steps have been taken by you to obtain by judgment such compensation as you may be entitled to.

Accordingly, this case has been set for trial and final disposition on 5 day of March, 1946, at ten a.m., in the United States District Court, for the District of Maryland, Post Office Building, Baltimore 2, Maryland, at which time if you desire to protect your interest, you should appear, - and be represented by counsel, if you so desire, - and be prepared to submit evidence in support of your claim.

Very truly yours,


Clerk of Said Court.

CWZ:iwj

Letters mailed on February 1, 1946.

CIVIL 2662 - March 5, 1946

Attorney

W. C. and A. N. Miller Development Co. James C. Wilkes, Esquire
A. N. Miller, President Tower Building
4830 Massachusetts Avenue, N. W. Washington 5, D. C.
Washington 16, D. C.

Corporation Trust, Inc.
James Watson, Resident Agent
10 Light Street
Baltimore 2, Maryland

William Curran, Esquire
The Attorney General
for the State of Maryland
O'Sullivan Building
Baltimore, Maryland

The Board of County Commissioners of Montgomery Co.
Montgomery County, Maryland

UNITED STATES DISTRICT COURT
OFFICE OF THE CLERK
DISTRICT OF MARYLAND

BALTIMORE, MD.

Dear Sir:

Re: No. 2262 Civil Docket.

It appears that you represent one or more of the property owners in the above entitled Government condemnation proceedings which, along with a number of other similar cases, the Government has asked the Court to set down for trial on a definite date since these cases have been pending for a long while.

Accordingly this case has been set for trial and final disposition on the 22 day of March, 1946, at 10 o'clock a.m. in the United States District Court for the District of Maryland, Post Office Building, Baltimore 2, Maryland, at which time, if you desire to protect the interests of your client, you should appear and be prepared to submit evidence in support of your client's claim.

Yours very truly,


Clerk of Said Court.

CWZ:iwj

That your petitioner, W. C. and A. N. Miller Development Company is advised that it is necessary for them in order to procure advance payment from such sum deposited before final judgment to file this petition and procure an order of this Honorable Court authorizing and directing the Clerk of this Court to pay to your petitioner, W. C. and A. N. Miller Development Company, out of the registry of this Court such advance payment.

WHEREFORE, your petitioner prays:

That an order be entered authorizing and directing the Clerk of the District Court of the United States for the District of Maryland to pay to your petitioner, W. C. and A. N. Miller Development Company, out of the sum of Forty-two Thousand Dollars (\$42,000.00) deposited in the registry of this Court by the United States of America an advance payment in the sum of Thirty-one Thousand Five Hundred Dollars (\$31,500.00) without prejudice to any of the rights of your petitioner, W. C. and A. N. Miller Development Company, to have the amount of just compensation due for their land so taken determined as provided by law.

W. C. AND A. N. MILLER DEVELOPMENT
COMPANY

By William N. Miller

DISTRICT OF COLUMBIA, ss:

I HEREBY CERTIFY that on this 22 day of March, 1946, before me, the subscriber, a Notary Public of the District of Columbia, personally appeared William N. Miller, who is President of petitioner and authorized to subscribe petitioner's name hereto and made oath in due form of law that the matters and facts set forth in the foregoing petition are

true to the best of his knowledge, information and belief.

As witness my hand and notarial seal.

Robert H. Rice

Notary Public, D.C.

*2340 Foulk Road N
Washington DC*

Dion S. Birney

Dion S. Birney
1422 F Street, N.W.

James C. Wilkes

James C. Wilkes
501 Tower Building
Attorneys for Petitioner

UNITED STATES OF AMERICA, : IN THE DISTRICT COURT OF THE
 Petitioner :
 : UNITED STATES
 vs. :
 : FOR THE DISTRICT OF MARYLAND
 32.881 ACRES OF LAND, MORE OR :
 LESS, SITUATE IN MONTGOMERY : CIVIL NO. 2662
 COUNTY, STATE OF MARYLAND, AND :
 W. C. AND A. N. MILLER DEVELOPMENT, : PARCEL NO. 4
 COMPANY, ET AL., Defendants
 ANSWER TO PETITION FOR ADVANCE
 WITHDRAWAL

The answer of the United States of America and Wilmer H. Driver, Special Assistant to the Attorney General, and August A. Kozlovsky, Special Attorney, Department of Justice, to the petition of W. C. and A. N. Miller Development Company, owner(s) and claimant(s) of Parcel No. 4 and party(ies) defendant in this proceeding, for an order of Court directing payment of the sum of \$ 31,500.00 out of the deposit in the registry of this Court of the sum of \$ 12,000.00 heretofore deposited as estimated compensation for the taking of said Parcel No. 4, respectfully shows:

That copies of the petition for condemnation, declaration of taking No. 1 and judgment on the declaration of taking No. 1 have been served on the defendant(s), W. C. and A. N. Miller Development Company, and in addition thereto have been posted on the premises of Parcel No. 4 involved herein.

That no claimants other than W. C. and A. N. Miller Development Company have appeared or asserted any claims whatsoever against said Parcel.

That the United States of America has ascertained by title examination that at the time the said petition for condemnation was filed, the said W. C. and A. N. Miller Development Company, was(were) sole owner(s) of Parcel No. 4 and that there were no interests in or claims against the same outstanding.

That this respondent assents to the passage of the order prayed without prejudice to the rights of the United States of America or the defendant(s) to have the just compensation for the land taken under this proceeding determined according to law in either a lower or a higher sum than the amount of the deposit, but the petitioner hereby admits that the just compensation payable for the taking of said land is not less than the sum of \$31,500.00 ; and provided further that the consideration of the admission herein made by the United States of America shall not be submitted to the Jury at the time of the trial of this case.

UNITED STATES OF AMERICA

BY Wilmer H. Driver
Wilmer H. Driver, Special
Assistant to the Attorney General

August A. Szlovsky
Special Attorney, Department
of Justice

720 Munsey Building
Baltimore 2, Maryland.

ORDER OF COURT.

Upon the foregoing petition of W. C. and A. N. Miller
Development Company
owner(s) and claimant(s) of Parcel No. 4, and the answer of the
United States of America to said petition, it is this 10th day of
April, 1946.

ORDERED that Charles W. Zimmermann, Clerk of the District
Court of the United States for the District of Maryland be, and he
is hereby authorized and directed to pay to W. C. and A. N. Miller
Development Company
the sum of \$31,500.00 out of the funds on deposit in the registry
of this Court as to Parcel No. 4 upon taking proper receipt
therefor, the said amount to be chargeable against the ultimate
award made in this proceeding for the taking of said Parcel No. 4.

W. Caber Chesnut
UNITED STATES DISTRICT JUDGE

We assent and agree to the
passage of the above Order:

Wilmer H. Driver
Wilmer H. Driver, Special Assistant
to the Attorney General

August A. Zlosky
Special Attorney, Department of
Justice

720 Munsey Building
Baltimore 2, Maryland

That the above recited award is made for the taking of the fee simple title in the property described as follows, subject, however, to existing easements for public roads and highways, for public utilities, for railroads and for pipe lines:

TRACT NO. 4

All that certain piece or parcel of land situate, lying and being in Montgomery County, State of Maryland, and more particularly described as follows:

Beginning for the same at a pipe in the center line of Sangamore Road at a corner common to the land now or formerly belonging to Frank Bock and the land now or formerly belonging to W.C. and A.N. Miller Development Company, of which the herein described land is a part, and running thence with and binding on the center line of Sangamore Road the three following courses and distances, viz: South 11 degrees 09 minutes 44 seconds East 38.54 feet. Southerly by a line curving toward the right with a radius of 2865 feet for a distance of 142.97 feet (the chord of said arc bears South 9 degrees 43 minutes 57 seconds East and is 142.88 feet long) and South 8 degrees 18 minutes 11 seconds East 1346.16 feet to a pipe and to the land now or formerly belonging to H.H. Donally, thence with and binding on said Donally land and along a wire fence there situate the four following courses and distances, viz: South 79 degrees 59 minutes 57 seconds West 15.64 feet, South 80 degrees 45 minutes 57 seconds West 250 feet to a pipe, South 85 degrees 46 minutes 57 seconds West 296.86 feet to a pipe and South 89 degrees 39 minutes 57 seconds West 133 feet to a monument heretofore planted on the outline of the land belonging to National Park Service, thence with and binding thereon the thirteen following courses and distances, viz: North 12 degrees 08 minutes 13 seconds West 173.13 feet to a monument heretofore planted. Northerly by a line curving toward the right with a radius of 524 feet for a distance of 233.93 feet to a monument heretofore planted (the chord of said arc bears North 19 degrees 25 minutes 37 seconds West and is 231.99 feet long), Northerly by a line curving toward the right with a radius of 524 feet for a distance of 131.75 feet to a monument heretofore planted (the chord of said arc bears North 0 degrees 33 minutes 54 seconds East and is 131.40 feet long) North 7 degrees 46 minutes 05 seconds East 45 feet to a monument heretofore planted, Northeasterly by a line curving toward the right with a radius of 125 feet for a distance of 81.89 feet to a monument heretofore planted (the chord of said arc bears North 26 degrees 32 minutes 10 seconds East and is 80.43 feet long), Northerly by a line curving toward the left with a radius of 100 feet for a distance of 90.98 feet to a monument heretofore planted (the chord of said arc bears North 19 degrees 14 minutes 17 seconds

East and is 87.88 feet long), North 6 degrees 49 minutes 38 seconds West 84.84 feet to a monument heretofore planted, South 74 degrees 21 minutes 02 seconds West 271.96 feet to a monument heretofore planted, South 74 degrees 32 minutes 27 seconds West 193.39 feet to a monument heretofore planted, North 30 degrees 22 minutes 34 seconds West 127.50 feet to a monument heretofore planted, North 30 degrees 23 minutes 31 seconds West 142.27 feet to a monument heretofore planted, North 32 degrees 09 minutes 07 seconds East 181.94 feet to a monument heretofore planted, North 4 degrees 22 minutes 34 seconds West 199.57 feet to a monument heretofore planted, and South 74 degrees 54 minutes 35 seconds West 11.70 feet to a corner common to the National Park Service land and the land now or formerly belonging to A.W. Walker, thence with and binding on said Walker land and the land now or formerly belonging to Frank Bock mentioned above the four following courses and distances, viz: North 14 degrees 59 minutes 12 seconds East 68.07 feet to a monument heretofore planted, North 67 degrees 29 minutes 12 seconds East 79.08 feet to a monument heretofore planted, North 1 degree 29 minutes 12 seconds East 47.40 feet to a monument heretofore planted and North 79 degrees 38 minutes 12 seconds East 954.70 feet to the place of beginning.

Containing 32.881 acres of land, more or less.
The bearings are referred to the Meridian of Dome of United States Capitol Building.

Being a part of the same tract of land which by deed dated March 16, 1942 and recorded among the land records of Montgomery County, Maryland, in Liber 875, folio 37, was granted and conveyed by Ida V. Garrity and Emma F. Garrity to W.C. and A.N. Miller Development Company.

We, the Jury, further find generally for the United States of America, the Petitioner herein, that it is entitled to condemn the land described in the said Petition for Condemnation and the Declaration of Taking and to acquire fee simple title thereto, subject, however, to existing easements for public roads and highways, for public utilities, for railroads and for pipe lines, for the reasons and on the grounds alleged in the petition for Condemnation and the Declaration of Taking upon payment of the damages as aforesaid.

DISTRICT COURT OF THE UNITED STATES FOR THE DISTRICT OF MARYLAND

UNITED STATES OF AMERICA

Petitioner

vs.

32.881 acres of land, more or
less, situate in Montgomery
County, State of Maryland, and
W. C. and A. N. Miller Development
Company, et al

Defendants

:

:

:

:

:

:

:

Civil No. 2662

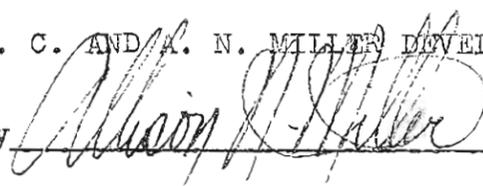
Parcel No. 4

Mr. Clerk:

Please enter a credit of Thirty-one Thousand Five
Hundred Dollars (\$31,500.00) on any judgment hereafter to be
rendered in favor of the undersigned in the above-entitled case.

W. C. AND A. N. MILLER DEVELOPMENT
COMPANY

By



Filed 10 April 1946

DISTRICT COURT OF THE UNITED STATES FOR THE DISTRICT OF MARYLAND

UNITED STATES OF AMERICA,

Petitioner,

v.

32.881 Acres of land, more or
less, in Montgomery County, Maryland,
and W. C. and A. N. Miller Develop-
ment Co.,

Defendants.

Civil No. 2662

PROPERTY OWNERS FOR INSTRUCTION NO. 1

Each parcel sought to be condemned is to be appraised at its present fair market value with reference to the most valuable use or uses to which it could be lawfully put, if no act of Congress had been enacted authorizing the acquisition of such land for public purposes and if no proceedings had been instituted for its condemnation.

Such present fair market value is to be determined as of the date of July 9, 1945.

(10)

Filed 21 May 1946

DISTRICT COURT OF THE UNITED STATES FOR THE DISTRICT OF MARYLAND

UNITED STATES OF AMERICA,

Petitioner,

v.

Civil Action No. 2662

32.881 Acres of land, more or
less, in Montgomery County,
Maryland, and W. C. and A. N.
Miller Development Co.,

Defendants.

PROPERTY OWNERS FOR INSTRUCTION NO. 2

By fair market value is meant what the property would sell for in cash, or on terms of reasonable credit equivalent to cash, by one who is willing but is not obliged to sell, to one who desires but is not obliged to buy.

1. U. S. District Court for District of Columbia:

Given as Instruction III in Dist. Ct. No. 2118, (Capitol Grounds), and Dist. Ct. No. 2411 (East Capitol St.), etc.

2. Kerr v. South Park Commissioners, 117 U. S. 379, 386. See Shoemaker v. United States, 147 U. S. 282, 304. Breck v. Baltimore, 125 Md. 378.

DISTRICT COURT OF THE UNITED STATES FOR THE DISTRICT OF MARYLAND

UNITED STATES OF AMERICA,)	
)	
Petitioner,)	
)	
v.)	Civil Action No. 2662
)	
32.881 Acres of land, more or)	
less in Montgomery County,)	
Maryland, and W. C. and A. N.)	
Miller Development Co.,)	
)	
Defendants.)	

PROPERTY OWNERS FOR INSTRUCTION NO. 3

The sales and sales contracts admitted in evidence should be considered by the jury in so far as such sales or sales contracts, looking at the circumstances of each instance, may evidence or throw light upon the fair market value of the land to be condemned unaffected by the Government's declared intention to acquire land for the public purposes.

Kerr v. South Park Comm'ers., 117 U. S. 379, 384, 386
Shoemaker v. United States, 147 U. S. 282, 302, 304.
2 Nichols Em. Dom., sec. 455, p. 1196.
2 Lewis Em. Dom., sec. 652, p. 1138.
Baltimore v. Smith, 80 Md. 458.
Patterson v. Baltimore, 127 Md. 233.

DISTRICT COURT OF THE UNITED STATES FOR THE DISTRICT OF MARYLAND

UNITED STATES OF AMERICA,)	
Petitioner,)	
v.)	Civil Action No. 2662
32.881 Acres of land, more or)	
less in Montgomery County,)	
Maryland, and W. C. and A. N.)	
Miller Development Co.,)	
Defendants.)	

PROPERTY OWNERS FOR INSTRUCTION NO. 4

The duty to be performed by the jury in this case is to ascertain and award just compensation for the parcel of land to be taken in this proceeding for public use.

Just compensation means compensation which is just to the individual whose property is taken and to the United States of America which is to pay for it and as estimated by the jury should represent the true value of the property of which the owners will be deprived by the appropriation of the same to public use by the United States.

Bauman v. Ross, 167 U. S. 548, 574.
Searl v. Lake County Square District, 133 U. S. 553, 562.

DISTRICT COURT OF THE UNITED STATES FOR THE DISTRICT OF MARYLAND

UNITED STATES OF AMERICA,

Petitioner,

v.

32.881 Acres of land, more or
less in Montgomery County,
Maryland, and W. C. and A. N.
Miller Development Co.,

Defendants.

Civil Action No. 2662

PROPERTY OWNERS FOR INSTRUCTION NO. 5

The market value of the land is not limited to its value for the use or uses to which it is now being applied by the owners thereof or the value indicated by their present income from such property. If the whole or any part of said land is peculiarly adapted by its location, surroundings, natural advantage or intrinsic character, to some particular use or uses which gives it a higher market value than it would otherwise have, the circumstance or circumstances which make up such peculiar adaptability for such particular use or uses, shall be considered and the amount awarded as compensation for the land should be based upon its present fair market value in view of the most valuable use or uses for which it is shown to be adapted.

By the most valuable use or uses to which the property can or may be put, is meant either some existing use, or one which the evidence shows is so reasonably likely in the near future that the availability of the property for that use would affect its present market price and would now be taken into account by a purchaser under fair market conditions.

McKinney v. Nashville, 102 Tenn. 131.
Five Tracts of Land v. United States, 101 Fed. 661.

DISTRICT COURT OF THE UNITED STATES FOR THE DISTRICT OF MARYLAND

UNITED STATES OF AMERICA,

Petitioner,

v.

32.881 Acres of land, more or
less in Montgomery County,
Maryland, and W. C. and A. N.
Miller Development Co.,

Defendants.

Civil Action No. 2662

PROPERTY OWNERS FOR INSTRUCTION NO. 6

The jury are instructed that they shall not permit themselves to become informed in any manner with respect to the assessment valuation placed on the property for purposes of taxation, nor is the assessment any guide in determining the fair market value of the property condemned in this case.

UNITED STATES OF AMERICA,	:	IN THE DISTRICT COURT OF THE
Petitioner	:	
	:	UNITED STATES
vs.	:	
	:	FOR THE DISTRICT OF MARYLAND
32.881 ACRES OF LAND, MORE	:	
OR LESS, SITUATE IN MONT-	:	CIVIL NO. 2662
GOMERY COUNTY, STATE OF	:	
MARYLAND, AND W. C. AND A. N.	:	
MILLER DEVELOPMENT COMPANY,	:	
ET AL.,	:	
Defendants	:	

ORDER OF COURT

O R D E R E D, by the District Court of the United States for the District of Maryland, this ^{May} 20th day of ~~March~~ 1946, that the Jury in the above entitled case be directed to proceed to Dalecarlia, Montgomery County, Maryland, to view the lands involved in this condemnation proceeding, and that the United States Marshal for the District of Maryland provide said Jury with transportation in a suitable public conveyance and with necessary meals enroute, payment for same to be authorized by the proper administrative department.

William Chesnut

 UNITED STATES DISTRICT JUDGE

No. 2662 Civil
District Court of the United States
FOR THE DISTRICT OF MARYLAND

MARCH TERM, 1946

Beginning March 5, 1946

Ending June 3, 1946

United States of America

Versus

32.881 Acres of Land, more or less,
in Montgomery County, Maryland

JURY SWORN 20 May, 1946.

Samuel Abrams
Foreman.

PETIT JURORS

1. SAMUEL ABRAMS, Retired, 3501 Reisterstown Road
2. EMIL KADAN, Retired, 4200 Sheldon Ave. (6)
3. STANLEY WOODWARD, Vice President, The Ruberoid Co., 4338 N. Charles St. (18); 1500 S. Ponca St. (24)
4. B. CHARLES STEPHANY, President, K. Katz & Son, Inc., 7-9 E. Baltimore St. (2); Cordova Apt. F2 (17)
5. DAVID LAZARUS, Partner, Lazarus Bros., 419 E. Monument St. (2); 814 Brooks Lane (17)
6. MICHAEL A. MUELLER, President, Loyola Fed. Savings and Loan Asso., 1229 N. Charles St. (1); 803 East Belvedere Ave. (12)
7. EDWARD KIRKBRIDE MILLER, Director and Buyer, Daniel Miller Co., 28-32 Hopkins Place (1); 4819 Keswick Road (10)
8. HARRY H. TILLMAN, Owner, American Shade Co., 864 N. Howard St. (1); 201 E. Gittins Ave. (12)
9. FRANK A. BACH, President, Fidelity & Deposit Co., Fidelity Bldg. (1); 12 Wendover Road
10. HENRY D. HAMP, Advertising, Art Poster Service (owner), 320 W. Franklin St. (1); 3901 Ridgewood Ave. (15)
11. LAWRENCE RIGGS OF J., President, Riggs, Rossman & Hunter, Inc., 120 E. Redwood St. (2); Brooklandville, P. O. Md.
12. HARRY SAVAGE, Retired merchant, 3607 Springdale Ave. (16)
13. ALBERT S. SMYTH, Wholesale Jewelry business, Albert S. Smyth Co., 5 Hopkins Place (1); 3020 St. Paul St. (18)
14. JOHN J. SPRINGER, Retired, Cambridge Arms Apts., 34th and Charles Sts. (18)
15. STEPHEN J. VAN LILL, Jr., Manufacturer, President of S. J. VanLill Co., 753 West Pratt St. (1); 205 N. Rolling Rd. Catonsville (28)
16. CONRAD J. RICH, Estimator, 4817 York Road (12); 8900 Yolando Road (18)
17. ROBT. B. HALE, Agency Manager, Equitable Life Assurance Society of the U. S., 2307 O'Sullivan Bldg. (2); 616 West University Parkway (10)

18. J. REANEY WOLFE, Retired, 4408 Roland Ave. (10)
- ~~19. LEVIN GUY WATKINS, The Ruben Co. Sales, 1500 S. Ponca St. (24); 3703 Cedardale Road (15)~~
20. EDWIN U. OWINGS, Sr., Partner, Standard Supply & Equip. Co., 2202 Boston St. (31); 3300 Fallstaff Road (15)
21. HERMAN H. VORDEMBERGE, Retired, (Formerly Official Koppers Co., Inc.), 909 Walnut Ave. (29)
- ~~22. ALBERT BURNS, President, The Baltimore Life Insurance Co., Charles and Saratoga Sts. (1); 3912 Juniper Road (18)~~
- ~~23. WILLIAM H. McABEE, Retired School Principal, 1225 West Lafayette Ave. (17)~~
24. HARRY P. GALLIGHER, Vice-President, Loomis Sayles Co., (Investment counsel), Mercantile Trust Bldg. (2); Woodbrook Lane, Woodbrook, Md. (12)
25. WILLIAM B. HYSAN, Jr., Treasurer, Columbia Specialty Co., Inc., 6301 Eastern Ave. (24); 225 Wendover Road (18)
26. ALFRED E. DUTTON, Manager, Norton Lilly & Co., 1006 Court Square Bldg.; 3700 North Charles St. (18)
27. LENOARD B. McLAUGHLIN, Real estate salesman, W. C. Pinkard & Co., 1908 First National Bank Bldg. (2); 4 East 30th St. (18)
28. HORACE LESLIE BATTIN, Sales Promotion Manager, Sears, Roebuck Co. (Baltimore Unit), 1300 East North Ave. (13); 3306 Clifton Ave. (16)
29. HOWARD E. VANDERBILT, Treasurer, Cannon Shoe Co., Lafayette and Dickson St. (17); 7800 Elmhurst Ave. (14)
- ~~30. WM. A. JONES, Retired Postal Employee, 1219 West Lafayette Ave. (17)~~
31. ARTHUR B. STEWART, President, Davis Coal and Coke Co., Keyser Bldg. (2); 416 Woodlawn Road (10)
32. JAMES DIXON BARTLETT, Vice-President, Poor, Bowen, Bartlett & Kennedy, 26 South Calvert St. (3); Caves Road, Owings Mills, Md.
33. GRAYSON G. COLE, Salesman, National Cash Register Co., 600 N. Howard St. (1); 1535 Northwick Road (18)
34. ANDREW H. HILGARTNER, Hilgartner Marble Co., Sharp and Ostend Sts.; 1 West Kenwood Road (10)
- ~~35. F. JOSEPH MOWEL, Treasurer, Hopper, McGaw & Co. Inc., Charles and Mulberry Sts. (1); Res. Glencoe, Md.~~
36. B. WARREN CORKRAN, Broker, 710 Keyser Bldg. (2); Res. 4303 Rugby Road (10)
- ~~37. SAMUEL BENESH, Merchant, I. Benesh Son, 651 West Lexington St. (1); Res. 3025 Belle Ave. (15)~~
38. FRANK C. PAYNE, Retired, 3319 Echodale Ave. (14)
- ~~39. JOHN PINKNEY BRANTZ, Insurance Agent, Employers Group, 5 South St. (2); Res. Lutherville, Md.~~
- ~~40. G. HARTMAN BLAMBERG, President, The Baltimore Feed and Grain Co., 2341 Boston St. (24); Res. 216 Chancery Road (18)~~
41. ARTHUR BERTRAM BONNER, Retired, Havre de Grace, P. O. Box 51, Maryland
42. PHILIP E. SCHUBERT, Manager of Paint Dept., Robt. S. Green, Inc., 3232 Frederick Ave.; Res. 103 Fairfield Drive, Catonsville, Md. (28)
43. HARRY C. MICHAEL, Realtor, 705 Calvert Bldg.; Res. 8 B, Lake Drive Apts. (17)
44. ZACHARIAH M. BIDDISON, Sr., Retired Passenger Conductor, B. & O. R. R.; Res. 2111 Garrison Blvd. (16)
45. EDGAR HEATH CONEY, C. P. A., Emerson Hotel (3); Res. 105 Mallow Hill Ave. (29)
46. JAMES CORDY VICK, Retired P. R. R. Co.; Res. 1901 Homewood Ave. (18)
47. HERMAN R. KASCHNER, Retired, 3314 Echodale Ave. (14)

B-28320

Form No. 282

RETURN ON SERVICE OF WRIT

United States of America,

Re: U.S.A. v. 32.881 Acres of Land, etc. et al
No. 2662 Civil

} ss:

..... DISTRICT OF ..Columbia.....

I hereby certify and return that I served the annexed subpoena duces tecum

..... on the therein-named DANIEL W. O'DONOGHIE, JR.

by handing to and leaving a true and correct copy thereof with said DANIEL W. O'DONOGHIE, JR.

..... personally

at 15th and H Streets NW in said District on the 17th day of

..... May, 19 46.

W. Bruce Matthews
.....
U.S. Marshal.

By *Edgar J. McElroy*
.....
Deputy.

No. 62 Civil

UNITED STATES OF AMERICA

vs.

32.881 Acres of Land, more or less
in Montgomery County, Maryland

Jury Sworn: 20 May, 1946

1. Samuel Abrams
2. Emil Kadan
3. B. Charles Stephany
4. Michael A. Mueller
5. Edward Kirkbride Miller
6. J. Reaney Wolfe
7. Frank A. Bach
8. Henry D. Hamp
9. Harry Savage
10. Albert S. Smyth
11. John J. Springer
12. Stephen J. Van Lill, Jr.

No. 62 Civil

UNITED STATES OF AMERICA

vs.

32.881 Acres of Land, more or less
in Montgomery County, Maryland

Jury Sworn: 20 May, 1946

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8. Henry D. Hamp
9. Harry Savage
10. Albert S. Smyth
11. John J. Springer
12. Stephen J. Van Lill, Jr.

B 28320

DUCES TECUM

District of Maryland MARCH TERM, 1946.
1946.

To the Marshal of the Maryland District:

Personally

Summon / DANIEL W. O'DONOGHUE, JR., Esquire,
521-524 Union Trust Building,
15th and "H" Streets, N.W., Washington, D. C.

personally
To Appear before the District Court of the United States, at Baltimore, Md., to testify on behalf of the
United States of America, Petitioner in case of

UNITED STATES OF AMERICA, Petitioner
-vs- 32.881 Acres of Land, more or less, situate in Montgomery County, Maryland,
and W. C. and A. N. MILLER DEVELOPMENT COMPANY, et al., Defendants-#2662
Civil

and to bring with him

..... all records, memoranda, and settlement sheets concerning the sale
and offering for sale of certain land described in a deed dated March 16, 1942, recorded
among the land records of Montgomery County in Liber 875, Folio 327, from Ida V. Garrity
and Emma F. Garrity to W. C. and A. N. Miller Development Company.

returnable 21st day of May, 1946 , 1946, at 10 a. m.

CHARLES W. ZIMMERMANN Clerk.
By - *[Signature]*
Deputy Clerk.

Issued 15th day of May, 1946 , 1946

May 16 10 04 AM '46
U. S. MARSHAL

No. 2662 Civil Dkt.

UNITED STATES OF AMERICA

v/s.

32.881 Acres of Land, more or less,
situate in Montgomery County, Md.,
and W. C. and A. N. Miller
Development Co., et al.,
Defendants.

Subpoena duces tecum

FILED MAY 20 1946

76
10 Civil

UNITED STATES OF AMERICA,	:	IN THE DISTRICT COURT OF THE
Petitioner	:	UNITED STATES
vs.	:	FOR THE DISTRICT OF MARYLAND
32,881 ACRES OF LAND, MORE OR LESS,	:	CIVIL NO. 2662
SITUATE IN MONTGOMERY COUNTY, MARY-	:	
LAND, AND W. C. AND A. N. MILLER	:	
DEVELOPMENT COMPANY, ET AL.,	:	
Defendants	:	

MR. CLERK:

121

Please issue a subpoena duces tecum directed to Daniel W. O'Donoghue, Jr., Esquire, 521-524 Union Trust Building, 15th and "H" Streets, N. W., Washington, D. C., requiring him to personally appear as a witness for the petitioner, the United States of America, in the above-entitled case, on Tuesday, May 21, 1946, at ten o'clock a.m., before the Honorable W. Calvin Chesnut, United States District Judge, 534 Post Office Building, Baltimore, Maryland, and to bring with him all records, memoranda, and settlement sheets concerning the sale and offering for sale of certain land described in a deed dated March 16, 1942, recorded among the land records of Montgomery County in Liber 875, Folio 327, from Ida V. Garrity and Emma F. Garrity to W. C. and A. N. Miller Development Company.

UNITED STATES OF AMERICA

By Wilmer H. Driver
 Wilmer H. Driver, Special Assistant to
 the Attorney General

720 Munsey Building
 Baltimore 2, Maryland

Filed 15th May, 1946.

Subpoena duces tecum issued 15th May, 1946.

UNITED STATES OF AMERICA, Petitioner	:	IN THE DISTRICT COURT OF THE
	:	UNITED STATES
vs.	:	FOR THE DISTRICT OF MARYLAND
32.881 ACRES OF LAND, MORE OR LESS, SITUATE IN MONT- GOMERY COUNTY, STATE OF MARYLAND, AND W. C. AND A. N. MILLER DEVELOPMENT COMPANY, ET AL.	:	CIVIL NO. 2662

JURY'S INQUISITION

We, the Jury, empaneled to try the above cause, having visited and examined the said premises hereinafter described and having heard and considered all of the evidence, find the damages occasioned by the taking of said land and premises to be in the total sum of *Sixty Five Thousand Seven Hundred and Seventy two Dollars. 65,762⁰⁰/_{XX}* for the entire tract described in the Petition for Condemnation and the Declaration of Taking filed herein on July 9, 1945, containing 32.881 acres, more or less, and condemned in this proceeding, which amount is awarded as follows:

W. C. and A. N. Miller Development Company,
a body corporate _____ \$
less a credit for _____ \$ 31,500.00
which has previously withdrawn from
the Registry of the Court.

11
Filed, 22 May 1946.

Dated: Baltimore, Maryland, May 21st, 1946.

<u>Samuel Adams</u> (SEAL)	<u>Albert S. Smith</u> (SEAL)
<u>Harry Savage</u> (SEAL)	<u>J. Raymond DeLoach</u> (SEAL)
<u>Herbert Miller</u> (SEAL)	<u>Michael A. Miller</u> (SEAL)
<u>Phil. S. ...</u> (SEAL)	<u>Henry ...</u> (SEAL)
<u>William ...</u> (SEAL)	<u>Emil ...</u> (SEAL)
<u>Frank ...</u> (SEAL)	<u>...</u> (SEAL)

12/16

UNITED STATES OF AMERICA,	:	IN THE DISTRICT COURT OF THE
Petitioner	:	UNITED STATES
vs.	:	FOR THE DISTRICT OF MARYLAND
32.881 ACRES OF LAND, MORE OR	:	CIVIL NO. 2662
LESS, SITUATE IN MONTGOMERY	:	PARCEL NO. _____
COUNTY, STATE OF MARYLAND, AND	:	
W. C. AND A. N. MILLER DEVELOP-	:	
MENT COMPANY, ET AL.,	:	
Defendants	:	

TO THE HONORABLE, THE JUDGES OF SAID COURT:

The petition of W. C. and A. N. Miller Development Company, a body corporate, respectfully represents:

1. That by the inquisition of the jury, duly empaneled to assess damages to your petitioner in the above entitled cause, filed in these proceedings on May 21, 1946, your petitioner was awarded the sum of \$65,762.00 with interest at 6% on the deficiency award of which sum the sum of \$31,500.00 has previously been withdrawn on 4/10/46/.

2. Your petitioner is advised that the funds with which to satisfy the judgment entered herein in favor of your petitioner in the sum of \$42,000.00, of which amount the sum of \$31,500.00 has previously been withdrawn on 4/10/46, have heretofore been deposited by the United States of America in the registry of the Court.

3. Your petitioner is further advised that it is necessary for him, in order to procure the said sum, to file this petition and procure an order of this Honorable Court authorizing and directing the Clerk of this Court to pay to your petitioner out of the registry of this Court the said sum of \$10,500.00, in partial satisfaction of the said judgment, upon such terms and conditions as this Honorable Court may direct, all right to appeal from said award on judgment being hereby waived by your petitioner.

4. Your petitioner is the same W. C. and A. N. Miller Development Company, a body corporate, named in the inquisition aforesaid.

Filed 17th August 1946

UNITED STATES OF AMERICA,	:	IN THE DISTRICT COURT OF THE
Petitioner	:	UNITED STATES
vs.	:	FOR THE DISTRICT OF MARYLAND
32.881 ACRES OF LAND, MORE OR	:	CIVIL NO. 2662
LESS, SITUATE IN MONTGOMERY	:	PARCEL NO. _____
COUNTY, STATE OF MARYLAND, AND	:	
W. C. AND A. N. MILLER DEVELOP-	:	
MENT COMPANY, ET AL.	:	
Defendants	:	

Mr. Clerk:

Please enter the judgment in the above-entitled cause in favor of W. C. and A. N. Miller Development Company, a body corporate, in the sum of \$65,762.00 plus interest at 6% on the deficiency award, "Settled and Satisfied" ~~to the extent of \$42,000.00~~

W. C. AND A. N. MILLER DEVELOPMENT COMPANY

ATTEST:

Lewis W. Machir
 Lewis W. Machir
 Secretary

By Carl C. Crampton
 Carl C. Crampton
 Vice President and Treasurer

John S. Rinney
John S. Rinney
 Attorneys for Defendants

Filed 17th August, 1946

WHEREFORE your petitioner prays that an order be entered authorizing and directing the Clerk of the District Court of the United States for the District of Maryland to pay to your petitioner out of the registry of this Court the said sum of \$10,500.00.

Respectfully submitted,

W. C. AND A. N. MILLER DEVELOPMENT COMPANY

ATTEST:

Lewis W. Machir
Lewis W. Machir
Secretary

By Carl C. Crampton
Carl C. Crampton
Vice President & Treasurer

Petitioner

Attorneys for Petitioner

STATE OF ^{WASH} MARYLAND :
COUNTY OF D. C. ; ss:

I HEREBY CERTIFY, that on this 11 day of July, 1946, before me, the subscriber, a Notary Public of the State of ^{Wash. D. C.} Maryland, in and for the County aforesaid, personally appeared Carl C. Crampton of the W. C. and A. N. Miller Development Company above named petitioner and made oath in due form of law that the matters and facts set forth in the foregoing petition are true to the best of his knowledge, information and belief.

AS WITNESS my hand and Notarial Seal.

Henry R. ...
Notary Public

My commission expires: Dec 31, 1947

ORDER OF COURT

UPON consideration of the foregoing petition and affidavit, it is this 16th day of August, 1946, by the District Court of the United States for the District of Maryland;

ORDERED, ADJUDGED AND DECREED that Charles W. Zimmermann, Clerk of the District Court of the United States for the District of Maryland, be, and he is hereby authorized and directed to pay to:

W. C. and A. N. Miller
Development Company
a body corporate \$10,500.00

AND that Charles W. Zimmermann, Clerk of the District Court of the United States for the District of Maryland, shall also pay to the W. C. and A. N. Miller Development Company, a body corporate the residue of said award of \$65,762.00; viz., \$23,762.00 plus interest at 6%, the sum of \$31,500.00 having previously been withdrawn, as promptly as possible after the receipt of such sum from the United States of America; and it is further

ORDERED that the W. C. and A. N. Miller Development Company, a body corporate, deposit with Charles W. Zimmermann, Clerk of the District Court of the United States for the District of Maryland, an order marking the judgment in this case in its favor "Settled and Satisfied", said order, however, to be held by said Clerk and to be filed by him in said proceeding upon the payment to said W. C. and A. N. Miller Development Company, a body corporate, of the additional sum hereinbefore referred to, and it is further

ORDERED that the Clerk of said Court shall not charge or deduct from the said sum so to be paid any fees or commissions.

W. Calvin Chesnut
Judge of the District Court of the
United States for the District of
Maryland.

Passage of the foregoing order is approved
and all right of appeal from said award
and judgment is hereby waived.

Harris Peterson
~~Special Assistant to the Attorney General~~
Attorney

August A. Kozloshy
~~Special Attorney, Department of Justice~~

UNITED STATES OF AMERICA,
Petitioner

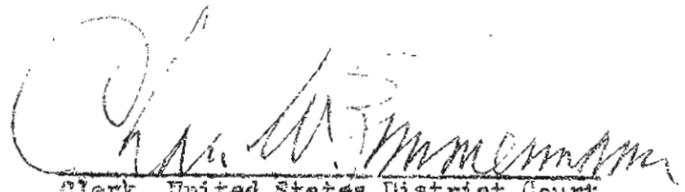
vs.

32.881 ACRES OF LAND IN MONT-
GOMERY COUNTY, STATE OF MARYLAND,
AND W. C. AND A. H. MILLER DEVELOP-
MENT COMPANY, ET AL.,
Defendants

: IN THE DISTRICT COURT OF THE
:
: UNITED STATES
:
: FOR THE DISTRICT OF MARYLAND
:
: CIVIL NO. 2662
:
:

RECEIPT

This acknowledges receipt in July 2nd, 1946,
from the United States of America by and through Wilmer H. Driver,
Special Assistant to the Attorney General, of \$25,140.20, paid by
check Number 9,713,640 drawn on the Treasurer of the United States,
in payment of the deficiency judgment and interest for the taking
of the land in the above-entitled case (32.881 Acres of Land in
Montgomery County, State of Maryland) described in the petition
for condemnation and declaration of taking filed in the above
proceeding.


Clerk, United States District Court
for the District of Maryland

UNITED STATES OF AMERICA,
Petitioner,

-vs-

32.881 ACRES OF LAND, MORE
OR LESS, SITUATE IN MONT-
GOMERY COUNTY, STATE OF
MARYLAND, AND W. C. AND
A. N. MILLER DEVELOPMENT
COMPANY, ET AL,
Defendants.

IN THE DISTRICT COURT OF THE
UNITED STATES

FOR THE DISTRICT OF MARYLAND

CIVIL NO. 2662

--ooOoo--

RECEIPT

This acknowledges receipt on July 9th, 1945,
from the United States of America by and through Wilmer H. Driver,
Special Assistant to the Attorney General, of \$42,000.00, paid by
check Number 8,260,598, drawn on the Treasurer of the United
States, in payment of the estimated award for the taking of the
land in the above-entitled case (32.881 Acres of Land, more or
less, situate in Montgomery County, State of Maryland) described
in the petition for condemnation and declaration of taking filed
in the above proceeding.


Clerk, United States District Court
for the District of Maryland

N 22 00 00

N 27 00 00

N 21 00 00

N 1 00 00

NOW OR FORMERLY
A. W. WALKER

WAZB

MACARTHUR BLVD (WASH AQUEDUCT)

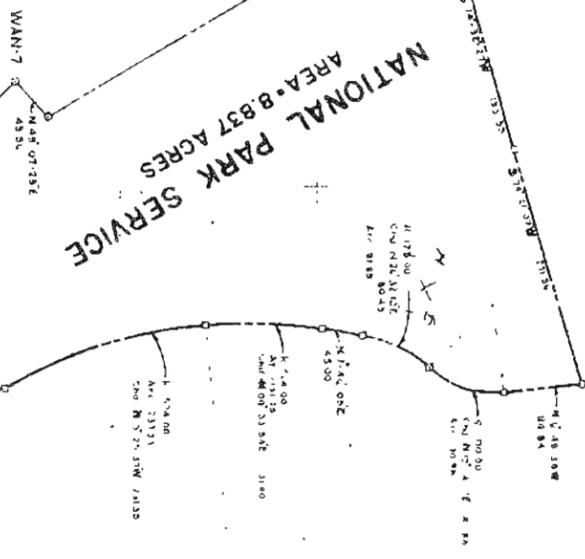
NATIONAL PARK SERVICE
AREA = 8.837 ACRES

Tract No. 4
W. C. B. A. N. MILLER
AREA = 32.981 ACRES

NOW OR FORMERLY H. H. DONALLY

W. C. B. A. N. MILLER

SANGAMORE ROAD



NOTE
 Date of recording and the
 name of the U. S. Engineer
 and the State Man shown is



FT. SI
 PRC
 W.C.B.

U. S. ENGINEER OFF
 SUBMITTED

APPROVED FOR CONSTRUCTION OFFICER
 ASIAN MAP SERVICE
 [Signature]

APPROVED FOR CHIEF OF ENGINEERS
 [Signature]

Survey Notes & Computations in File PA-1-1131

Appendix B

ICC-B Covenants and Easements

DUTY

“FULFILL YOUR OBLIGATIONS.”

U. S. Army Core Value #2



PLAT No 4468

OWNERS' DEDICATION

We, the undersigned owners, herewith dedicate for public use that piece, portion or parcel of land owned by us included within the limits of the right of way shown on this plat, and further grant to the County Council of Montgomery County, Maryland, the right to use the same for the purpose of erecting structures and stream on the land shown labeled **ROAD**.
June 17, 1953

W.C. & A.N. MILLER DEVELOPMENT CO.
A DELAWARE CORPORATION

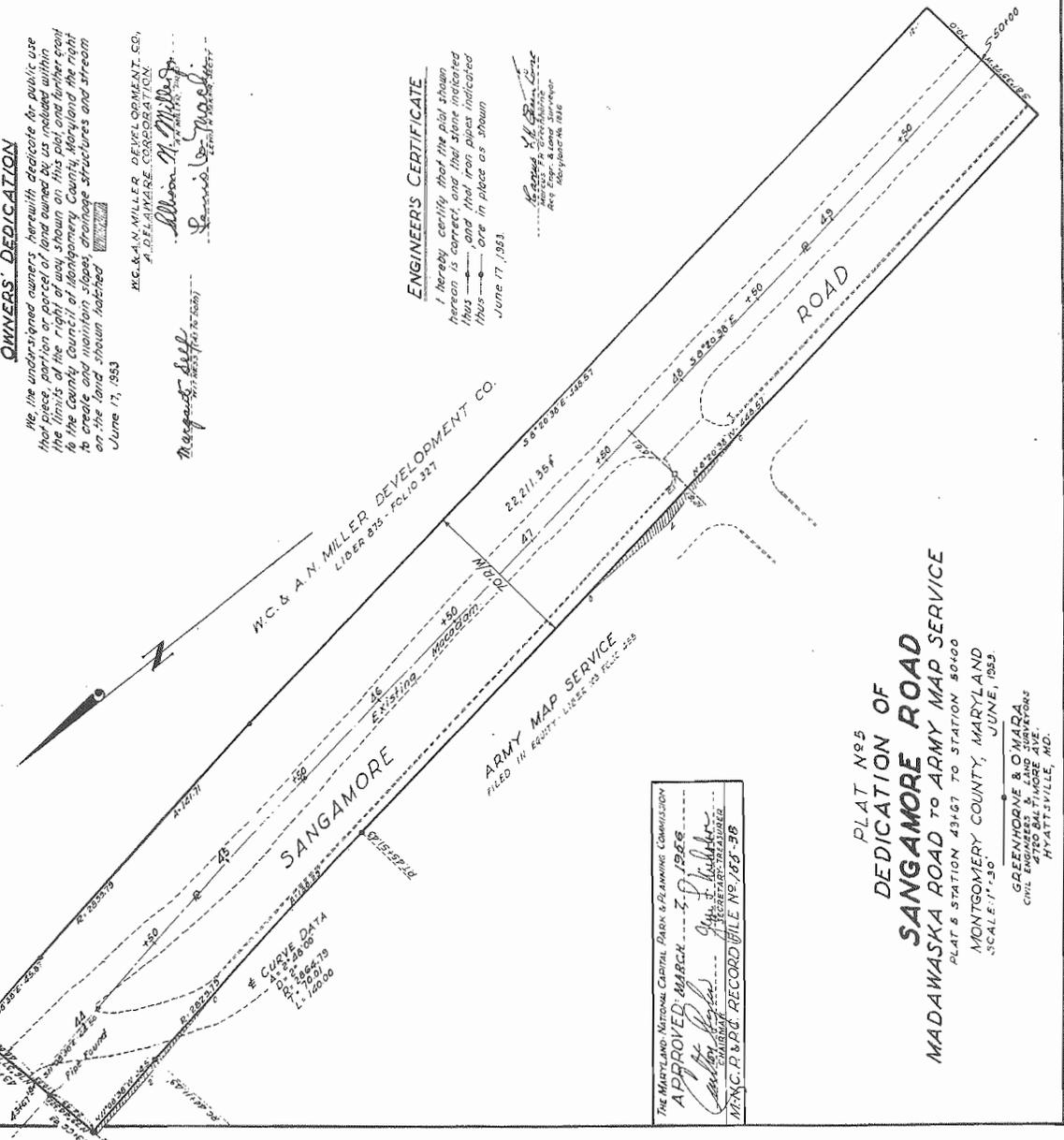
W.C. Miller
A.N. Miller

W.C. Miller
A.N. Miller

ENGINEERS' CERTIFICATE

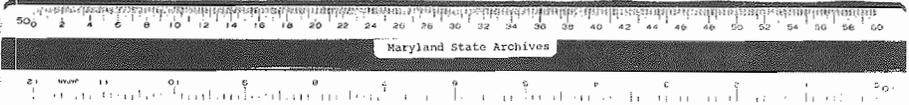
I hereby certify that the plat shown hereon is correct and that stone indicated thus  and that iron pipes indicated thus  are in place as shown
June 17, 1953

Robert H. G. Galt
Civil Engineer
No. 1000 F Street, N.W.
Washington, D.C.



THE MARYLAND NATIONAL CAPITAL PARK & PLANNING COMMISSION
APPROVED: MARCH 3, 1953
Carlton P. Rogers
COMMISSIONER

PLAT No 5
**DEDICATION OF
SANGAMORE ROAD
MADAWASKA ROAD TO ARMY MAP SERVICE**
PLAT 5 STATION 431.67 TO STATION 504.00
MONTGOMERY COUNTY, MARYLAND
SCALE: 1" = 50'
GREENHORNE & O'MARA
CIVIL ENGINEERS
12120 BALTIMORE AVE.
HYATTSVILLE, MD.
JUNE, 1953



PLAT No 4469

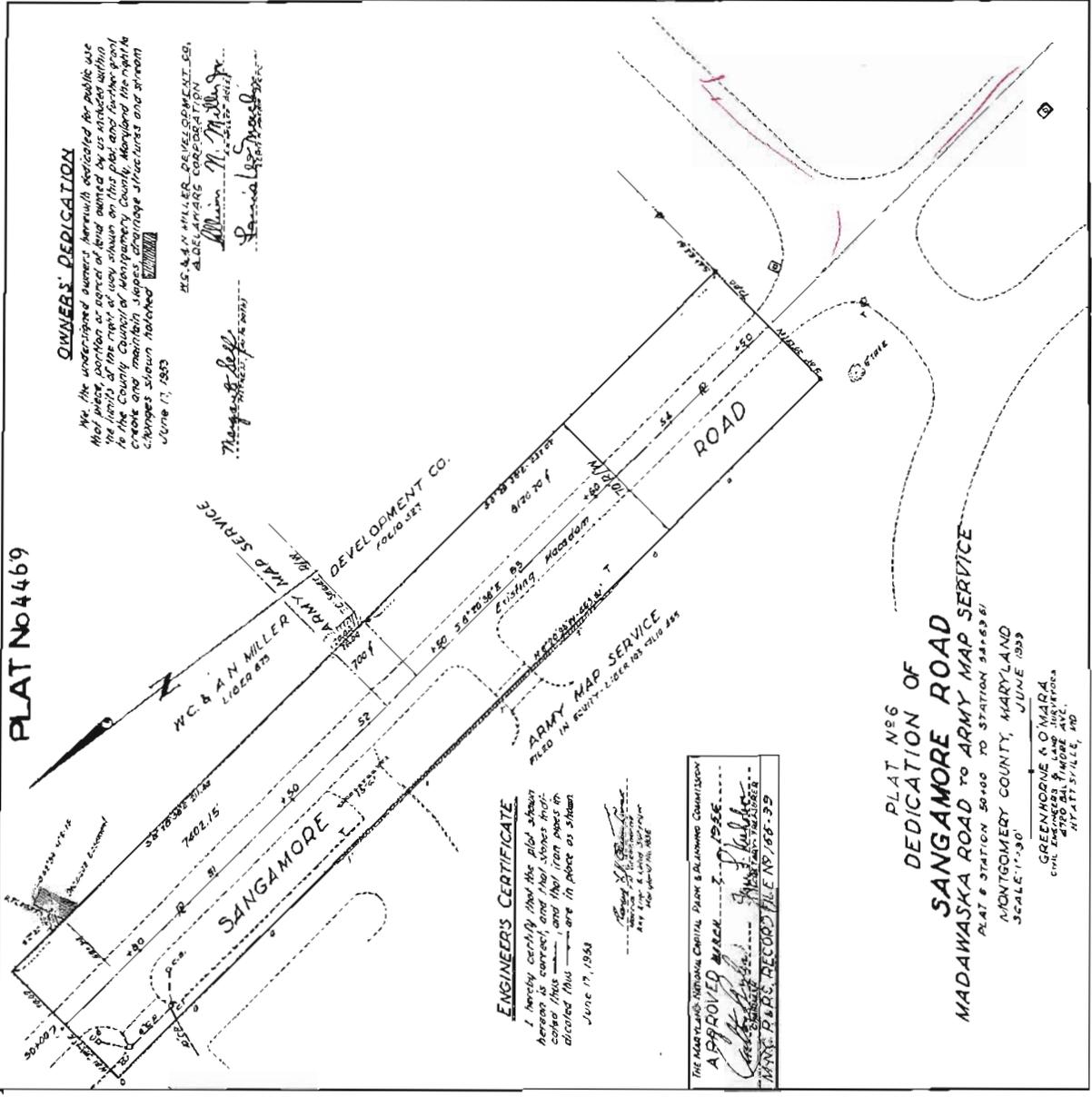
OWNERS' DEDICATION

We, the undersigned owners, herewith dedicate for public use that piece of property shown on this plat and as indicated within the limits of the City of Washington, District of Columbia, to the County Council of Montgomery County, Maryland the right to create and maintain, slopes, drainage structures and stream channels shown on this plat.

W.C. & A.N. MILLER DEVELOPMENT CO.
ADELPHI, MARYLAND

W.C. Miller
A.N. Miller

George S. Bell
James L. ...



ENGINEERS CERTIFICATE
I hereby certify that the plat shown herein is correct, and that stones indicated this ... and that iron pipes indicated this ... are in place as shown.

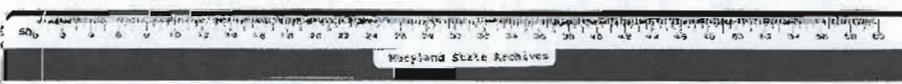
June 17, 1933

George S. Bell
James L. ...

THE MARYLAND NATIONAL CAPITAL PARK & PLANNING COMMISSION
APPROVED MARCH 2, 1933
George S. Bell
James L. ...
MONTGOMERY COUNTY RECORD FILE NO. 768-35

PLAT No 6
DEDICATION OF
SANGAMORE ROAD
MADAWASKA ROAD TO ARMY MAP SERVICE
PLAT 6 STATION 50+00 TO STATION 54+63.61
MONTGOMERY COUNTY, MARYLAND
SCALE: 1"=30'

GREENACRE, N. O. MARR
CIVIL ENGINEER
4700 BALTIMORE AVE.
HYATTSVILLE, MD.



Maryland State Archives

Appendix C

ICC-B Legal Description

RESPECT

“TREAT PEOPLE AS THEY SHOULD BE TREATED.”

U. S. Army Core Value #3



Deed Description

U.S. Government Property

4600 Sangamore Road, Bethesda, Maryland

Description of the property of United States of America; identified as Tract Number 4 in Civil Action Case No. 2662 as recorded in National Archives & Records Administration, Philadelphia, Pennsylvania, less and except dedications of Sangamore Road right-of-way indicated on Plat Number's 4468 and 4468 recorded in the Montgomery County Records Office; this parcel is also indicated by Montgomery County, Maryland as Tax Account Number (TAN) 00437145, situated in the 7TH Election District of Montgomery County, Maryland at 4600 Sangamore Road:

BEGINNING on a concrete monument set on the westerly margin of the Sangamore Road right-of-way, common corner with parcel TAN 00417832; thence with the right-of-way of Sangamore Road the following four calls: (1) S11°09'44"E 44.50' to a point; (2) thence along a curve to the left (radius = 2,829.79', chord length = 138.28', chord bearing = S09°45'44"E) an arc length of 138.29' to a point; (3) thence S08°18'11"E 903.80' to a concrete monument set; (4) thence N81°41'49"E 35.00' to a point in the approximate center of pavement of Sangamore Road and a common corner with TAN 00609872; thence leaving the right-of-way of Sangamore Road, and following the approximate center of pavement for Sangamore Road and Brookes Lane S08°18'11"E 439.72' to a point at the common corner with parcel TAN 00435022 and TAN 00609872; thence leaving the approximate center of pavement for Brookes Lane S79°53'47"W 14.75' to a pipe found; thence, passing through a pipe found on line at 44.24', S80°45'57"W 250.00' to an iron pin found; thence S85°46'57"W 296.86' to a pipe found; thence S89°39'57"W 133.00' to a concrete monument found at the common corner with TAN 00435022 and TAN 00436824; thence N12°08'13"W 173.13' to a concrete monument found; thence along a non-tangent curve to the right (radius = 524.00', chord length = 231.99', chord bearing = N19°25'37"W) an arc length of 233.93' to a concrete monument found; thence along a curve to the right (radius = 524.00', chord length = 131.40', chord bearing = N00°33'54"E) an arc length of 131.75' to a concrete monument found; thence N07°46'05"E 45.00' to a concrete monument found; thence along a curve to the right (radius = 125.00', chord length = 80.43', chord bearing = N26°32'10"E) an arc length of 81.89' to a concrete monument found; thence along a curve to the left (radius = 100.00', chord length = 87.88', chord bearing = N19°14'17"E) an arc length of 90.99' to an iron pin found; thence N06°49'38"W 84.84' to a concrete monument found; thence S74°21'02"W 271.96' to a concrete monument found; thence S74°32'27"W 193.39' to a concrete monument found; thence N30°22'34"W 127.50' to a concrete monument found; thence N30°23'31"W 142.27' to a concrete monument found; thence N32°09'07"E 181.94' to a concrete monument found; thence N04°22'34"W 199.57' to a concrete monument found; thence S74°54'35"W 11.70' to an iron pin found at the common corner with TAN 00436824 and TAN 00428367; thence N14°59'12"E 68.07' to a pipe found; thence N67°29'12"E 79.08' to an iron pin found; thence N01°29'12"E 47.40' to a planted stone found at the common corner with TAN 00428367 and TAN 00428378; thence, passing an iron pin found on line at 559.00', N79°38'12"E 918.52' to the point of BEGINNING, containing 29.681 acres.

Surveyed January 10, 2011.

Property description prepared by James J. Lewis, P.E., L.S., Maryland LS #21362

SUBURBAN TITLE & ABSTRACT CO., INC.

Examination Report

Your Case Number: USA

Full Search

Examined Thru: 03/31/11

Our Case Number: S-98404

Property:

Contains 1,555,092 SQ. FT., Map GM62, Grid GM62, Parcel 495 recorded among the Land Records of Montgomery County, MD.

Street Address: 4600 SANGAMORE ROAD, BETHESDA, MD 20816

Fee Simple Vested in:

THE UNITED STATES OF AMERICA

Obtained From:

DECLARATION OF TAKING PER DISTRICT COURT OF THE UNITED STATES V2662

By Deed Dated:

Recorded:

Liber:

Folio:

Subject To:

From (Fee) FREE AND CLEAR

To:

Dated: _____ Recorded: _____ Liber: _____ Folio: _____ Amount: _____

Securing: _____

Equity, Judgments and Liens:

SUBJECT TO YOUR REVIEW OF PROPERTY INSIGHT JUDGMENT RUN ATTACHED

Restrictions on Plat:

N/A

Rights of Way:

733/309, 1078/71, 1141/388 WSSC; 8330/146 EVEREST ENTERPRISES, INC.

Covenants:

NONE

Remarks:

SUBJECT TO A NEW AND ACCURATE SURVEY
ASSESSED FOR TAX PURPOSES AS CONTAINING 1,555,092 SQ. FT.
DECL OF TAKING IN V2662 RECITES PARCEL AS CONTAINING 32.881 ACRES

State and County Taxes - Bill Number: 07-502-00437145 Town Taxes: _____

Total: _____ Front Foot: _____ Circuit Breaker Exemption: _____

Current Levy of: _____ Due: _____ Paid: _____

TAX INFORMATION DEEMED RELIABLE BUT NOT GUARANTEED SEE ASSESSMENT RECORD ATTACHED

Estimated Fee: \$900.00
Copies: \$30.00
Misc: \$45.00
Court Run: \$0.00
Total: \$975.00

This does not represent an opinion of title.

Examination Report

Abstracted By: THERESA MANSIUS

For: WILEY/WILSON

Mailing Address:
77 S. Washington St., Suite 302
Rockville, MD 20850
Phone (301) 424-7244
Fax (301) 217-9271

Purchaser: N/A

Maryland Department of Assessments and Taxation
 Real Property Data Search (v1.1.1A)
 MONTGOMERY COUNTY

[Go Back](#)
[View Map](#)
[New Search](#)
[GroundRent Redemption](#)
[GroundRent Registration](#)

Account Identifier: District - 07 Account Number - 00437145

Owner Information

Owner Name: UNITED STATES OF AMERICA
 DEFENSE MAP ATTN CM
Use: EXEMPT COMMERCIAL
Principal Residence: NO
Mailing Address: 3838 VOGEL RD
 ARNOLD MD 21010-6205
Deed Reference: 1)
 2)

Location & Structure Information

Premises Address: 4600 SANGAMORE RD
 BETHESDA 20816-0000
Legal Description: EQ 2662 OAK HILL ARM
 Y MAP SERVICE

Map	Grid	Parcel	Sub District	Subdivision	Section	Block	Lot	Assessment Area	Plat No:
GM62	0000	P495		0502				2	

Special Tax Areas: Town NONE
Ad Valorem
Tax Class 38

Primary Structure Built: Enclosed Area Property Land Area County Use
 1555092.0000 AC ± 675

Stories: Basement Type Exterior

Value Information

	Base Value	Value	Phase-in Assessments	
			As Of	As Of
			01/01/2011	07/01/2010
Land	9,330,500	9,330,500		
Improvements:	67,850,000	67,850,000		
Total:	77,180,500	77,180,500	77,180,500	77,180,500
Preferential Land:	0			0

Transfer Information

Seller: Date: Price:
Type: Deed1: Deed2:

Seller: Date: Price:
Type: Deed1: Deed2:

Seller: Date: Price:
Type: Deed1: Deed2:

Exemption Information

Partial Exempt Assessments	Class	07/01/2011	07/01/2012
County	100	77,180,500.00	0.00
State	100	77,180,500.00	0.00
Municipal	100		0.00

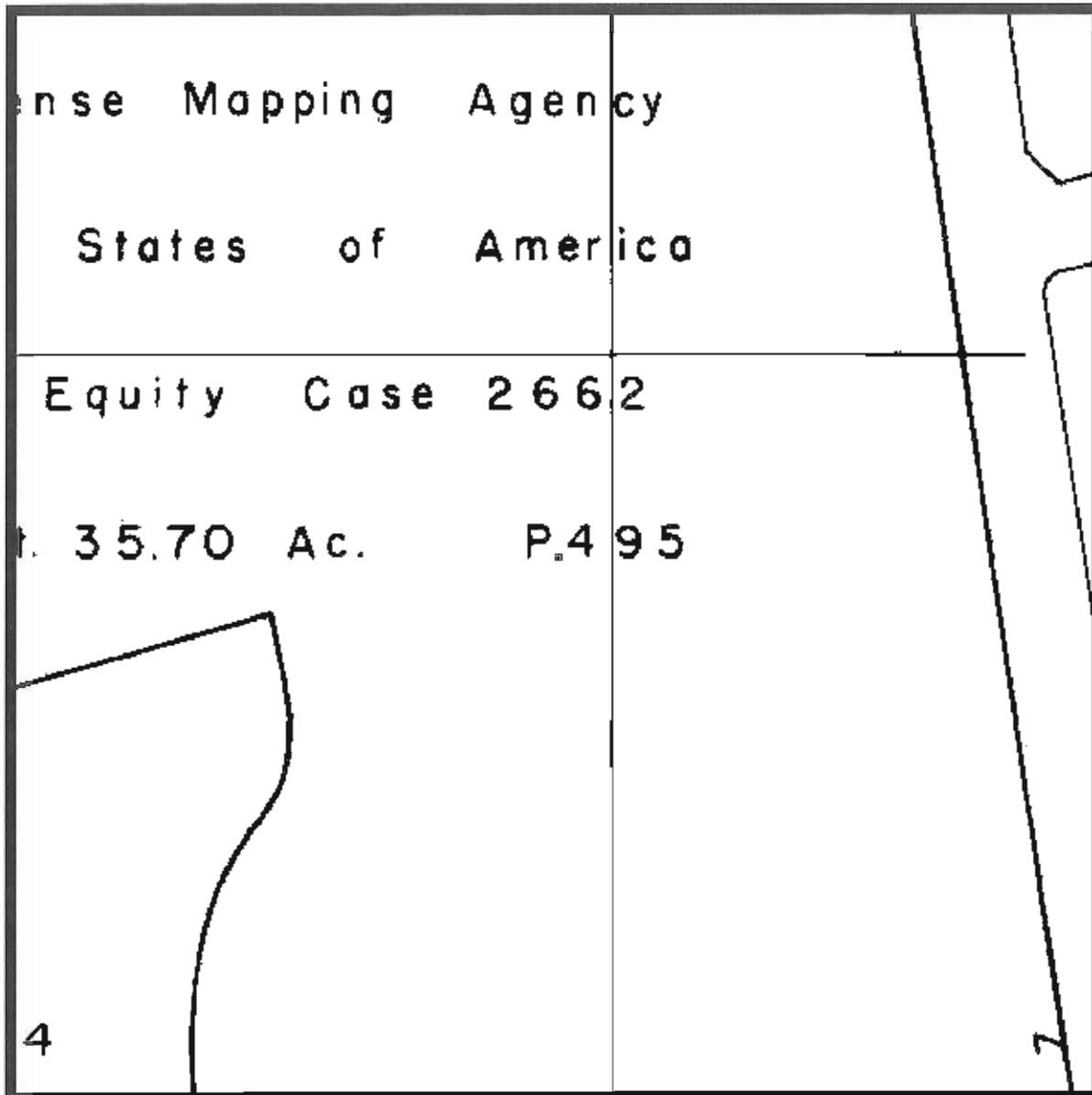
Tax Exempt: Exempt Class: OFFICE BUILDINGS **Special Tax Recapture:** * NONE *



Maryland Department of Assessments and Taxation
MONTGOMERY COUNTY
 Real Property Data Search

[Go Back](#)
[View Map](#)
[New Search](#)

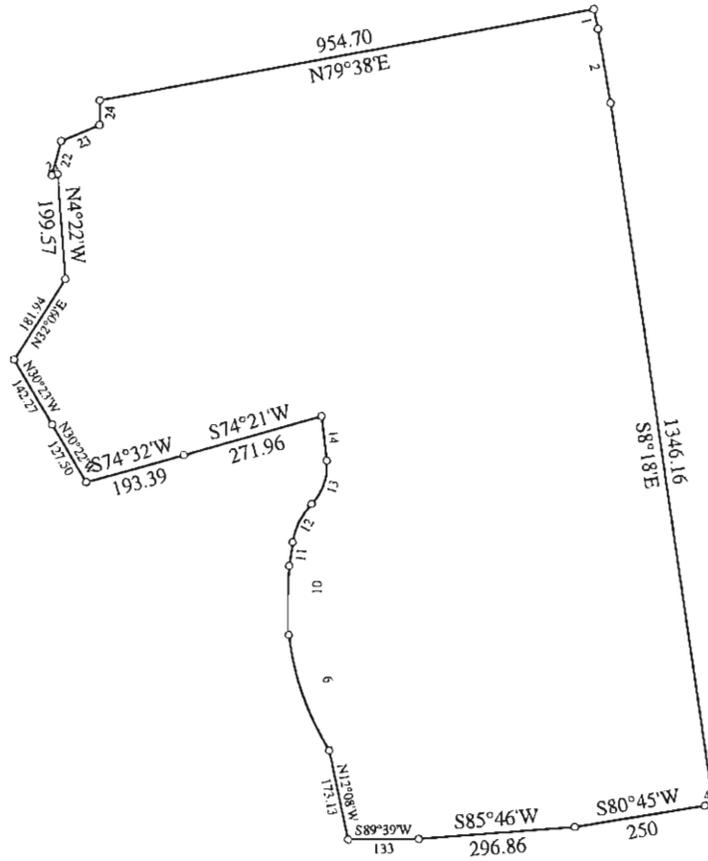
District - 07 Account Number - 00437145



The information shown on this map has been compiled from deed descriptions and plats and is not a property survey. The map should not be used for legal descriptions. Users noting errors are urged to notify the Maryland Department of Planning Mapping, 301 W. Preston Street, Baltimore MD 21201.

If a plat for a property is needed, contact the local Land Records office where the property is located. Plats are also available online through the Maryland State Archives at www.plats.net.

Property maps provided courtesy of the Maryland Department of Planning ©2009.
 For more information on electronic mapping applications, visit the Maryland Department of Planning web site at www.mdp.state.md.us/OurProducts/OurProducts.shtml



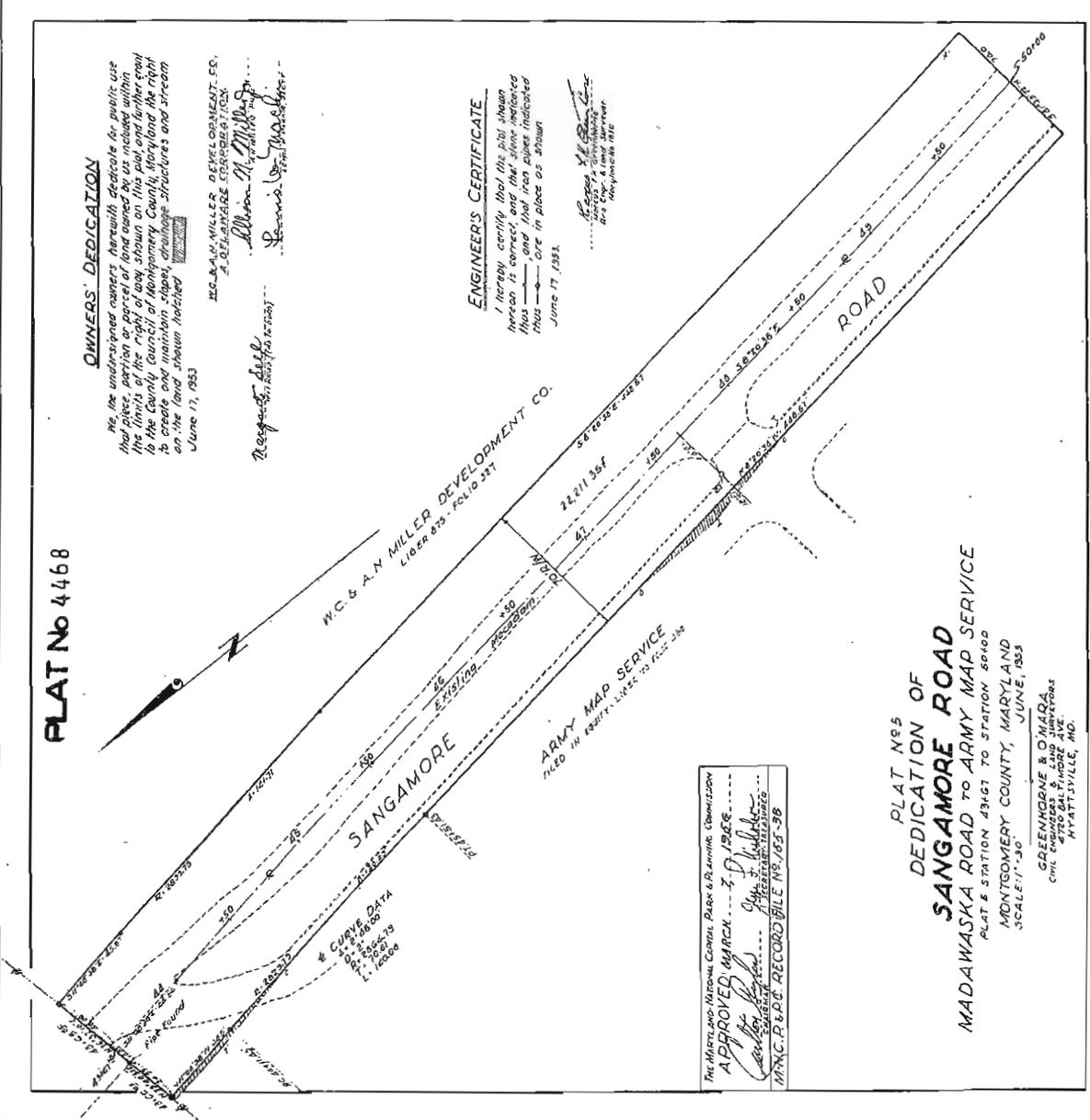
Title:		Date: 05-13-2011
Scale: 1 inch = 364 feet	File: USA - DEFENSE - PARCEL 495.des	
Tract 1: 30.638 Acres: 1334592 Sq Feet: Closure = n10.5457e 0.12 Feet: Precision = 1/44820: Perimeter = 5342 Feet		
001=S11.09E 38.54	010: Rt, R=524 Bng=N0.33E, Chd=131.40	019=N32.09E 181.94
002: Rt, R=2865 Bng=S9.43E, Chd=142.88	011=N7.46E 45	020=N4.22W 199.57
003=S8.18E 1346.16	012: Rt, R=125 Bng=N26.32E, Chd=80.43	021=S74.54W 11.70
004=S79.59W 15.64	013: Lt, R=100 Bng=N19.14E, Chd=87.88	022=N14.59E 68.07
005=S80.45W 250	014=N6.49W 84.84	023=N67.29E 79.08
006=S85.46W 296.86	015=S74.21W 271.96	024=N1.29E 47.40
007=S89.39W 133	016=S74.32W 193.39	025=N79.38E 954.70
008=N12.08W 173.13	017=N30.22W 127.50	
009: Rt, R=524 Bng=N19.25W, Chd=231.99	018=N30.23W 142.27	

PLAT No 4468

OWNERS' DEDICATION
We, the undersigned owners, herewith dedicate for public use that piece, portion or parcel of land owned by us included within the limits of the right of way shown on this plat and further grant to the County Council of Montgomery County, Maryland the right to create and maintain slopes, drainage structures and stream on the land shown noticed
June 17, 1953

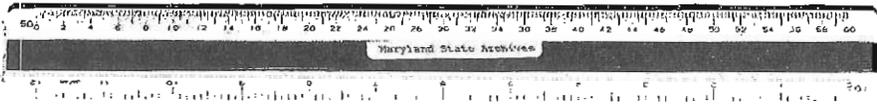
W.C. & A.N. MILLER DEVELOPMENT CO.
A DEVELOPERS CORPORATION
William A. Miller
Benjamin G. Miller
Respectfully Submitted
June 17, 1953

ENGINEERS' CERTIFICATE
I hereby certify that the plat shown hereon is correct, and that same reference the actual iron pins indicated thus \rightarrow are in place as shown
June 17, 1953
Robert W. R. [Signature]
Rt. 2, Box 10, Silver Spring, Maryland



THE MONTGOMERY NATIONAL CAPITAL PARK & PLANNING COMMISSION
APPROVED, MARCH 7, 1953
[Signature]
MONTGOMERY COUNTY, MARYLAND
MARC RECORD FILE NO. 103-98

PLAT No 5
**DEDICATION OF
SANGAMORE ROAD**
MADAWASKA ROAD TO ARMY MAP SERVICE
PLAT & STATION 431-61 TO STATION 60-102
MONTGOMERY COUNTY, MARYLAND
JUNE, 1953
GREENHORNE & O'MARA
CIVIL ENGINEERS
4770 BALTIMORE AVE., WYOMING
MONTGOMERY, MARYLAND



PLAT No 4469

OWNERS' DEDICATION

We, the undersigned owners herewith dedicated for public use that piece, portion or parcel of land owned by us included within the limits of the right of way shown on this plat, and further grant to the County Council of Montgomery County, Maryland the right to change, alter, improve, reconstruct, reconstruct, reconstruct and change structures and stream

June 17, 1953

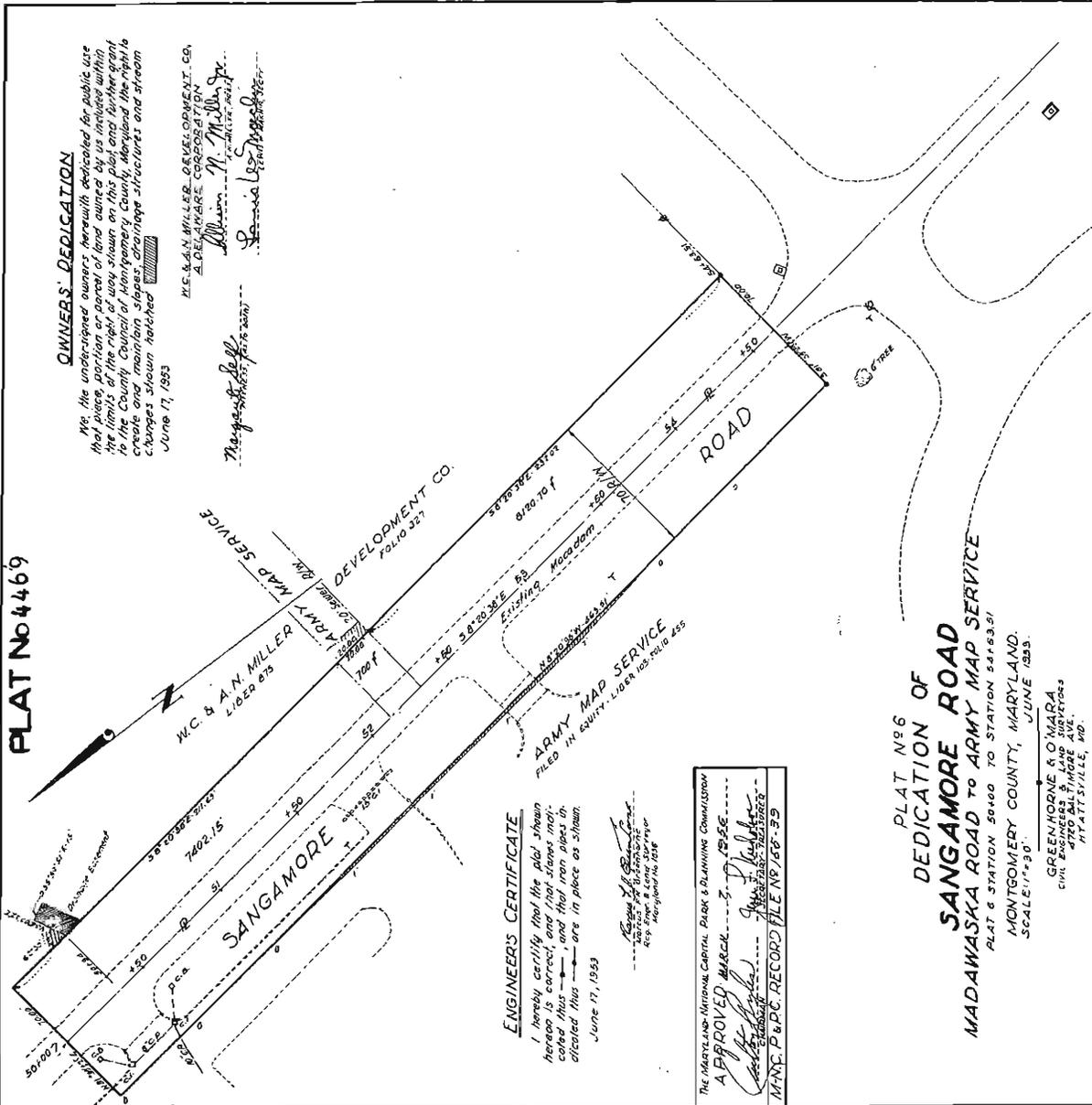
H.C. & A.N. MILLER DEVELOPMENT CO.
A DELAWARE CORPORATION

W.C. & A.N. Miller, Jr.

James Logan

Thomas J. Self

James Logan



ENGINEERS' CERTIFICATE

I hereby certify that the plat shown hereon is correct, and that stamps, notations, and that iron pins indicated thus — are in place as shown.

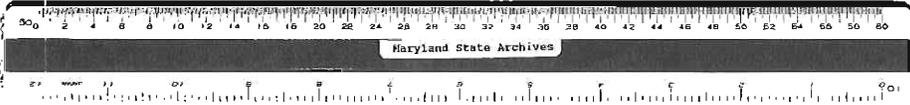
June 17, 1953

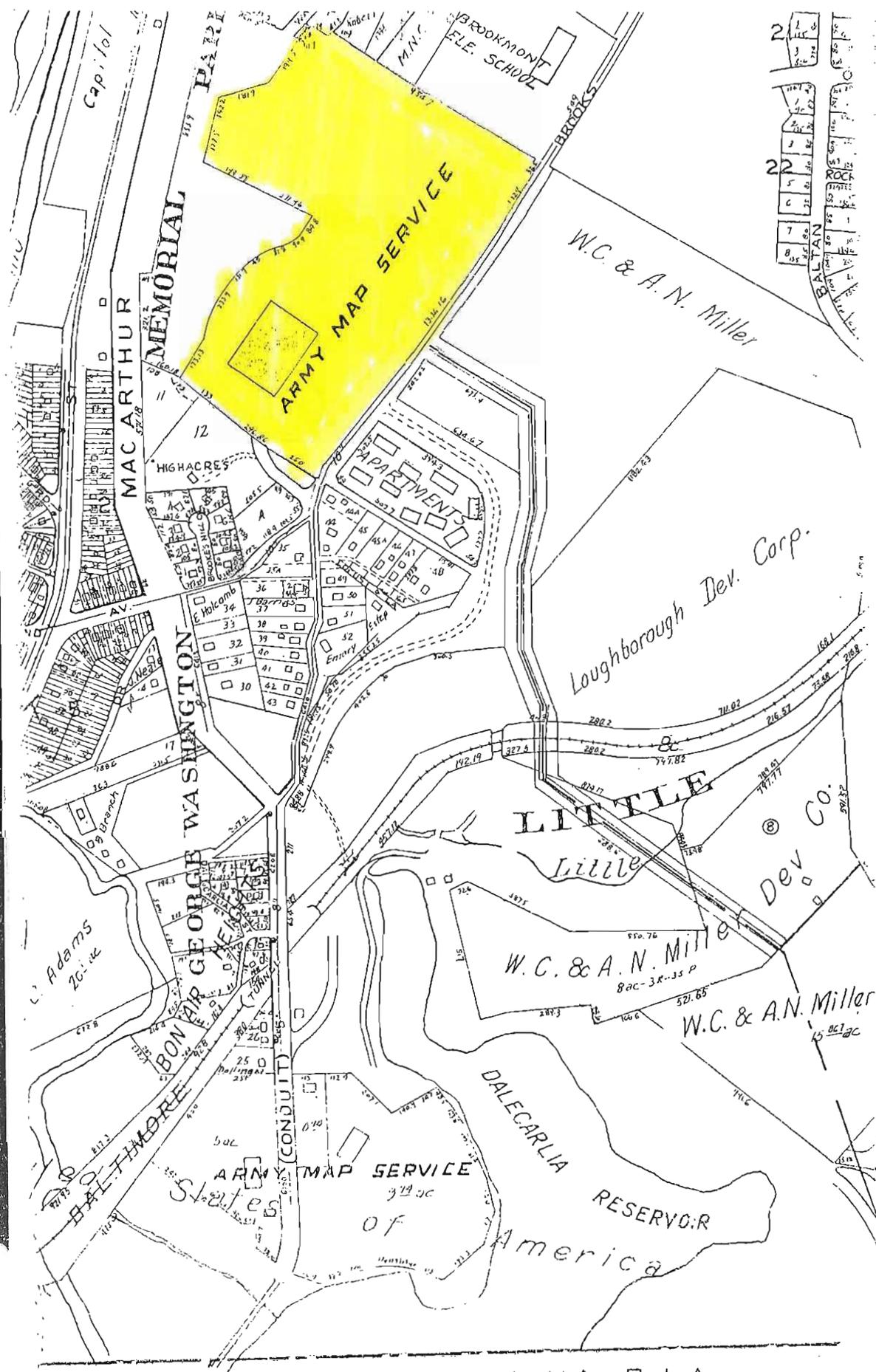
James Logan
CIVIL ENGINEER & LAND SURVEYOR
MONTGOMERY COUNTY, MARYLAND

THE MARYLAND NATIONAL CAPITAL PARK & PLANNING COMMISSION
APPROVED *March 5, 1953*
James Logan
CIVIL ENGINEER & LAND SURVEYOR
MONTGOMERY COUNTY, MARYLAND
PLAT P & P.C. RECORD FILE NO 156-39

PLAT No 6
**DEDICATION OF
SANGAMORE ROAD
MADAWASKA ROAD TO ARMY MAP SERVICE**
PLAT 6 STATION 50+00 TO STATION 54+53.51
MONTGOMERY COUNTY, MARYLAND.
SCALE 1"=50'

GREENHORNE & O'MARA
CIVIL ENGINEERS & LAND SURVEYORS
4720 BELL MIFFLIN RD.
BETHESDA, MARYLAND

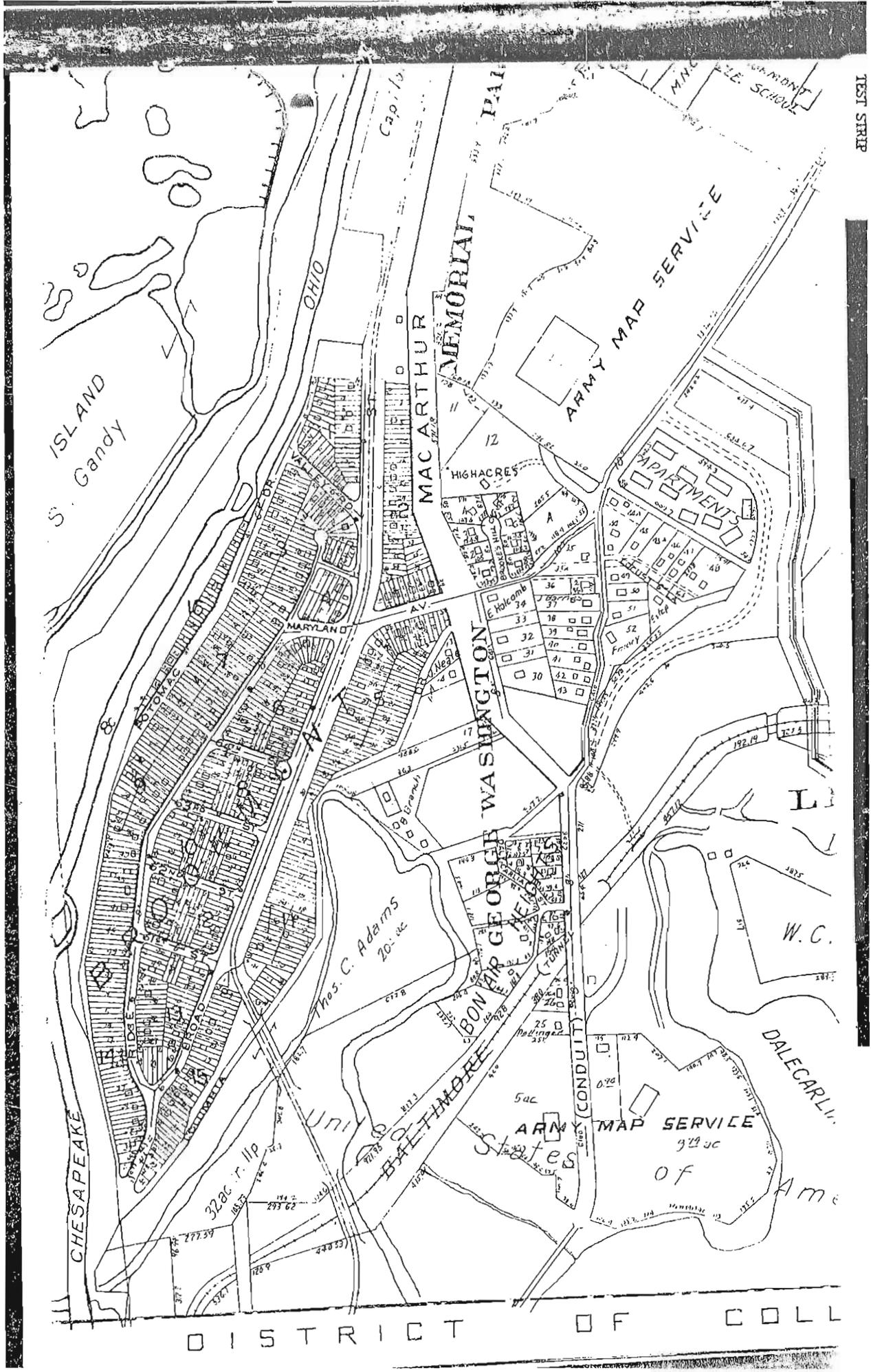


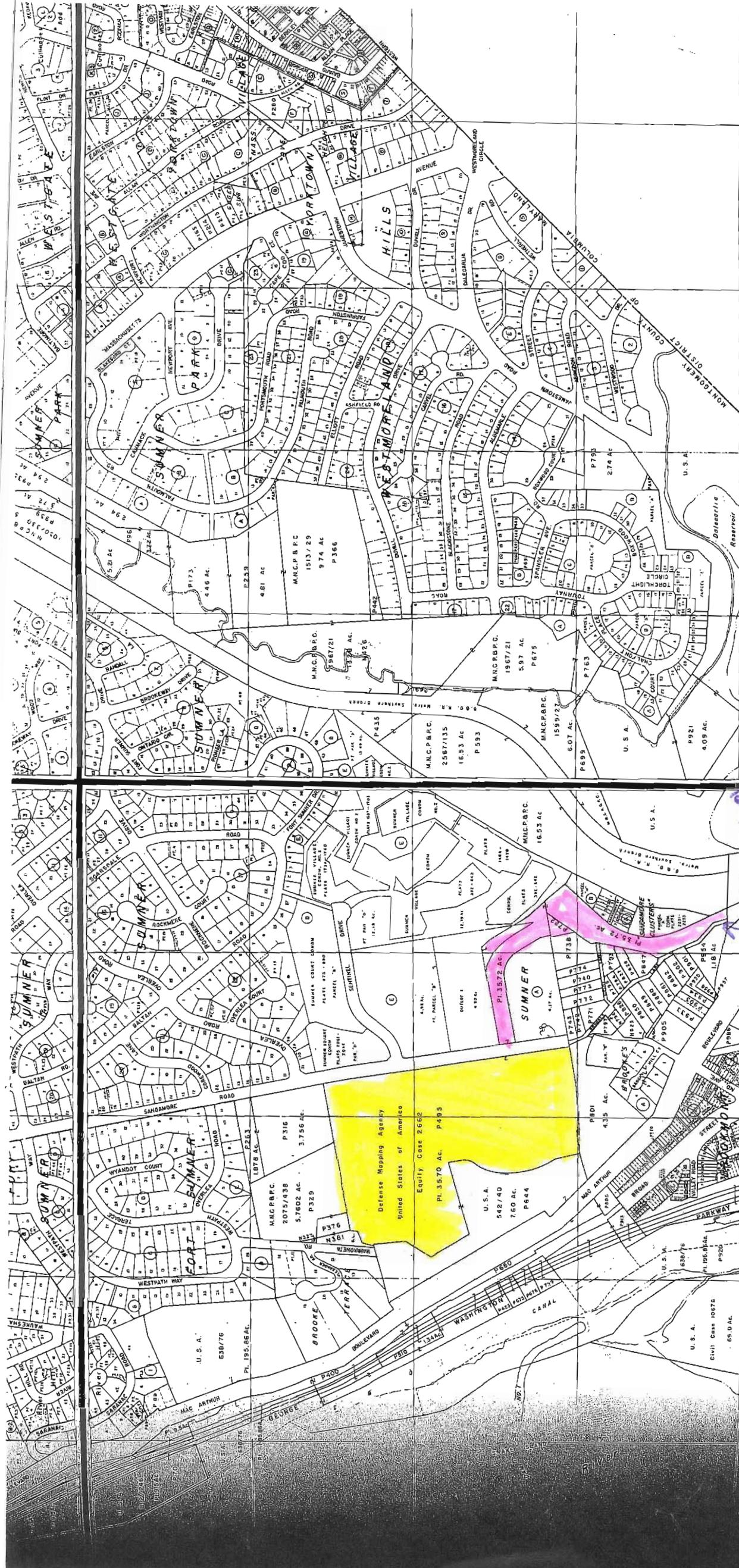


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TEST STRIP

C O L U M B I A





Map HM 122
 W. S. S. C. 206 NW 5
 Location: WESTMORELAND HILLS

Map GM 562
 W. S. S. C. 206 NW 6
 Location: U. S. ARMY MAP SERVICE

134

7th DISTRICT

PUBLISHED
 NOVEMBER
 1981

MONTGOMERY COUNTY, MARYLAND

SCALE
 1" = 600'



H2

H1

G6

G7

Equity Case 2.662

Sandy
1-301-217-9227



PROPERTY INSIGHT

1. This Judgment Report (the "REPORT") is not an official record of the Maryland state and the U.S. Courts situate in Maryland. The REPORT is not a legal opinion as to the sufficiency or applicability of any judicial record referred to in the REPORT. Before acting on any information contained in the REPORT, Customers are advised to review the official court records to determine the legal status and applicability of any judicial record referred to in the REPORT. "Customer" shall mean any individual, law firm, title insurer or title insurance agent, credit or background investigator and any independent contractor and the agents, servants and employees of any such persons or entities ordering REPORTS directly from Property Insight. The acceptance of the REPORT or payment of fees for the REPORT constitutes acknowledgement of and agreement with the REPORT'S TERMS OF SERVICE.
2. Property Insight is not a consumer credit reporting agency as defined under the Federal Fair Credit Reporting Act (15 USC sections 1681 et seq.) and the Maryland Consumer Credit Reporting Act (Md. Code Ann., Commercial Law sections 14-201 et seq.). The REPORT is furnished and accepted upon the express understanding and condition that the Customer will use the REPORT in full compliance with all state and federal laws regarding credit reporting and privacy. Customer agrees to hold Property Insight harmless and to indemnify it against any loss or damage sustained by third parties as a result of the illegal, improper or unauthorized use by Customer and those claiming through Customer of the matters reported herein.
3. The REPORT is solely a Defendant entity search. Customer understands that it has only requested a search of state and/or federal court dockets (limited to the courts enumerated on the REPORT order form) and that the REPORT is limited to a listing of case reference(s) or case number(s) that contain the Defendant entity specified by the Customer. The REPORT may not include any or all of the Defendant entities contained in a case docket as the REPORT reflects initial case filing, only, and not subsequent case activity. Property Insight makes no warranty, express or implied, as to the completeness or accuracy of any information contained in the REPORT except the case reference or case number. Customer data in the REPORT is for organizational purposes only and may not reflect initial, accurate, or subsequent case activity. Property Insight specifically disclaims any express or implied warranties to Customer as to the REPORT'S merchantability or fitness for a particular purpose or use.
4. Property Insight is not an insurance carrier and assumes no risk or liability for Customer's business operations. Customer assumes absolute liability for the accuracy and legality of REPORT order forms submitted by Customer or on Customer's behalf to Property Insight. Customer assumes absolute liability for verifying the entity(ies) enumerated on the REPORT precisely correspond(s), in all respects, to the entity(ies) enumerated on the REPORT order form submitted by Customer, its agents, servants and employees, to Property Insight. PROPERTY INSIGHT HAS NO LIABILITY FOR LOSSES(S) SUSTAINED AS THE RESULT OF THE USE OF ANY INFORMATION CONTAINED IN THE REPORT OR ANY INACCURACY IN REPORT ORDERS WHICH ARE SUBMITTED, REQUESTED, DELIVERED OR UPDATED OTHER THAN BY WRITTEN COMMUNICATION INCLUDING, WITHOUT LIMITATION, ANY CLAIMS FOR INCIDENTAL AND/OR CONSEQUENTIAL DAMAGES.
5. Any limitation of liability contained herein notwithstanding, in the event Customer alleges a claim against Property Insight, the liability of Property Insight to Customer for any incomplete, inaccurate or omitted case reference or case number shall be limited to the original amount of the judgment or lien, at time of filing, or \$50,000, whichever is less; plus interest and legal fees associated with said judgment or lien, from time of filing through date of alleged incomplete, inaccurate or omitted case reference or case number or \$50,000, whichever is less, for a combined liability not to exceed \$100,000. Property Insight has no liability for any additional incidental or consequential damages, either monetary or specific performance. Any monetary settlement of a claim for loss concluded between Property Insight and Customer shall be in lieu of all other remedies available to Customer regardless of whether or not Customer shall execute and deliver a release. Any claim for loss alleged by Customer must be delivered, in writing, to Property Insight, 409 Washington Avenue, Towson, MD 21204 within five (5) years of the issuance of the REPORT. Property Insight has no liability to any third parties which may utilize or rely upon the REPORT.
6. The REPORT does not include cases ordered sealed by a Court; the REPORT does not include post-2001 tax sales in Baltimore City; the REPORT is not to be used for the purpose of enumerating or identifying tax sales in any Maryland jurisdiction, other than pre-2001 tax sales in Baltimore City, and any itemization of such tax sales within the REPORT is informational only and not considered to be a part of the REPORT for which payment was received from Customer. Property Insight has no liability as to tax sales in any Maryland jurisdiction, other than pre-2001 tax sales in Baltimore City, which may be itemized in the REPORT.
7. Excluding Montgomery and Prince George's Counties, plaintiffs in ground rent ejectment actions are also listed as defendants; plaintiffs in divorce cases filed subsequent to January 1, 1979 are also listed as defendants.
8. The REPORT is not to be used for the purpose of determining whether an individual or group is a suspected terrorist or terrorist group on lists published and maintained by the Office of Foreign Assets Control (OFAC) under the USA Patriot Act and Property Insight has no liability for the identification of any individual or group on which a REPORT is ordered as also appearing on the OFAC list.

2010.1 TERMS OF SERVICE
Copyright © Property Insight



Maryland Judgment Report Request Form

DATE: 05-17-
 Anne Arundel Co. 410.269.0424
 Baltimore City 410.244.0260
 Baltimore Co. 410.825.4435
 Cecil Co. 410.879.6637
 Charles Co. 301.952.1778
 Harford Co. 410.879.6637
 Howard Co. 410.857.9802
 Prince Georges Co. 301.952.1778
 Carroll Co. 410.857.9802
 Frederick Co. 301.698.1500
 Montgomery Co. 410.825.4435

Main Office:
 409 Washington Avenue
 Towson, Maryland 21204
 410.825.4435 ph. 410.825.4438 fax

**References furnished are not intended for use as a Credit report.
 Applicant must examine each case to determine its significance.**

Please furnish a list of judgments, suits, etc. in the jurisdictions indicated below, against the following as given and spelled. The list is to refer to:

Baltimore City (State and Federal Courts)

Judgments, incl. District & Peoples Courts (Recorded), min. 13 years
 Cases instituted at Law, except District Court, min. 13 years *
 Cases in Equity, min. 25 years * Hospital Liens * Bankruptcies *
 Insolvencies * State and Federal Tax Liens * Criminal
 Recognizances, min. 20 years * Juvenile Paternal Judgments

Anne Arundel Co., Baltimore Co., Carroll Co., Cecil Co., Charles Co., Frederick Co., Harford Co., Howard Co., Montgomery Co., and Prince George's Co., (Circuit Courts)

Judgments, min. 13 years * Cases instituted at Law, min. 13 years *
 Cases in Equity, min. 25 years * Hospital Liens * Condemnations, min.
 20 years * Insolvencies * State and Federal Tax Liens *
 Criminal Recognizances * Juvenile Paternal Judgments * Land Acquisitions

(Federal Court cases Do Not include Sealed Cases)

ORDER BY TRANSACTION CODE NUMBER

- | | |
|---|--|
| <input type="checkbox"/> 21 Baltimore City (including U.S. Court Cases) \$12.00 | <input type="checkbox"/> 46 Cecil County and U.S. Courts \$12.00 |
| <input type="checkbox"/> 22 Baltimore County (STATE COURTS ONLY) \$10.00 | <input type="checkbox"/> 49 Charles County (STATE COURTS ONLY) \$10.00 |
| <input type="checkbox"/> 23 Baltimore County and U.S. Courts \$12.00 | <input type="checkbox"/> 50 Charles County and U.S. Courts \$12.00 |
| <input type="checkbox"/> 24 U.S. Courts only \$10.00 | <input type="checkbox"/> 61 Prince Georges County (STATE COURTS ONLY) \$10.00 |
| <input type="checkbox"/> 25 Anne Arundel County (STATE COURTS ONLY) \$10.00 | <input type="checkbox"/> 62 Prince Georges County and U.S. Courts \$12.00 |
| <input type="checkbox"/> 26 Anne Arundel County and U.S. Courts \$12.00 | <input type="checkbox"/> 63 Carroll County (STATE COURTS ONLY) \$10.00 |
| <input type="checkbox"/> 27 Harford County (STATE COURTS ONLY) \$10.00 | <input type="checkbox"/> 64 Carroll County and U.S. Courts \$12.00 |
| <input type="checkbox"/> 28 Harford County and U.S. Courts \$12.00 | <input type="checkbox"/> 65 Montgomery County (STATE COURTS ONLY) \$10.00 |
| <input type="checkbox"/> 29 Howard County (STATE COURTS ONLY) \$10.00 | <input checked="" type="checkbox"/> 66 Montgomery County and U.S. Courts \$12.00 |
| <input type="checkbox"/> 30 Howard County and U.S. Courts \$12.00 | <input type="checkbox"/> 67 Frederick County (STATE COURTS ONLY) \$10.00 |
| <input type="checkbox"/> 45 Cecil County (STATE COURTS ONLY) \$10.00 | <input type="checkbox"/> 68 Frederick County and U.S. Courts \$12.00 |

CLIENT FILE/CASE NUMBER: USA PROPERTY ADDRESS: 4600 SANGAMORE

A SEPARATE REQUEST FORM SHOULD BE USED FOR EACH CLIENT FILE/CASE NUMBER - A SEPARATE REPORT IS FURNISHED FOR EACH NAME

PLEASE PRINT CLEARLY

SURNAME (ALSO BUSINESSES)

GIVEN NAME (DO NOT ABBREVIATE OR USE NICK NAMES)

1. UNITED STATES OF AMERICA

2. SECRETARY OF THE ARMY

3. DEFENSE MAPPING AGENCY

4.

5.

6.

Name/Phone of Requestor: SANDY (301) 424-7244 Charge to Account: SUBURBAN
 Name/Location on Account: SUBURBAN TITLE ROCKVILLE
 Deliver To (fax # or location): (301) 217-9271 5-98404 5/19

Company Use Only

Order Number _____ Check if paid by cash _____ check _____

taining unto and to the only proper use, benefit, and behoof forever of the said Lloyd W. Simkin, and Lida Mae Simkin his wife, as tenants by entirety, his, her, or their heirs or assigns.

And the said parties of the first part covenant that they will warrant specially and generally the property hereby conveyed; that they are seized of the land hereby conveyed; that they have a right to convey said land; that the said parties of the second part and that they will execute such further assurances of said land shall quietly enjoy said land; that they have done no act to encumber said land as may be requisite.

Witness their hands and seals.

Test: H46 Henry A. Weaver (Seal)
H35 Grace L. Weaver (Seal)
H.E. Smith
Clara I. Milham

State of Michigan, County of Kalamazoo, SS: _

I hereby certify that on this 7th day of April, 1926, before the subscriber a Notary Public in and for the State and County, aforesaid, personally appeared Henry A. Weaver and Grace L. Weaver, his wife, and did each acknowledge the foregoing deed to be their respective act.

In testimony whereof, I have affixed my seal this 17th day of April A.D. 1926.

H. E. Smith
Notary Public
My commission Expires July 30, 1926

H. E. Smith
Notary Public
Kalamazoo County, Mich.

398/115

EXAMINED

Rel. to: Rlu
C. J. Owens
6-11-26

AT the request of Loughborough Development Corporation the following deed was recorded April 12th A.D. 1926 at 2:57 o'clock P.M. to wit:-

This deed made this ninth day of April A.D. 1926 by and between Ida V. Garrity unmarried and Cora E. Garrity, unmarried, and Emma F. Garrity, unmarried, parties of the first part; and Loughborough Development Corporation, a corporation organized and existing under the laws of the State of Delaware, party of the second part.

Witnesseth: That for and in consideration of the sum of ten dollars (\$10.00) current money in hand paid, the receipt of which is hereby acknowledged, the said parties of the first part do hereby grant and convey unto the said party of the second part, its successors and assigns, in fee simple, all that piece, parcel or tract of ground situate, lying and being in Montgomery County, Maryland, described as follows:-

Parts of lots numbered one (1) and two (2) of the property of Ida V., Cora E., and Emma F. Garrity, being a part of "Brooke Park", and "Friendship", in said County, described by metes and bounds as follows:

Beginning for the same at an original stone marked SRS, said stone being at

the end of 8.4 perches on the first line of "Friendship" and which stone stands at the southeast corner of the Miranda F. Lodge tract and running thence with the south line of Lodge and Frank A. Book the following courses and distances; South 76 degrees 17 minutes west 196.22 feet to a stone marked No. 1 thence south 76 degrees 37 minutes 30 seconds west 1478.20 feet to an iron pipe; thence south 79 degrees 37 minutes west 954.70 feet to a stone marked L-1 corner of lot 3 and block; thence with the east boundary of lot 3 south 1 degree 28 minutes west 47.4 feet; thence south 67 degrees 28 minutes west 79.08 feet; thence south 14 degrees 58 minutes west 120 feet; thence south 14 degrees 25 minutes west 94.66 feet; thence south 46 degrees 28 minutes west 247.95 feet to the north line of the Conduit Road; thence with the north line of the Conduit Road south 31 degrees 04 minutes east 853.5 feet to a stone marked WA-3B thence south 49 degrees 05 minutes west 49.97 feet to a stone marked Wan-7; thence south 45 degrees east 321.2 feet to an iron pipe, corner to Hutchins; thence with the north line of Hutchins and V.I. Richards and passing a stone marked B. north 74 degrees 03 minutes east 160.17 feet to an iron pipe; thence north 89 degrees 38 minutes thence north 85 degrees 45 minutes east 296.86 feet to an iron pipe; east 133 feet to an iron pipe; thence north 80 degrees 44 minutes east 250 feet to an iron pipe; thence north 79 degrees 58 minutes east 877.90 feet to an iron pipe, corner to Brooke Park; thence with the lines of Brooke Park north 1 degree 54 minutes 30 seconds west 1185.56 feet to a white oak; thence north 70 degrees 13 minutes east 544.77 feet to a stone marked B; thence south 60 degrees 21 minutes east 330.3 feet to a stone marked C; thence south 36 degrees 41 minutes east 573.90 feet to a point within the right of way of the Metropolitan Southern Railway; thence crossing the Metropolitan Southern right-of way, south 50 degrees 03 minutes east 197.89 feet to a stone; thence with the north line of Baughan south 49 degrees 53 minutes east 575.60 feet to an iron pipe; thence with the west lines of the lands now or formerly William Shoemaker, Joseph Collins, Mary Shea and the Ray heirs north 3 degrees 25 minutes west 374.22 feet to a stone; thence north 3 degrees 20 minutes 30 seconds west 939.14 feet to a stone; thence north 4 degrees 56 minutes 20 seconds west 1180.56 feet and crossing the right of way, of the Metropolitan Southern Railway to a stone; thence north 29 degrees 47 minutes east 1088. feet to a stone marked B.P. in Posey's south line; thence with the south line of the Peter D. Posey heirs south 79 degrees 07 minutes west; 1590.50 feet to a stone, marked BL; thence with the east line of Miranda F. Lodge south 2 degrees 01 minutes east 1632.30 feet to a stone marked E.H.B. at the point of beginning and containing 142.6165 acres, exclusive of right of way of the Metropolitan Southern Railway, containing 4.4436 acres.

The above described property being in accordance with survey of said property by David J. Howell and Son, Engineers, Washington, D.C. Made in April 1926.

Together with the buildings and improvements thereupon, erected, made or being; and all and every, the rights, alleys, ways, waters, privileges, appurtenances and advantages, to the same belonging or in anywise appertaining.

To have and to hold the aforesaid piece or parcel of ground and premises above described or mentioned, and hereby intended to be conveyed, together

with the rights, privileges, appurtenances and advantages thereto belonging or appertaining unto and to the only proper use, benefit, and behoof forever of the said party of the second part, its successors and assigns.

And the said parties of the first part covenant that they will warrant specially and generally the property hereby conveyed; that they are seized of the land hereby conveyed; that they have a right to convey said land; that the said party of the second part shall quietly enjoy said land; that they have done no act to encumber said land; and that they will execute such further assurances of said land as may be requisite.

Witness our hands and seals.

Test: 143 Ida V. Garrity (Seal)
G. Elmer Flather 140 Cora E. Garrity (Seal)
Emma F. Garrity (Seal)

District of Columbia, to wit:-

I hereby certify that on this 9th day of April 1926, before the subscriber, a Notary Public in and for District of Columbia aforesaid, personally appeared Ida V. Garrity Cora E. Garrity, and Emma F. Garrity, all unmarried, and did each acknowledge the foregoing deed to be their respective act.

In testimony whereof I have affixed my seal this 9th day of April A.D. 1926.

G. Elmer Flather
Notary Public
District of
Columbia

EXAMINED

Rel. to: RLL
C. F. Owens
6-11-26

AT the request of Mabel F. Rawlings the following deed was recorded April 12th A.D. 1926 at 3:35 o'clock P.M. to wit:-

This deed made this ninth day of April in the year one thousand nine hundred and twenty-six by and between Washington Real Estate Exchange, Inc., (a corporation organized under the laws of the State of Delaware) party of the first part, and Mabel F. Rawlings of Washington, D.C., party of the second part.

Witnesseth, that for and in consideration of the sum of ten dollars receipt whereof is hereby acknowledge, the said party of the first part does grant unto the said party of the second part, in fee simple, the following described land and premises, situate in Montgomery County, Md., Lot eight (8) in block four (4) and lot six (6) in block eight (8) in the subdivision known as Rosedale Park, as shown on plat recorded in plat book one (1) folio 92 one of the land records of said county.

Together with all and singular the ways, easements, rights, privileges, and appurtenances to the same belonging or in anywise appertaining, and all the estate right, title, interest and claim, either at law or in equity, or otherwise however, of the said

assurances of said land as may be requisite.

Witness their hands and seals.

Test: Harold P. Ganss
Harold P. Ganss

Albert W. Walker (Seal)
Florence W. Walker (Seal)

(Internal Revenue \$2.50)

District of Columbia, ss:

I Hereby Certify that on this 9th day of August, 1932, before the subscriber, a Notary Public, in and for said District, personally appeared Albert W. Walker and Florence W. Walker, his wife, and did each acknowledge the foregoing Deed to be their act.

In Testimony Whereof, I have affixed my official seal this 9th day of August, A. D. 1932.

Harold P. Ganss
Notary Public, D. C.

Harold P. Ganss
Notary Public
District of
Columbia

542/40

EXAMINED
MAILED TO

SUBURBAN TITLE AND
INVESTMENT CORPORATION
925-15th ST. N. W.
WASHINGTON, D. C.
10-4-32

At the request of the United States of America the following
Deed was recorded August 26th A. D. 1932, at 1:05 o'clock
P. M., to-wit:-

This Deed, made this 9th day of August, A. D. 1932, by and between Loughborough Development Corporation (a Delaware corporation), acting pursuant to a resolution of the Board of Directors, a legal quorum of the Directors being present and voting, party of the first part, and United States of America, party of the second part:

Witnesseth, that in consideration of Thirty-three thousand, Three hundred eighty-five and 78/100 Dollars (\$33,385.78) current money of the United States, the said party of the first part does grant and convey unto United States of America, party of the second part, its successors and assigns, in fee simple, all that piece or parcel of ground situate, lying and being in Montgomery County, State of Maryland, being part of the same land which the said party of the first part obtained from Ida V. Garrity, et al, by deed dated April 9, 1926, recorded in the Land Records of Montgomery County, Maryland, in Liber No. 398, folio 115, and being described as follows, to wit:

Parts of tracts called "Friendship" and "Brooke Park", described by courses and distances according to survey made by the National Capital Park and Planning Commission of part of the Albert W. Walker and Loughborough Development Corporation's properties, in March 1932, as follows:

(exceptions)

Beginning for the same at a stone planted in the line of the Washington Aqueduct property which is distant 255.15 feet South 30 degrees, 57 minutes, 35 seconds East from the stone planted in the line of said Aqueduct marked "W A 2B" said beginning stone being at the end of the 8th line of the parcel conveyed by Ida V. Garrity and others to Loughborough Development Corporation by deed dated April 9, 1926, and recorded among said Land Records in Liber No. 398, folio 115, and running thence with said 8th line of said conveyance reversed (1) North 46 degrees, 28 minutes, 27 seconds East 248.05 feet to a stone planted at the end of the 7th line of said conveyance; thence with the 7th line of said conveyance reversed (2) North 14 degrees, 25 minutes, 43 seconds East 94.66 feet to a stone at the end of the 6th line of said conveyance; thence with part of said 6th line of said conveyance reversed, (3) North 14 degrees, 59 minutes, 12 seconds East 51.93 feet to a monument now planted in said 6th line; thence leaving the outlines of said conveyance and running (4) North 74 degrees, 54 minutes, 35 seconds East 11.70 feet to a monument now planted; thence (5) South 04 degrees, 22 minutes, 34 seconds East 199.57 feet to a monument now planted; thence (6) South 32 degrees, 09 minutes 07 seconds West 181.94 feet to a monument now planted; thence (7) South 30 degrees, 23 minutes, 31 seconds East 142.27 feet to a monument now planted; thence (8) South 30 degrees, 22 minutes, 34 seconds, East 127.50 feet to a monument now planted; thence (9) North 74 degrees, 32 minutes, 27 seconds East 193.39 feet to a monument now planted; thence (10) North 74 degrees, 21 minutes, 02 seconds East 271.96 feet to a monument now planted; thence (11) South 06 degrees 49 minutes, 38 seconds East 84.84 feet to a monument now planted; thence (12) on the arc of a curve to the right, having a radius of 100 feet, for an arc distance of 90.98 feet (chord South 19 degrees, 14 minutes, 17 seconds West 87.38 feet) to a monument now planted; thence (13) on the arc of a curve to the left, having a radius of 125 feet, for an arc distance of 81.89 feet (chord South 26 degrees, 32 minutes, 10 seconds West 80.43 feet) to a monument now planted; thence (14) South 07 degrees, 46 minutes, 05 seconds West 45 feet; thence (15) on the arc of a curve to the left having a radius of 524 feet for an arc distance of 131.75 feet (chord South 00 degrees, 33 minutes, 54 seconds West 131.40 feet) to a monument now planted; thence (16) still on the arc of said curve having a radius of 524 feet, for an arc distance of 233.93 feet (chord South 19 degrees, 25 minutes, 37 seconds East 231.99 feet) to a monument now planted; thence (17) South 12 degrees, 08 minutes, 13 seconds East 173.13 feet to a monument now planted at the end of the 12th line of said conveyance from Garrity, et.al, to Loughborough Development Corporation; thence with said 12th line of said conveyance reversed (18) South 74 degrees, 04 minutes, 57 seconds West 160.18 feet to a monument now planted at the end of the 11th line of said conveyance and in the line of the Washington Aqueduct property; thence with a line of said Washington Aqueduct property and with the 11th line of said conveyance reversed (19) North 44 degrees, 58 minutes, 41 seconds West 321.29 feet to a stone at the end of the 10th line of said conveyance marked "W. A. N-7"; thence with said 10th line of said conveyance reversed (20) North 49 degrees, 07 minutes, 25 seconds East 49.96 feet to a stone at the end of the 9th line of said conveyance marked "W. A. 3B"; and thence with said 9th line of said conveyance reversed (21) North 30 degrees, 57 minutes, 35 seconds West 853.94 feet to the place of beginning; the above described parcel being designated on the plat of said survey of National Capital Park and Planning Commission as "Parcel B", containing 7.602 acres.

Reserving unto the party hereto of the first part, its successors and

reserving unto the party hereto of the first part, its successors and assignees, the right to construct and maintain at its own expense a roadway not more than twenty

(20) feet in width across and over the property hereby conveyed, said roadway to extend in a Northeasterly direction from Conduit Road to the North boundary of the property herein conveyed; route, direction, construction and maintenance of said roadway to be satisfactory to the Director of the Office of Public Buildings and Public Parks of the National Capital, acting for and on behalf of the United States of America. The right to use and maintain the said roadway shall continue and exist only so long as it is used for travel and when it is no longer so used and maintained, all rights hereby or herein granted shall cease, and no claim shall be made against the party hereto of the second part or their successors or assigns for any refunds of any nature whatsoever. No rights, title, interest or estate shall be deemed to vest in the party hereto of the first part, its successors or assigns, in and to the bed or soil of the roadway so constructed, the fee thereof to remain in the party hereto of the second part, their successors or assigns.

Together with the buildings and improvements thereupon, created made or being; and all and every, the rights, alleys, ways, waters, privileges, appurtenances and advantages, to the same belonging or in anywise appertaining.

To Have and to Hold the said piece or parcel of ground and premises above described or mentioned, and hereby intended to be conveyed, together with the rights, privileges, appurtenances, and advantages thereto belonging or appertaining unto and to the only proper use, benefit and behoof forever of the said United States of America, its successors, and assigns, in fee simple.

And the said party of the first part covenant that it will warrant specially and generally the property hereby conveyed; and that it will execute such further assurances of said land as may be requisite.

In Witness Whereof, the said Loughborough Development Corporation has caused these presents to be signed in its corporate name by Albert W. Walker, its President, and its corporate seal to be hereto affixed, as attested by Robert B. Smythe, its Secretary, and does hereby constitute and appoint Albert W. Walker, its true and lawful Attorney in Fact, to acknowledge this deed as the Act and Deed of this Corporation.

Loughborough Development Corporation
By Albert W. Walker
President.

Attest:
Robt. B. Smythe
Secretary.

Loughborough Development
Corporation, Incorporated
Delaware 1928

(Internal Revenue §33.50)

District of Columbia, ss:

I Hereby Certify that on this 9th day of August, A. D. 1932.

Mary G. Connell Notary Public, D. C.

Notary Public

District of

Columbia

District of Columbia;

I Hereby Certify that on this 4th day of January, A. D. 1937, before the subscriber, a Notary Public in and for said District, personally appeared Frank Stetson and E. Percival Wilson, Trustees, parties to a certain Deed bearing date on the 22nd day of December, A. D. 1936, and hereto annexed, personally appeared before me, in said District, the said Frank Stetson and E. Percival Wilson, Trustees, being personally well known to me as the persons who executed the said Deed and acknowledged the same to be their act and deed.

Given under my hand and seal this 4th day of January, A. D.

1937.

John W. Crow

John W. Crow Notary Public, D. C.

Notary Public

District of

Columbia

654/72

B/K

MAILED TO
SUBURBAN TITLE AND
INVESTMENT CORPORATION
925-15th ST. N. W.
WASHINGTON, D. C.
3-17-37

At the request of Ida V. Garrity and others, the following Deed was recorded January 23rd, A. D. 1937, at 11:41 o'clock, A. M., to

wit:-

This Deed, Made this 5th day of January, in the year one thousand nine hundred and Thirty-seven by and between Loughborough Development Corporation (a Delaware Corporation), party of the first part, and Ida V. Garrity Cora E. Garrity and Emma F. Garrity, as Joint Tenants, and not as Tenants in Common, parties of the second part.

Witnesseth, that for and in consideration of the sum of Ten (10) Dollars, receipt whereof is hereby acknowledged, the said party of the first part does grant unto the said parties of the second part, as Joint Tenants, and not as Tenants in Common, in fee simple, the following described land and premises, situate in the County of Montgomery, State of Maryland, and known and distinguished as

Parts of Lots 1 and 2 of the property of Ida V., Cora E., and Emma F. Garrity, being part of "Brooke Park" and "Friendship", described by metes and bounds, as follows: Beginning for the same at an original stone marked E. H. B., said stone being at the end of 8.4 perches on the first line of "Friendship" and which stone stands at the Southeast corner of the Miranda F. Lodge tract, and running thence with the South line of Lodge and Frank A. Bock tracts the following courses and distances; (1) South 76 degrees 17 minutes West 198.22 feet to a stone marked #1; thence (2) South 76 degrees 37 minutes 30 seconds West 147.25 feet to an iron pipe; thence (3) South 79 degrees 37 minutes West 954.70 feet to a stone marked L-1 corner of Lot 3 and block; thence with the East boundary of Lot 3

(4) South 01 degree 28 minutes West 17.4 feet; thence (5) South 07 degrees 28 minutes West 79.08 feet; thence (6) South 14 degrees 58 minutes West 120 feet; thence (7) South 14 degrees 25 minutes West 94.66 feet; (8) thence South 46 degrees 25 minutes West 247.95 feet to the North line of the Conduit Road; thence with the North line of the Conduit Road (9) South 31 degrees 04 minutes East 853.5 feet to a stone marked W. A.-38; thence (10) South 49 degrees 05 minutes West 49.97 feet to a stone marked Wan-7; thence (11) South 45 degrees East 321.2 feet to an iron pipe, corner to Hutchins; thence with the North line of Hutchins and V. I. Richards, and passing a stone marked "B" (12) North 71 degrees 03 minutes East 160.17 feet to an iron pipe; thence (13) North 89 degrees 38 minutes East 135 feet to an iron pipe; thence North 85 degrees 45 minutes East 296.86 feet to an iron pipe; thence North 80 degrees, 44 minutes East 260 feet to an iron pipe; thence North 79 degrees 58 minutes East 877.90 feet to an iron pipe, corner to Brooke Park; thence with the lines of Brooke Park North 01 degree, 53 minutes, 30 seconds West 1185.56 feet to a white oak; thence North 70 degrees, 12 minutes, East 544.77 feet to a stone marked "B"; thence South 60 degrees 21 minutes East 330.3 feet to a stone marked "C"; thence South 36 degrees, 41 minutes East 573.90 feet to a point within the Right of Way of the Metropolitan Southern Railway; thence crossing the Metropolitan Southern Right of Way, South 50 degrees, 03 minutes East 197.89 feet to a stone; thence with the North line of Baughan South 49 degrees 53 minutes East 575.60 feet to an iron pipe; thence with the West lines of the lands now or formerly William Shoemaker, Joseph Collins Mary Shea and the Ray Heirs North 03 degrees, 25 minutes, West 374.22 feet to a stone; thence North 03 degrees 20 minutes, 30 seconds West 939.14 feet to a stone; thence North 04 degrees 56 minutes 20 seconds West 1180.56 feet and crossing the Right of Way of the Metropolitan Southern Railway to a stone; thence North 23 degrees 47 minutes East 1088 feet to a stone marked "B. P." in Posay's South line; thence with the South line of Peter D. Posay Heirs, South 79 degrees 07 minutes West 1530.50 feet to a stone marked "B. L." thence with the East line of Miranda F. Lodge South 02 degrees, 01 minute East 1632.30 feet to a stone marked E. H. B. at the point of beginning, and containing 142.6165 acres, exclusive of Right of Way of the Metropolitan Southern Railway, containing 4.4438 acres. The above described property being in accordance with survey of said property by David J. Howell and Son, Engineers, Washington, D. C. made in April 1926.

Excepting, however, from the above described land the portion thereof conveyed by Loughborough Development Corporation to United States of America by deed dated August 9, 1933, recorded in Liber No. 542 folio 40, of the Land Records for said Montgomery County, containing 7.608 acres of land.

Also the party of the first part does grant unto the parties of the second part, all its right, title and interest in and to the tract of land called "Friendship" and "Brooke Park" which was conveyed to said Loughborough Development Corporation by deed from Frances Ingle Griffith, et al, dated February 13, 1932, recorded in Liber No. 554, folio 301, of said Land Records.

Together with all and singular the ways, easements, rights, privileges and appurtenances to the same belonging or in anywise appertaining, and all the estate, right, title, interest, and claim, either at law or in equity, or otherwise however, of the said party of the first part, of, in, to, or out of the said land and premises.

And the said party of the first part covenants that it will

warrant specially the property hereby conveyed, and that it will execute such further assurances of said land as may be requisite or necessary.

In Testimony Whereof, the said Loughborough Development Corporation hath on the 5th day of January, A. D. 1937, caused these presents to be signed by Albert W. Walker, its President, attested by Robert B. Smythe, its Secretary, and its corporate seal to be hereunto affixed; and doth hereby appoint Albert W. Walker, its true and lawful attorney in fact to acknowledge and deliver these presents as its act and deed.

Attest: Loughborough Development Corporation
Robert B. Smythe Secretary By: Albert W. Walker President

Signed, sealed and delivered Loughborough Development Corporation Incorporated
in the presence of- M. G. Connell 1923 Delaware

District of Columbia, to wit:

I, Mary G. Connell, a Notary Public in and for the District of Columbia, do hereby certify that on this 5th day of January, 1937, Albert W. Walker, who is personally well known to me as the person named as Attorney in fact in the foregoing Deed, bearing date on the 5th day of January, A. D. 1937, and hereto annexed, personally appeared before me in said District and as attorney in fact as aforesaid, and by virtue of the authority vested in him by said Deed acknowledged the same to be the act and deed of Loughborough Development Corporation, the grantor therein.

Given under my hand and seal this 5th day of January, A. D. 1937.

Mary G. Connell

Mary G. Connell Notary Public, D. C.

Notary Public

District of

Columbia

718
mailed to:-
Walter Von Herbulis
1126 Vermont Ave.
Wash. DC.

3-17-37

At the request of Ellen R. Von Herbulis, the following Deed was recorded January 25th, A. D. 1937, at 10:09 o'clock, A. M., to wit:-

This Deed, Made this 12th day of Januar,, In the year of our Lord

one thousand nine hundred and thirty-seven by and between Annie Bartos, unmarried, party of the first part, and Ellen R. Von Herbulis, party of the second part:

Witnesseth, that in consideration of Ten and no/100 Dollars the said party of the first part does grant and convey unto Ellen R. Von Herbulis party of the second part, her heirs and assigns, in fee simple, all piece or parcel of ground situate, lying and being in Montgomery County, State of Maryland, being the same land which the said party of the first part obtained from Nettie B. DeWitt et vir, by deed dated the 15th day of November, 1913, recorded in the Land Records of Montgomery County, and being described as follows, to wit:

733/309

EX-111
B/S
mailed to:
Grantee
Hyattsville, Md
6-6-39.

At the request of Washington Suburban Sanitary Commission, the following Right of Way was recorded April 8th, A. D. 1939 at 11:20 o'clock A. M., to wit:

This deed made this 30th day of January, in the year of our Lord one thousand nine hundred and thirty-nine, by and between Ida V. Garrity, Cora E. Garrity and Emma F. Garrity, all unmarried, of the City of Washington, in the District of Columbia, parties of the first part, and the Washington Suburban Sanitary Commission, a public corporation of the State of Maryland, organized and existing under the laws of said State, party of the second part,

Witnesseth, That in consideration of the sum of One Dollar (\$1.00) to them in hand paid by the party of the second part, the receipt of which is hereby acknowledged, the said parties of the first part do hereby grant and convey unto the said party of the second part, its successors and assigns, the easement and right of way hereinafter described for the installation, construction, reconstruction, maintenance, repair, operation and inspection of a sewer within said easement and right of way, together with the right of ingress and egress along and over said right of way, for any and all of such purposes; the said right of way and easement being described as follows:

Being a strip of land twelve (12) feet wide, six (6) feet on each side of the centerline hereinafter described, in, through, over and across the property of the first parties hereto as described in a deed from the Loughborough Development Corporation dated January 5, 1937 and recorded January 23, 1937 among the Land Records of Montgomery County, Maryland, in Liber 654 at Folio 72;

Beginning for the said centerline of the said twelve (12) foot wide strip of land at a point on the twenty-fourth or North 4° 56' 20" West 1180.56 foot line described in the aforesaid deed, 192.93 feet from a stone found planted at the beginning thereof, the beginning point here described being the end point of a similar right of way across the property of Louis Justement, and running thence in the meridian of the Washington Suburban Sanitary District, 9.31 feet along the arc of a curve to the right, having a radius of 804.52 feet and a long chord bearing South 62° 59' 16" West 9.31 feet to a point of tangency, thence leaving said curve at an angle of 42° 00' 10" to the left of the tangent of said curve South 21° 19' 00" West 132.03 feet to a point, thence South 7° 58' 20" East 116.91 feet to a point of a curvature, thence 183.63 feet along the arc of a curve to the left, having a radius of 792.41 feet and a long chord bearing South 14° 37' 10" East 183.22 feet, to a point of tangency, thence leaving said curve to an angle of 29° 05' 10" to the right of the tangent of said curve, South 7° 49' 40" West 72.13 feet to a point of curvature, thence 69.90 feet along the arc of a curve to the right, having a radius of 778.14 feet and along chord bearing South 11° 08' 15" West 89.85 feet, to a point of tangency, thence South 14° 26' 50" West 24.92 feet to a point of curvature, thence 262.58 feet along the arc of a curve to the left, having a radius of 800 feet and a long chord bearing South 5° 02' 40" West 261.40 feet, to a point of tangency, thence South 4° 21' 30" East 76.17 feet to a point, thence South 9° 50' 00" West 172.59 feet to a point of curvature, thence 251.05 feet along the arc of a curve to the left, having a radius of 815.24 feet and a long chord bearing South 1° 00' 41" West 250.06 feet, to a point on the twenty-first or South 49° 53' East 575.60 foot line described in the aforesaid deed, 222.98 feet from a pipe found planted at the end thereof, the end point here described is the beginning point of a similar right of way across the property of the W. C. and A. N. Miller Development Company.

To have and to hold said easement and right of way for a sewer above described or mentioned and hereby intended to be granted and conveyed, together with the rights, privileges, appurtenances and advantages thereto belonging or appertaining, unto and to the only proper use, benefit and behoof forever of the said Washington Suburban Sanitary Commission, its successors and assigns.

And the parties of the first part, for themselves, their heirs and assigns, covenant and agree with the party of the second part, its successors and assigns, as follows: first; that they will never erect nor permit to be erected any building or structure of any nature whatsoever within the above described easement and right of way for a sewer Second: that the party of the second part, its successors and assigns, shall at all times have right of ingress and egress over said easement and right of way for the purpose of installing, constructing, reconstructing, maintaining repairing, operating and inspecting the sewer within said easement and right of way, said ingress and egress to be along the line herein designated and along such other lines as the parties of the first part may designate; Third: that they will warrant especially said right of way and will execute such further assurances of said easement and right of way as may be requisite.

Witness their hands and seals the day and year first hereinabove written.

Attest: Irene B. Arendes
Ida V. Garrity (Seal)
Core E. Garrity (Seal)
Emma F. Garrity (Seal)

District of Columbia, ss:

I hereby certify that on this 30th day of January, 1939, before the subscriber, a Notary Public of the District of Columbia, in and for the District of Columbia, aforesaid, personally appeared Ida V. Garrity, Core E. Garrity and Emma F. Garrity, all unmarried, and did acknowledge the foregoing to be their act.

In Testimony Whereof, I have hereunto set my hand and affixed my official seal this 30th day of January, A. D. 1939.

Irene B. Arendes
Irene B. Arendes
Notary Public
District of
Columbia

Blst
mailed to:
Grant
Hypaterville, Md
6-6-39.

At the request of Washington Suburban Sanitary Commission, the following Right of Way was recorded April 8th, A. D. 1939 at 11:20 o'clock A. M., to wit:

This Deed made this 16th day of January, in the year of our Lord one thousand nine hundred and thirty-nine, by and between William A. Linthicum and Sue E. Linthicum, his wife, and Virginia M. Griffith, unmarried, and Rosa V. Prettyman, widow, all of the county of Montgomery, in the State of Maryland parties of the first part, and the Washington Suburban Sanitary Commission, a public corporation of the State of Maryland, organized and existing under the laws of said State, party of the second part,

Witnesseth, That in consideration of the sum of One Dollar (\$1.00) to them in hand paid by the party of the second part, the receipt of which is hereby acknowledged, the said parties of the first part do hereby grant and convey unto the said party of the second part, its successors and assigns, the easement and right of way hereinafter described for the installation, construction, reconstruction, maintenance, repair, operation and inspection of a water main and a sewer within said easement and right of way, together with the right of ingress and egress along and over said right of way, for any and all of such purposes; the said right of way and easement being described as follows:

Company the grantor therein.

Given under my hand and seal this 5th day of May, A. D. 1942.

R. E. Read

R. E. Read
Notary Public

Notary Public, D. C.

District of
Columbia

875/327

EXAMINED ~~RECORDED~~ ~~INDEXED~~ ~~FILED~~

At the request of W. C. and A. N. Miller Development Company the following Deed was recorded May 8th A. D., 1942 at 2:22 o'clock P. M., to-wit:-

This Deed, Made this Sixteenth day of March, in the year of our Lord one thousand nine hundred and forty-two, by and between Ida V. Garrity and Emma F. Garrity, as Joint Tenants, parties hereto of the first part, and W. C. and A. N. Miller Development Company, a corporation organized and existing under and by virtue of the laws of the State of Delaware, party hereto of the second part:

Witnesseth, that in consideration of the sum of Ten Dollars (\$10.00) the said parties of the first part do grant and convey unto W. C. and A. N. Miller Development Company party of the second part, in fee simple, its successors and assigns, all that piece or parcel of ground, with the improvements, easements and appurtenances thereunto belonging, situate, lying and being in Montgomery County, State of Maryland, being known and distinguished as part of "Friendship", "Brooke Park", etc., described according to plat of survey made by C. J. Maddox, dated January 26, 1942, as follows:

Beginning for the same at a stone set where formerly stood a stone marked "E.H.B.", the beginning of a conveyance made the 5th day of January, 1937, by Loughborough Development Corporation to Ida V. Garrity et al, for 142.6165 acres of land, and recorded in Liber 654 at folio 72, one of the Land Records of Montgomery County, Maryland, thence with the lines of said land (1) south 76 degrees 19 minutes 15 seconds west, 196.22 feet to a stone marked "B-1"; (2) south 76 degrees 39 minutes 45 seconds west, 1478.93 feet to an iron pipe in the center of Sangamore Road extended; (3) south 79 degrees 40 minutes 40 seconds west, 955.50 feet to a stone marked "L-1"; (4) south 01 degree 19 minutes 50 seconds west, 47.40 feet to a stone; (5) south 67 degrees 34 minutes 55 seconds west; 79.16 feet to a stone; (6) south 14 degrees 59 minutes 12 seconds west, 68.07 feet to a monument placed at the end of the third line of a conveyance made the 9th day of August, 1932, by the Loughborough Development Corporation to United States of America for 7.602 acres of land, and recorded in Liber 542 at folio 40, one of the Land Records of said County; thence with the lines of said conveyance (7) north 74 degrees 54 minutes 35 seconds east, 11.70 feet to a monument (8) south 04 degrees 22 minutes 34 seconds east, 199.57 feet to a monument; (9) south 32 degrees 09 minutes 07 seconds west, 181.94 feet to a monument; (10) south 30 degrees 23 minutes 31 seconds east, 142.27 feet to a monument; (11) south 30 degrees 22 minutes 34 seconds east, 127.50 feet to a monument; (12) north 74 degrees 32 minutes 27 seconds east 193.39 feet to a monument; (13) north 74 degrees 21 minutes 02 seconds east, 271.96 feet to a monument; (14) south 06 degrees 49 minutes 38 seconds east, 84.84 feet to a monument; (15) thence on a curve to the right, having a radius of 100 feet, for a distance of 90.98 feet to a monument; (16) thence on a curve to the left, having a radius of 125 feet, for a distance of 81.89 feet to a monument; (17) thence south 07 degrees 46 minutes 05 seconds west, 45.00 feet to a monument; (18) thence on a curve to the left, having a radius of 524 feet for a distance of 131.75 feet to a monument; (19) thence still on a curve to the left, having a radius of 524.00 feet for a distance of 233.93 feet to a monument; (20) south 12 degrees 08 minutes 13 seconds east, 173.13 feet to a monument now placed at the end of the 12th line of the first

mentioned conveyance from Loughborough Development Corporation to Garrity; thence with the lines of said conveyance (21) north 89 degrees 41 minutes 10 seconds east, 133.00 feet to an iron pipe; (22) north 85 degrees 50 minutes 15 seconds east, 297.19 feet to an iron pipe; (23) north 80 degrees 48 minutes 25 seconds east, 250.05 feet to an iron pipe; (24) north 80 degrees 02 minutes 30 seconds east, 877.44 feet to an iron pipe; (25) north 01 degrees 47 minutes 10 seconds west, 1187.40 feet to a large white oak tree; (26) north 70 degrees 18 minutes 20 seconds east, 544.77 feet to a stone marked "E", (27) south 60 degrees 15 minutes 40 seconds east, 330.56 feet to a stone marked "C"; (28) south 36 degrees 35 minutes 40 seconds east, 535.84 feet to a stone, the end of the third line of 3.92 acres of land acquired from Ida V. Garrity et al by the Metropolitan Southern Railroad Company, and recorded in Liber J.A. No. 8 at folio 213, one of the Judgment Records of said County; thence along the westerly line of said conveyance (29) north 02 degrees 55 minutes east, 517.73 feet to a stone; (30) thence on a curve to the right, having a radius of 1206.00 feet, for a distance of 573.57 feet to a stone; (31) north 30 degrees 10 minutes east, 566.71 feet to a stone, the end of 772.04 feet on the 25th line of the first mentioned conveyance from Loughborough to Garrity; thence leaving said railroad line and with the line of said conveyance (32) north 04 degrees 52 minutes 24 seconds west, 408.52 feet to a stone; (33) north 29 degrees 51 minutes 20 seconds east, 1088.85 feet to a stone marked "B. P." in the right of way for Massachusetts Avenue; thence (34) south 79 degrees 11 minutes west 1591.83 feet to a stone marked "B. L."; thence (35) south 01 degree 58 minutes 30 seconds east, 1632.50 feet to the place of beginning; containing 121.8806 acres of land.

Subject To the rights of the public in and to so much of the above described property as may lie within the limit lines of the public right of way known as Massachusetts Avenue.

The property hereby conveyed being parts of lots One (1) and Two (2) of the property of Ida V., Cora E., and Emma F. Garrity, being part of "Brooke Park" and "Friendship" in Montgomery County, Maryland, as more fully described in a certain deed dated January 5th, 1937, from Loughborough Development Corporation, grantor, to Ida V., Cora E., and Emma F. Garrity, recorded January 23, 1937, in Liber 654 at folio 72 of the Land Records of Montgomery County, Maryland, (excepting that part of the said lot 2 lying South and East of the Baltimore and Ohio Right of Way containing 13.251 acres, more or less, hereinbefore sold and conveyed unto said W. C. and A. N. Miller Development Company).

To Have and to Hold the said piece of ground and premises above described or mentioned, and hereby intended to be conveyed, together with the rights, privileges, appurtenances, and advantages thereto belonging or appertaining unto and to the only proper use, benefit and behoof forever of the said party of the second part, its successors and assigns, in fee simple.

And the said parties of the first part covenant that they will warrant specially and generally the property hereby conveyed; and that they will execute such further assurances of said land as may be requisite.

Witness their hands and seals.

Test: Frances B. Kolb

(Internal Revenue \$100.10)

(State Tax \$90.50)

Ida V. Garrity (Seal)

Emma F. Garrity (Seal)

City of Washington, District of Columbia, ss:

I Hereby Certify that on this 16th day of March, 1942, before the subscriber, a Notary Public in and for said City of Washington, District of Columbia, personally appeared Ida V. Garrity and Emma F. Garrity and did acknowledge the foregoing deed to be their act.

In Testimony Whereof I have affixed my official seal this 16th day of March, A. D. 1942.

1000 875/327

121.8806 a2

B: 654172

"Friendship" "Buck House"

931

W.C. and A.N. Miller

Case #

Development Company

Rec 5-8-42
INDEX REPORT

From 3-16-42

To 7-9-45

Grantor

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1078	71	R	WSSU		
1141	388	R	WSSU		
	1945				
	<u>Re List</u>				
grantee:					
875	327	D			

feet wide, one on each side of the twelve (12) feet wide strip or parcel of land described above and adjacent, contiguous and parallel thereto, during the period of the original construction of said sewer within the above described easement and right of way, for any and all purposes pertinent thereto.

To Have and to Hold said easement and right of way for a sewer above described or mentioned and hereby intended to be granted and conveyed, together with the rights, privileges, appurtenances and advantages thereto belonging or appertaining, unto and to the only proper use, benefit and behoof forever of the said Washington Suburban Sanitary Commission, its successors and assigns.

And the party of the first part, for itself, its successors and assigns, covenants and agrees with the party of the second part its successors and assigns, as follows: First: that it will never erect nor permit to be erected any building or structure of any nature whatsoever within the above described easement and right of way for a sewer; Second: that the party of the second part, its successors and assigns, shall at all times have right of ingress and egress over said easement and right of way for the purpose of installing, constructing, reconstructing, maintaining, repairing, operating and inspecting the sewer within said easement and right of way, said ingress and egress to be along the line herein designated and along such other lines as the party of the first part may designate; Third: that it will warrant specially said easement and right of way and will execute such assurances thereof as may be requisite.

In Testimony Whereof, the said Baptist Home for Children, Incorporated, a corporation, has caused these presents to be signed by E. Hilton Jackson, its President, attested by U. Clinton James, its Secretary, and its corporate seal to be hereunto affixed, the day and year hereinabove written.

Attest: Baptist Home for Children, Incorporated
C. Clinton James Secretary The Baptist Home for Children Incorporated 1915 D. C. By E. Hilton Jackson President

District of Columbia: SS

On this 3rd day of March, 1946, before me, Helen R. Sassoer a Notary Public the undersigned officer, personally appeared E. Hilton Jackson, President of Baptist Home for Children, Incorporated, known to me to be the person whose name is subscribed to the within instrument and acknowledged that he executed the same for the purposes therein contained.

In Witness Whereof, I hereunto set my hand and official seal.

Helen R. Sassoer Notary Public, D. C.
My Commission Expires 12/14/50
District of Columbia

1078/71

EXAMINER

Mailed to S.A.C. Hyattsville, Md.

11-20-47

At the request of Washington Suburban Sanitary Commission the following Right of Way was recorded May 9th A. D. 1947 at 2:42 o'clock P. M., to wit: This Right of Way Made this 8th day of April in the year of our Lord one thousand nine hundred and forty seven, by and between W. C. and A. N. Miller Development Company, a corporation, organized and existing under the laws of the State of Delaware, party of the first part, and the Washington Suburban Sanitary Commission, a public corporation of the State of Maryland, organized and existing under the laws of said state, party of the second part,

Witnesseth: That in consideration of the sum of One Dollars (\$1.00) to be in hand paid by the party of the second part, the receipt of which is hereby acknowledged, the said party of the first part does hereby grant and convey unto the said party of the second part, its successors and assigns, the easement and right of way hereinafter described for the installation, construction, reconstruction, maintenance, repair, operation and inspection of a sewer within said easement and right of way, together with the right of ingress and egress along and over said right of way, for any and all of such purposes; the said right of way and easement being described as follows:

Being a strip or parcel of land twelve (12) feet wide, six (6) feet on each side of the centerline hereinafter described, in, through, over and across the property of the party of the first part as described in a deed from Ida V. Garrity and Emma F. Garrity, dated March 16, 1942 and recorded among the Land Records of Montgomery County, Maryland, in Liber Liber 875 at Folio 327.

Beginning for the said centerline of the said twelve (12) feet wide strip or parcel of land at a point on the south line of Brookeway Drive as shown on a Plat entitled "Extension of Brookeway and Fort Sumner Drive - Sumner", recorded among the aforesaid Land Records in Plat Book 27 as Plat No. 1725, said south line of Brookeway Drive being designated as curve No. 9 on the aforesaid Plat and said point of beginning being an arc distance of 32.06 feet along said curve No. 9 from a pipe found planted at the westerly point of curvature of said curve No. 9 and running thence 85.12 feet along the arc of a curve to the left having a radius of 400 feet and a long chord bearing South 49° 28' 21" East, true, 14.96 feet to a point on the North 30° 10' 00" East, 566.71 foot line as shown on the aforesaid Plat, 311.27 feet from a stone found planted at the end thereof, said line being the west right of way line of the Baltimore and Ohio Railroad.

And Also: The said party of the first part does hereby grant unto the said party of the second part the right to use two (2) additional strips or parcels of land; and; one strip nineteen (19) feet wide lying south of the above described strip or parcel of land and adjacent, contiguous and parallel thereto, and one strip lying north of the above described strip or parcel of land and adjacent and contiguous thereto and containing all that area between said strip or parcel of land and the south line of the existing fifteen (15) feet wide right of way as shown on the aforesaid Plat of "Sumner", during the period of the original construction of said sewer within said easement and right of way for any and all purposes pertinent thereto.

To Have and to Hold said easement and right of way for a sewer above described or mentioned and hereby intended to be granted and conveyed, together with the rights, privileges, appurtenances and advantages thereto belonging or appertaining, unto and to the only proper use, benefit and behoof forever of the said Washington Suburban Sanitary Commission, its successors and assigns.

And the party of the first part, for itself, its successors and assigns, covenants and agrees with the party of the second part, its successors and assigns, as follows: First: that it will never erect nor permit to be erected any building or structure of any nature whatsoever within the above described easement and right of way for a sewer; second: that the party of the second part, its successors and assigns, shall at all times have right of ingress and egress over said easement and right of way for the purpose of installing, constructing, reconstructing, maintaining, repairing, operating and inspecting the sewer within said easement and right of way, said ingress and egress to be along the line herein designated and along such other lines as the party of the first part may designate; Third: that it will warrant specially said easement and right of way and will execute such further assurances thereof as may be requisite.

In Testimony Whereof the said W. C. and A. M. Miller Development Company, a corporate corporation, has caused these presents to be signed by A. M. Miller, its President,

attested by Lewis W. Machir, its Secretary, and its corporate seal to be hereunto affixed, the day and year first hereinafove written.

Attest: W. C. and A. N. Miller Development Company
Lewis W. Machir Secretary W. C. and A. N. Miller Development Company Corporate Seal 1926 Delaware
By A. N. Miller, (President)

District of Columbia:

On this 10th day of April, 1947, before me, a Natarly Public, the undersigned officer, personally appeared A. N. Miller, President of W. C. and A. N. Miller Development Company, a oorporation, known to me to be the person whose name is subscribed to the within instrument and acknowledge that he executed the same for the purposes therein contained.

In Witness Whereof, I hereunto set my hand and official seal.

Morgan B. Callahan Notary Public
Morgan B. Callahan Notary Public
District of Columbia
My Comm. Expires ...

EXAMINED

Mailed to - A. S. C.
Hyattsville, Md.
11-26-47

At the request of Washington Suburban Sanitary Commission the following Right of Way was recorded May 9th A. D. 1947 at 2:42 O'clock P. M., to wit: This Right of Way Made this 5th day of March in the year of our Lord one thousand nine hundred and forty seven, by and between Samuel Brisker and Gertrude Brisker, his wife; and Nathan Brisker and Mary Brisker, his wife, of District, of Columbia, parties of the first part, and the Washington Suburban Sanitary Commission, a public oorporation of the State of Maryland, organized and existing under the laws of said state, party of the second part,

Witnesseth: That in consideration of the sum of One Dollars (\$1.00) to them in hand paid by the party of the second part, the receipt of which is hereby acknowledged the said parties of the first part do.. hereby grant and convey unto the said party of the second part, it successors and assigns, the easement and right of way hereinafter described for the installation, construction, reconstruction, maintenance, repair, operation and inspection of a sewer within said easement and right of way, together with the right of ingress and egress along and over said right of way, for any and all of such purposes; the said right of way and easement being described as follows:

Being a strip or parcel of land twelve (12) feet wide, six (6) feet on each side of the centerline hereinafter described, in, through, over and across the property of the first parties hereto, as described in a deed from Mildred N. Getty, et al, to Samuel Brisker and Nathan Brisker, dated August 7, 1946 and recorded among the Land Records of Montgomery County, Maryland, in Liber 1035 at Folio 1.

Beginning for the said centerline of the said twelve (12) foot wide strip or parcel of land at a point on the third or North 2° 36' 00" West 352.79 foot line as described in the aforesaid deed, 141.33 feet from the end thereof and running thence South 37° 50' 22" West, true, 203.51 feet to end of the first or North 2° 28' 45" East 58.77 foot line as described in a deed from George G. Getty to the Washington Suburban Sanitary Commission, dated January 13, 1942 and recorded among the aforesaid Land Records in Liber 871 at Folio 131.

structure of any nature whatsoever with in the above described easement and right of way for a sewer; Second: that the party of the second part, its successors and assigns, shall at all times have right of ingress and egress over said easement and right of way for the purpose of installing, constructing, reconstructing, maintaining, repairing, operating and inspecting the sewer within said easement and right of way, said ingress and egress to be along the line herein designated and along with other lines as the party of the first part may designate; Third: that they will warrant specially said easement and right of way and will execute such further assurances thereof as may be requisite.

Witness their hand and seal the day and year first hereinabove written.

Witness: Theodore S. Grape (Seal)
Milton B. Cole Grace L. Grape (Seal)
Witness: Milton B. Cole

State of Maryland, County of Montgomery: ss

On this 24th day of March, 1948, before me, Notary Public, the undersigned officer, personally appeared Theodore S. Grape and Grace L. Grape, his wife, known to me to be the persons whose names are subscribed to the within instrument and acknowledged that they executed the same for the purposes therein contained.

In witness whereof, I hereunto set my hand and official seal.

William A. Marlowe
Notary Public
Montgomery
County, Md.

1141/388

EXAMINED

Mailed to:
St. A. S. Conn
Ogattsville, Md
10-21-48

At the request of Washington Suburban Sanitary Commission, the following right of way was recorded April 8th, A.D. 1948, at 10:34 o'clock A.M., to wit:

This Right of Way Made this 9th day of March, in the year of our Lord one thousand nine hundred and forty eight, by and between W. C. & A. N. Miller Development Company, a corporation organized and existing under the laws of the State of Delaware, party of the first part, and the Washington Suburban Sanitary Commission, a public corporation of the State of Maryland, organized and existing under the laws of said state, party of the second part.

Witnesseth: That in consideration of the sum of One Dollar (\$1.00) to it in hand paid by the party of the second part, the receipt of which is hereby acknowledged, the said party of the first part does hereby grant and convey unto the said party of the second part, its successors and assigns, the easement and right of way hereinafter described for the installation, construction, reconstruction, maintenance, repair, operation and inspection of a sewer within said easement and right of way, together with the right of ingress and egress along and over said right of way, for any and all of such purposes; the said right of way and easement being described as follows:

Being a strip or parcel of land twelve (12) feet wide, six (6) feet on each side of the centerline hereinafter described, is, through, over and across the property of the party of the first part as described in a deed from Ian V. Garrity and Emma S. Garrity, as joint tenants, dated March 16, 1942, and recorded among the Land Records

of Montgomery County, Maryland, in Liber 875 at Folio 327.

Beginning for the centerline of the said twelve (12) feet wide strip or parcel of land at a point on the thirty-fifth or South 1° 58' 30" East, 1632.50 foot line described in the aforesaid deed, 578.35 feet from the beginning thereof and running thence South 45° 15' 00" East, true, 141.34 feet to a point, thence South 48° 30' 00" East, true, 60.00 feet to a point, thence North 88° 01' 30" East, true, 361.48 feet to a point on the South 20° 03' 20" East, 63.04 foot line, as shown on the plat of Extension of Brookway and Fort Sumner Drives, Sumner, and recorded among the aforesaid Land Records in Plat Book 27 as Plat 1725, 39.45 feet from the beginning thereof.

And Also The said party of the first part does hereby grant unto the said party of the second part the right to use two additional strips of land, each nineteen (19) feet wide, one on each side of the twelve (12) feet wide strip or parcel of land described above and adjacent, contiguous and parallel thereto, during the period of the original construction of said sewer within the above described easement and right of way, for any and all purposes pertinent thereto.

To Have and to Hold said easement and right of way for a sewer above described or mentioned and hereby intended to be granted and conveyed, together with the rights, privileges, appurtenances and advantages thereto belonging or appertaining, unto and to the only proper use, benefit and behoof forever of the said Washington Suburban Sanitary Commission, its successors and assigns,

And the party of the first part, for itself, its successors and assigns covenants and agrees with the party of the second part, its successors and assigns, as follows: First: that it will never erect nor permit to be erected any building or structure of any nature whatsoever within the above described easement and right of way for a sewer; Second: that the party of the second part, its successors and assigns, shall at all times have right of ingress and egress over said easement and right of way for the purpose of installing, constructing, reconstructing, maintaining, repairing, operating and inspecting the sewer within said easement and right of way, said ingress and egress to be along the line herein designated and along such other liner as the party of the first part may designate; Third: that it will warrant specially said easement and right of way and will execute such further assurances thereof as may be requisite.

In Testimony Whereof the said W. C. and A. N. Miller Development Company, a corporation, has caused these presents to be signed by A. N. Miller, its President, attested by Lewis W. Machir, its Secretary, and its corporate seal to be hereunto affixed, the day and year first hereinabove written.

attest:		W. C. and A. N. Miller Development
Lewis W. Machir	W.C. and A.N. Miller	Company
Secretary	Development Company Corporate	By: A. N. Miller
	Seal Delaware 1926	President

District of Columbia, SS

On this 9th day of March, 1948, before me, Morgan B. Callahan, the undersigned officer, personally appeared A. N. Miller, president of W. C. and A. N. Miller Development Company, a corporation, known to me to be the person whose name is subscribed to the within instrument and acknowledged that he executed the same for the purposes therein contained.

In Witness Whereof, I hereunto set my hand and official seal.

	Morgan B. Callahan
Morgan B. Callahan	Notary Public
Notary Public	
District of	
Columbia	

32.881 act

B: pt. 875/37

V2662

Grantor			Page		Case #
Liber	Folio	Inst.	Lot or Parcel	Block	Tract/Subdivision
					7th dist 4600 Sangamore
					INDEX REPORT From 7-9-45 To 1948
					① United States of America ② (Secretary of the Army) ③ (Defense Mapping Agency) ④ (Army Mapping Agency) (SMD)
3030	250	D	adj Sangamore Rd		Decl taking V2694
3077	371	esmt	wash. aqueduct, MacArthur Blvd for		4.95
3575	297	agmt	wash. aqueduct, MacArthur Blvd		
3960	203	esmt	6100-6104 MacArthur Blvd.		
4447	91	D	0.02 ac pt 7 on Southern Blv line of MacArthur		land. n. V2662
5231	210	esmt	wash. aqueduct, MacArthur Blvd.		
5487	683	esmt	MacArthur Blvd RW, Wash. aqueduct		near Cabin John Fire Dept. 52/4028
8330	146	esmt	Defense Mapping Agency		7th dist
9121	15	esmt	Washington Aqueduct, MacArthur Blvd.		
12835	473	esmt	wash. aqueduct		(near D.C. line)
14184	287	esmt	wash. aqueduct, MacArthur Blvd.		
14824	607	corr D	"Little Falls Tunnel Project" "Wash. Aqueduct"		near Cabin John Park Wash. near Cabin John Park Fire Dept.
15487	406	agmt	MacArthur Blvd; aqueduct		
17352	15	corr D	"Little Falls Tunnel Project" "Wash. Aqueduct"		
18210	18	esmt	Wash. Aqueduct		MacArthur Blvd.
18662	19	esmt	SEE ④ Army Map Reservation		V2581 to parcel A3 V25
20273	63	esmt	wash. aqueduct		to 6407, 6409 MacArthur
20544	198	esmt	wash. aqueduct		near Rivers de Senne MacArthur Blvd
21401	640	esmt	wash. aqueduct		to 6407 MacArthur Blvd
40605	198	esmt	Wash. Aqueduct		Below MD ave MacArthur Blvd.
					3-31-11 Re Test

made to - U.S. Army Engineer District Batts, Acting Chief, Real Estate
Division 1st & 2nd Ave. S.W. Wash. 25 D.C. 4-19-63

LIBER 3067 FOLIO 307

Recorded March 14th, 1963-at-2:54 P. M.

THIS RIGHT OF WAY

Made this 31st day of August in the year of our Lord one thousand nine hundred and sixty one, by and between W. C. and A. N. Miller Development Company, a Delaware Corporation by Allison N. Miller, Jr., President and Lewis W. Machir, Secretary, parties of the first part, and the United States of America, party of the second part.

WITNESSETH: That in consideration of the sum of one dollar (\$1.00) in hand paid by the party of the second part, the receipt of which is hereby acknowledged, the said parties of the first part do hereby grant and convey unto the said party of the second part, its successors and assigns, the easement and right of way hereinafter described for the installation, construction, reconstruction, maintenance, repair, operation and inspection of a sanitary sewer system within said easement and right of way, together with the right of ingress and egress along and over said right of way, for any and all of such purposes; the said right of way and easement being described as follows:

Being a right of way 20 feet wide across the W. C. and A. N. Miller Development Company property for the construction, maintenance and operation of a sanitary sewer, the centerline of which is more particularly described as follows:

Beginning for the same on the easterly line of Sangamore Road, opposite centerline Station 54+53.51 as shown on a plat recorded in Plat Book 56, Plat 4469 among the Land Records of Montgomery County, Maryland and running thence ten feet from, parallel, adjacent and contiguous with the northerly line of the Army Map Service Access Road, as described in Equity Liber 103 at Folio 455;

1. N 79°59'57"E 604.97 feet to intersect the centerline of an existing Army Map Service twenty foot right of way for sanitary sewer together with the use of a construction strip 7.50 feet in width laying adjacent and parallel

0.288 0.28

to the north side of the above described right of way, the use of which shall terminate upon completion of construction.

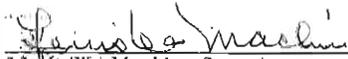
TO HAVE AND TO HOLD said easement and right of way for a sanitary sewer system above described or mentioned and hereby intended to be granted and conveyed, together with the rights, privileges, appurtenances and advantages, thereto belonging or appertaining to and unto the only proper use, benefit and behoof forever of the said United States of America, its successors and assigns.

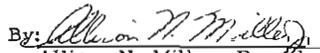
AND the parties of the first part, for themselves, their heirs and assigns, covenant and agree with the party of the second part, its successors and assigns, as follows: FIRST: that they will obtain the consent of the United States of America before they erect or permit to be erected any building or structure, or before they fill or excavate within the above described easement and right of way. SECOND: that the party of the second part, its successors and assigns, shall at all times have the right of ingress and egress over said easement and right of way for the purpose of installing, constructing, reconstructing, maintaining, repairing, operating and inspecting the sanitary sewer system within said easement and right of way, said ingress and egress to be along the line herein designated and along such other line as the parties of the first part may designate. THIRD: that they will warrant specially said easement and right of way and will execute such further assurances thereof as may be requisite.

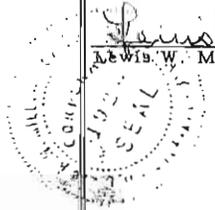
WITNESS OUR HANDS AND SEALS the day and year first hereinabove written.

ATTEST:

W. C. AND A. N. MILLER
DEVELOPMENT COMPANY


Lewis W. Machir, Secretary

By:  (SEAL)
Allison N. Miller, President



LIBER 3067 FOLIO 309

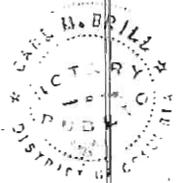
STATE OF :
Missouri : SS
COUNTY OF :
Columbia

On this 31st day of August 1961,

before me, Allison W. Miller, Jr. the undersigned officer, personally appeared

known to me (or satisfactorily proven) to be the persons whose names subscribed to the within instrument and acknowledged that they executed the same for the purposes therein contained.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.



Carl M. Bivitt
Notary Public

My Commission expires 12/31/62

8-2-63

LIBER 3100 FOLIO 466

Recorded June 27th, 1963-at-10:09 A. M.
THIS RIGHT OF WAY

Made this 10th day of June in the year
of our Lord one thousand nine hundred and sixty-three, by and
between W. C. and A. N. MILLER DEVELOPMENT COMPANY a corporation,
organized and existing under the laws of the Delaware
_____, party of the first part, and the
UNITED STATES OF AMERICA, party of the second part.

WITNESSETH: That in consideration of the sum of One Dollar
(\$1.00) to it in hand paid by the party of the second part, the
receipt of which is hereby acknowledged, the said party of the
first part does hereby grant and convey unto the said party of
the second part, its successors and assigns, the easement and
right of way hereinafter described for the installation,
construction, reconstruction, maintenance, repair, operation
and inspection of a sanitary sewer and appurtenances thereto,
including service connections within said easement and right of
way, together with the right of ingress and egress along and
over said right of way, for any and all of such purposes; the
said right of way and easement being described as follows:

Being a strip or parcel of land ten (10) feet wide,
hereinafter described, in, through, over and across the property
of the first party hereto, obtained from Ida V. Garrity, et al,
by deed dated March 16, 1942 and recorded among the Land
Records of Montgomery County, Maryland, in Liber 875 at Folio
327.

The said ten (10) foot wide strip or parcel of land lying
east of and adjacent, contiguous and parallel to the east or
South 8° 20' 38" East right of way line of Sangamore Road as
shown on a plat entitled, "Plat No. 6, Dedication of Sangamore
Road, recorded among the aforesaid Land Records in Plat Book
56 as Plat No. 4469, and extending from the north line of an
existing Right of Way granted by W. C. and A. N. Miller
Development Company to the United States of America, dated

August 31, 1961 and recorded among the aforesaid Land Records in Liber 3067 at Folio 307, in a northerly direction for a distance of 232.02 feet; containing 2320.200 square feet or 0.053 acres.

TO HAVE AND TO HOLD said easement and right of way for a sanitary sewer and appurtenances thereto, including service connections above described or mentioned and hereby intended to be granted and conveyed, together with the rights, privileges, appurtenances and advantages thereto belonging or appertaining, unto and to the only proper use, benefit and behoof forever of the said United States of America, its successors and assigns.

AND the party of the first part, for itself, its successors and assigns, covenants and agrees with the party of the second part, its successors and assigns, as follows: FIRST: that it will obtain the consent of the United States of America before it erects or permits to be erected any building or structure, or before it fills or excavates within the above described easement and right of way. SECOND: that the party of the second part, its successors and assigns, shall at all times have right of ingress and egress over said easement and right of way for the purpose of installing, constructing, reconstructing, maintaining, repairing, operating and inspecting the sanitary sewer and appurtenances thereto, including service connections within the said easement and right of way, said ingress and egress to be along the line herein designated and along such other lines as the party of the first part may designate. THIRD: that it will warrant specially said easement and right of way and will execute such further assurances thereof as may be requisite.

IN TESTIMONY WHEREOF the said W. C. and A. N. MILLER DEVELOPMENT COMPANY, a corporation, has caused these presents to be signed by Allison N. Miller, Jr., President attested by Lewis W. Machir, Secretary and its corporate seal to be hereunto affixed the day and year first hereinabove written.

W. C. AND A. N. MILLER DEVELOPMENT COMPANY

By: Allison N. Miller Jr
Pres., Allison N. Miller, Jr.

Attest:

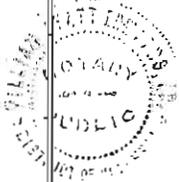
By: Louis W. Machir
Not., Louis W. Machir

STATE OF :
COUNTY OF : SS
:

On this the 10th day of JUNE, 1963,
before me, William Wyatt Edwards Jr
Allison N. Miller Jr the undersigned
officer, personally appeared Allison N. Miller Jr of the
W. C. AND A. N. MILLER DEVELOPMENT COMPANY, a corporation, who
acknowledged himself to be President of the above
corporation, and that he as such President, being
authorized so to do, executed the foregoing instrument for the
purposes therein contained, by signing the name of the
corporation by himself as President.

IN WITNESS WHEREOF, I hereunto set my hand and official
seal.

William Wyatt Edwards Jr
William Wyatt Edwards, Notary Public



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STOCK
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CLK.GI.M.C.
CLK.GI.M.C.
CLK.GI.M.C.
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PAID 6 1 8 1
PAID 6 1 8 2

LIBER 4447 FOLIO 091

CLERK'S OFFICE
MONTG. CO., MD.

QUITCLAIM DEED

1973 OCT -3 AM 10:07

THIS QUITCLAIM DEED, made this 4th day of June

in the year One Thousand Nine Hundred and Seventy-Three, by and between the UNITED STATES OF AMERICA, acting by and through the Secretary of the Army under and pursuant to the Federal Property and Administrative Services Act of 1949 (63 Stat. 377), as amended (40 U.S.G. 471), and delegations of authority pursuant thereto (41 CFR 101-47.601; 20 Fed. Reg. 7113), party of the first part and HOWARD K. SMITH and BENEDICTE SMITH, his wife, tenants by the entirety, parties of the second part:

WITNESSETH: That the party of the first part, for and in consideration of the sum of ONE HUNDRED AND SIXTY DOLLARS (\$160.00), in hand paid, prior to sealing and delivery of this instrument the receipt of which is hereby acknowledged, has remised, released and forever quitclaimed and by these presents does remise, release and forever quitclaim unto the said parties of the second part, their heirs, or assigns forever, all of its right, title and interest in and to, over, under and across all that tract or parcel of land hereinafter more fully described, as situate, lying and being in Montgomery County, Election District No. 7, State of Maryland, and more particularly described as follows:

PORTION OF TRACT NO. 9

A certain parcel of land situate in the State of Maryland, Montgomery County, Election District No. 7, being a portion of Tract No. 9 of the Army Topographic Station, Fort Sumner Site, owned by the United States of America, hereinafter referred to by the tract number and more particularly bounded and described as follows:

Beginning at a point on the reservation boundary, the line between lands now or formerly owned by Howard K. Smith, and Tract No. 9, being distant approximately 10 inches at right angles from the Army Map Service fence line, said point being further located North 81° 17' 14" East 299.51 feet from a point on the Northeast right-of-way line of MacArthur Blvd.; thence, leaving lands of said Smith, and crossing Tract No. 9, approximately 10 inches from and parallel to said fence line, the following courses and distances:

Outsida

North 80° 59' 22" East 145.65 feet, thence
South 04° 13' 03" East 12.17 feet to a point on the
reservation boundary, being the line between said Smith and
Tract No. 9; thence leaving said parallel line, and with
lands of said Smith and said boundary,

South 85° 46' 57" West 145.14 feet to the place of
beginning, containing 0.02 of an acre, more or less.

The bearings used herein are referenced to the Army Topo-
graphic Station Military Reservation Grid System.

It is the intent of the foregoing description to include
a part of the same land as that described in Civil Action
2662 from W. C. and A. N. Miller Development Company, et al,
to the United States of America, filed for record 9 July
1945 in the United States District Court in and for the
District of Maryland.

TO HAVE AND TO HOLD THE premises herein granted unto the parties of
the second part, their heirs or assigns, forever.

THIS QUITCLAIM DEED is executed and delivered to the parties of the
second part, their heirs or assigns, without representations, warranties
or covenants either expressed or implied.

IN WITNESS WHEREOF, the party of the first part has caused these
presents to be executed in its name by the Secretary of the Army and the
seal of the Department of the Army to be hereunto affixed, this 4th
day of June 1973.

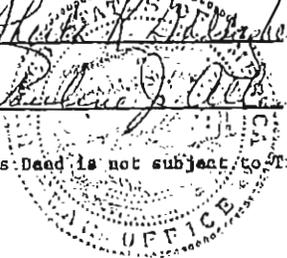
WITNESSES:

Shirley K. [Signature]
[Signature]

UNITED STATES OF AMERICA

BY: *Howard S. Callaway*
Secretary of the Army

This Deed is not subject to Title 10, United States Code, Section 2662.



This instrument was prepared under the supervision of an attorney admitted
to practice before the Court of Appeals of the State of Maryland.

Stigald E. Leo
Attorney at Law
Corps of Engineers

BOOK 447 PAGE 093

COMMONWEALTH OF VIRGINIA)

) SS

COUNTY OF ARLINGTON)

On this 4th day of JUNE 1973, before me,

Curtis Moore Jr., the undersigned officer,

personally appeared HOWARD H. CALLOWAY, known to me
to be the person whose name is subscribed to the foregoing instrument and
acknowledged that he executed the same in the capacity therein stated
and for the purpose therein contained.

In witness whereof, I hereunto set my hand and official seal.

Curtis Moore Jr.

My Commission expires: 18 JUL 1975



Case No: 38162
1 of 4

LIBER 8330 FOLIO 146

ID# 7-502-437145

DEPARTMENT OF THE ARMY
EASEMENT FOR ROAD OR STREET

(SR 402-1-11)

No. DACA-31-2-86-176

ON DEFENSE MAPPING AGENCY

THE SECRETARY OF THE ARMY under and by virtue of the authority vested in the Secretary by Title 10, United States Code, Section 2888, having found that the granting of this easement will not be against the public interest, hereby grants to Everest Enterprises, Inc. a Corporation duly organized and existing under and by virtue of the laws of the State of Maryland with its principal office at 15105 Water Oak Drive, c/o Doctor Jai Rajan, Gaithersburg, MD. 20818.

/perpetual and assignable beginning on the execution hereof hereinafter designated as the grantee an easement for a right-of-way for a road or street over, across, in, and upon lands of the United States, hereinafter designated as the Government, ~~as the same are shown on the following map~~ and more particularly described as follows:

A portion of Tract Nos. 6 and 7, being ten (10) feet wide and containing approximately 0.01 of an acre of land, as shown on Exhibit "A" (COE drawing entitled: Real Estate, Defense Mapping Agency Topographic Center, Military Reservation, Drawing No. MAD 91, Sheet 2 of 4, Montgomery County, Maryland) and more fully described by a legal description designated as Exhibit "B", all exhibits being attached hereto and by this reference made a part hereof.

1988 JUN 23 AM 11:16

FILED
FRED A. SMITH
REGISTERED CLERK
DEFENSE OFFICE

SEARCHED
SERIALIZED
INDEXED
FILED
JUN 23 1988
DEFENSE OFFICE

THIS EASEMENT is granted subject to the following conditions:

1. The construction, installation, use, repair, replacement and maintenance of said road or street, including culverts and other drainage facilities, shall be performed without cost or expense to the Government, under the general supervision and subject to the approval of the officer having immediate jurisdiction over said premises, hereinafter designated as "said officer".
2. The grantee shall at all times maintain said road or street in good condition and shall promptly make all repairs thereto needed to preserve a smooth-surface highway.
3. Any property of the Government damaged or destroyed by the grantee incident to the use and occupation of the said premises shall be promptly repaired or replaced by the grantee to the satisfaction of the said officer, or in lieu of such repair or replacement the grantee shall, if so required by said officer, pay to the Government money in an amount sufficient to compensate for the loss sustained by the Government by reason of damages to or destruction of Government property.
4. The use and occupation of said lands of the Government for the purposes authorized by this instrument shall be subject to such rules and regulations as the said officer may prescribe from time to time in order to properly protect the interests of the Government.
5. The Government shall in no case be liable for any damages or injuries to the said road or street which may be caused by or result from any operations undertaken by the Government, and no claim or right to compensation shall accrue from such damages or injuries.

ENG FORM 547, May 63

REPLACES ENG FORM 547, 1 NOV 58 AND ENG FORM 547a, 1 NOV 58 WHICH ARE OBSOLETE.

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LIBER 8330 FOLIO 67

6. The Government reserves the right to make such connections between the road or street herein authorized and roads and streets on said lands as the said officer may from time to time consider necessary, and also reserves to itself rights-of-way for all purposes across, over, and/or under the right-of-way hereby granted; provided, however, that such rights shall be used in a manner that will not create unnecessary interference with the use and enjoyment by the grantee of said right-of-way for highway purposes.

7. It is to be understood that this instrument is effective only insofar as the rights of the Government in the property over which the said road or street is to be extended are concerned; and that the grantee shall obtain such permission as may be necessary on account of any other existing rights.

8. All or any part of such right-of-way herein granted may be terminated by the Secretary for failure to comply with any or all of the terms or conditions of this grant, or for nonuse for a two-year period or abandonment of rights granted herein.

9. It is understood that the provisions of Conditions Nos. 1 and 5, supra, shall not abrogate or interfere with any agreements or commitments made or entered into between the grantee and any other agency of the Government with regard to financial aid to the grantee in connection with the construction, maintenance, or repair of the road or street described herein.

10. The Government shall not be responsible for damages to property or injuries to persons which may arise from or be incident to the use and occupation of the said premises, nor for damages to the property of the grantee, or for injuries to the person of the grantee (if an individual), nor for damages to the property or injuries to the person of the grantee's officers, agents, servants, or employees, or others who may be on said premises at their invitation or the invitation of any one of them, arising from or incident to governmental activities, and the grantee shall hold the Government harmless from any and all such claims.

11. The Government shall not be responsible for damages to property or injuries to persons which may arise from or be incident to the construction, maintenance, and use of said road or street.

12. The grantee shall comply with all applicable Federal laws and regulations and with all applicable laws, ordinances, and regulations of the state, county municipality wherein the premises are located.

LIBER 8330 FOLIO 148

13. The grantee shall pay to the United States compensation in the amount of Five Hundred Fifty Dollars and 00/100 Cents (\$550.00) for the term, payable in advance. Compensation shall be made payable to the Treasurer of the United States and forwarded by the grantee to the Baltimore District, Corps of Engineers, ATTN: NABRE-M, P.O. Box 1715, Baltimore, Maryland 21203-1725.

14. The the grantor will impose a charge, the amount to be determined by law or regulation, on late payment of rent or other payments due under this agreement for each thirty (30) day period that the payment is overdue. The full late charge will also be applicable to periods of less than thirty (30) days.

15. That the grantee shall comply with all applicable Federal laws and regulations and with all applicable laws, and ordinances, and regulations of the state, county, and municipality wherein the premises are located.

16. That the grantee hereby assumes the responsibility of contacting the installation to familiarize itself with all pertinent installation regulations. They will be required to sign a statement, provided by the Installation, to indicate compliance with this condition.

Prior to execution of this instrument, Condition Nos. 13, 14, 15, and 16 were added on Page 1 which is hereby made a part of this instrument.

This instrument is not subject to Title 10, United States Code, Section 2662.

IN WITNESS WHEREOF, I have hereunto set my hand this 10th day of

October 1986 by authority of the Secretary of the Army.

G. R. Bodgs
G. R. Bodgs
G. R. Bodgs
Chief, Real Estate Division

The above instrument, together with all conditions thereof, is hereby accepted this 25th day of *SEPTEMBER* 1986.

EVEREST ENTERPRISES, INC.

BY: *Jay... Sen*

TITLE: *VICE PRESIDENT*

LIBER 8339 FOLIO 149

OWNER: United States of America
ACRES: 0.01
PORTION OF TRACT NOS. 6 & 7

DEFENSE MAPPING TOPOGRAPHIC CENTER
MONTGOMERY COUNTY, MARYLAND
15 July 1986

DEFENSE MAPPING AGENCY TOPOGRAPHIC CENTER
MONTGOMERY COUNTY, MARYLAND

PORTION OF TRACT NOS. 6 and 7
(access road outgrant)

A certain parcel of land situate in the State of Maryland, Montgomery County Election District 7, being a portion of Tract Nos. 6 and 7 of the Defense Mapping Agency Topographic Center, owned by the United States of America, here-in-after referenced to by Tract Numbers being 10 feet wide, located 5 feet on each side of the following described centerline:

Beginning at a point on the Reservation Boundary, a line between Tract No. 7 and lands now or formerly owned by Florence Shoemaker; thence leaving said Boundary, lands of said Shoemaker and crossing said Tract No. 7,

North 80° 09' 08" East passing a line between said Tract No. 7 and Tract No. 6 at approximately 55.00 feet in all 65.00 feet to its Terminus, a point on edge of pavement of Sangamore Road and within said Tract No. 6,

The above described parcel contains 0.01 of an acre more or less.

The bearing used herein are referenced to the Capitol Dome Coordinate System.

It is the intend of the foregoing description to include portions of Tract Nos. 6 and 7 acquired by the United States of America for the Defense Mapping Agency Topographic Center.

Exhibit "B"

LIBER 8330 FOLIO 150

STATE OF MARYLAND)
COUNTY OF HARFORD)

I HEREBY CERTIFY that on this 22nd day of June, 1988, before me, the undersigned officer, personally appeared G. R. Boggs, known to me or satisfactorily proven to be the person who is subscribed to the within instrument and acknowledged that he has executed the same for the purposes therein contained.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal.



Deborah M. Bulp
Deborah M. Bulp Notary Public

My Commission Expires: July 1990

RETURN TO:
WHEELER AND KORPECK
ATTORNEYS AT LAW
932 BONIFANT STREET
SILVER SPRING, MARYLAND 20910

LIBER 8330 FOLD 151

ATTACHED TO AND MADE A PART OF THAT CERTAIN INSTRUMENT DATED THE

25th DAY OF September, 1986

CLERK'S INDEX SHEET
(For the purpose of proper indexing only)

Pursuant to the provisions and requirements of Section 3-501 of Subtitle 5, Real Property Article, *Annotated Code of Maryland* (1981 Repl. Vol.), the following additional information is declared by the parties hereto to be contained within this instrument:

- 1. TYPE OF INSTRUMENT: RIGHT OF WAY
- 2. GRANTOR'S NAME AND ADDRESS: THE SECRETARY OF THE ARMY
DEPARTMENT OF THE ARMY
109 MARKET STREET, 5TH FLOOR
BALTIMORE, MARYLAND
- 3. GRANTEE'S NAME AND ADDRESS: EVEREST ENTERPRISES, INC.
c/o Doctor Jai Rajan
15105 Water Oak Drive
Gaithersburg, Maryland
- 4. CONSIDERATION (APPLIES ONLY TO DEEDS):
- 5. PARCEL ID/TAX ACCOUNT NO(S): 7-502-437145
- 6. PROPERTY DESCRIPTION: 0.01 Acres
- 7. STREET ADDRESS OF THE LAND AND PREMISES DESCRIBED IN THIS INSTRUMENT:
Unimproved property
- 8. NAME OF TITLE INSURANCE COMPANY:

Mr. Clerk: After recording please see that the original of the foregoing instrument is:

_____ Mailed (additional \$0.50 cost)

OR

XXX Held at Clerk's Office

For: _____
(name)

_____ TITLE RECORDING SERVICE
(address)

DO NOT WRITE BELOW THIS LINE
TO BE COMPLETED BY CLERK OF THE COURT

Verified by: U.P.
(Clerk's Office)

4. AUTHORIZED REPRESENTATIVES

Except as otherwise specifically provided, any reference herein to "Secretary", "District Engineer", "Installation Commander", or "said officer" shall include their duly authorized representatives. Any reference to "Grantee" shall include assignees, transferees, and their duly authorized representatives.

5. SUPERVISION BY THE INSTALLATION COMMANDER

The construction, operation, maintenance, repair, or replacement of said facilities, including culverts and other drainage facilities, shall be performed at no cost or expense to the United States and subject to the approval of the Installation Commander, hereinafter referred to as said officer. Upon the completion of any of the above activities, the Grantee shall immediately restore the premises to the satisfaction of said officer. The use and occupation of the premises for the purposes herein granted shall be subject to such rules and regulations as said officer prescribes in writing from time to time.

6. APPLICABLE LAWS AND REGULATIONS

The Grantee shall comply with all applicable Federal, state, county, and municipal laws, ordinances, and regulations wherein the premises are located, including, but not limited to, the provisions of the latest edition of the National Electrical Safety Code (NESC) and the Environmental Protection Agency regulations on Polychlorinated Biphenyls (PCB's).

7. CONDITION OF PREMISES

The Grantee acknowledges that it has inspected the premises, knows the condition, and understands that the same is granted without any representation or warranties whatsoever and without any obligation on the part of the United States.

8. INSPECTION AND REPAIRS

The Grantee shall inspect the facilities at reasonable intervals and immediately repair any defects found by such inspection, or when required by said officer to repair any such defects.

9. PROTECTION OF GOVERNMENT PROPERTY

The Grantee shall be responsible for any damage that may be caused to the property of the United States by the activities of the Grantee under this easement and shall exercise due diligence in the protection of all property located on the premises against fire or damage from any or all other causes. Any property of the United States damaged or destroyed by the Grantee incident to the exercise of the privileges herein granted shall be promptly repaired or replaced by the Grantee to a condition satisfactory to said officer, or at the election of said officer, reimbursement will be made therefor by the Grantee in an amount necessary to restore or replace the property to a condition satisfactory to said officer.

10. RIGHT TO ENTER

The right is reserved to the United States, its officers, agents, and employees to enter upon the premises at any time and for any purpose necessary or convenient in connection with Government purposes, to make inspections, to remove timber or other material, except property of the Grantee, and/or to make any other use of the lands as may be necessary in connection with Government purposes, and the Grantee shall have no claim for damages on account thereof against the United States or any officer, agent, or employee thereof.

11. TRANSFERS AND ASSIGNMENTS

Upon written notification of said District Engineer, the provisions and conditions of this easement shall extend to and be binding upon and shall inure to the benefit of the representatives, successors, and assigns of the Grantee.

12. INDEMNITY

The United States shall not be responsible for damages to property or injuries to persons which may arise from or be incident to the exercise of the privileges herein granted, or for damages to the property or injuries to the person of the Grantee's officers, agents, or employees or others who may be on the premises at their invitation or the invitation of any one of them, and the Grantee shall hold the United States harmless from any and all such claims not including damages due to the fault or negligence of the United States or its contractors.

13. SUBJECT TO EASEMENTS

This easement is subject to all other existing easements, or those subsequently granted as well as established access routes for roadways and utilities located, or to be located, on the premises, provided that the proposed grant of any new easement or route will be coordinated with the Grantee, and easements will not be granted which will, in the opinion of said officer, interfere with the use of the premises by the Grantee.

14. REQUIRED SERVICES

The Grantee shall furnish through said facilities such services as may be required from time to time for governmental purposes, provided that payment for such service will be made by the United States at rates which shall be mutually agreeable but which shall never exceed the most favorable rates granted by the Grantee for similar service.

15. TERMINATION

This easement may be terminated by the Secretary upon 30 days written notice to the Grantee if the Secretary shall determine that the right-of-way hereby granted interferes with the use or disposal of said land by the United States, or it may be revoked by the Secretary for failure of the Grantee to comply with any or all of the conditions of this easement, or for non-use for a period of two (2) years, or for abandonment.

16. SOIL AND WATER CONSERVATION

The Grantee shall maintain, in a manner satisfactory to said officer, all soil and water conservation structures that may be in existence upon said premises at the beginning of or that may be constructed by the Grantee during the term of this easement, and the Grantee shall take appropriate measures to prevent or control soil erosion within the right-of-way herein granted. Any soil erosion occurring outside the premises resulting from the activities of the Grantee shall be corrected by the Grantee as directed by said officer.

17. ENVIRONMENTAL PROTECTION

a. Within the limits of their respective legal powers, the parties hereto shall protect the premises against pollution of its air, ground, and water. The Grantee shall promptly comply with any laws, regulations, conditions, or instructions affecting the activity hereby authorized if and when issued by the Environmental Protection Agency, or any Federal, state, interstate, or local governmental agency having jurisdiction to abate or prevent pollution. The disposal of any toxic or hazardous materials within the premises is strictly prohibited. Such regulations, conditions, or instructions in effect or prescribed by the said Environmental Protection Agency or any Federal, state, interstate, or local governmental agency are hereby made a condition of this easement. The Grantee shall not discharge waste or effluent from the premises in such a manner that the discharge will contaminate streams or other bodies of water or otherwise become a public nuisance.

b. The use of any pesticides or herbicides within the premises shall be in conformance with all applicable Federal, state, and local laws and regulations. The Grantee must obtain approval in writing from said officer before any pesticides or herbicides are applied to the premises.

c. The Grantee will use all reasonable means available to protect the environment and natural resources, and where damage nonetheless occurs arising from the Grantee's activities, the Grantee shall be liable to restore the damaged resources.

18. HISTORIC PRESERVATION

The Grantee shall not remove or disturb, or cause or permit to be removed or disturbed, any historical, archeological, architectural, or other cultural artifacts, relics, remains, or objects of antiquity. In the event such items are discovered on the premises, the Grantee shall immediately notify said officer and protect the site and material from further disturbance until said officer gives clearance to proceed.

19. NON-DISCRIMINATION

a. The Grantee shall not discriminate against any person or persons because of race, color, age, sex, handicap, national origin, or religion in the conduct of operations on the premises.

b. The Grantee, by acceptance of this easement, is receiving a type of Federal assistance and, therefore, hereby gives assurance that it will comply with the provisions of Title VI of the

Civil Rights Act of 1964 as amended (42 U.S.C. § 2000d); the Age Discrimination Act of 1975 (42 U.S.C. § 6102); the Rehabilitation Act of 1973, as amended (29 U.S.C. § 794); and all requirements imposed by or pursuant to the Directive of the Department of Defense (32 CFR Part 300) issued as Department of Defense Directive 5500.11 and 1020.1, and Army Regulation 600-7. This assurance shall be binding on the Grantee, its agents, successors, transferees, and assignees.

20. RESTORATION

On or before the expiration or termination of this easement, the Grantee shall, without expense to the United States, and within such a time as said officer may indicate, remove said facilities and restore the premises to the satisfaction of said officer. In the event the Grantee shall fail to remove said facilities and restore the premises, the United States shall have the option to take over said facilities without compensation, or to remove said facilities and perform the restoration at the expense of the Grantee, and the Grantee shall have no claim for damages against the United States or its officers or agents for such action.

21. DISCLAIMER

This instrument is effective only insofar as the rights of the United States in the property are concerned, and the Grantee shall obtain such permission as may be required on account of any other existing rights. It is understood that the granting of this easement does not eliminate the necessity of obtaining any Department of the Army permit which may be required pursuant to the provisions of Section 10 of the Rivers and Harbors Act of 3 March 1899 (30 Stat. 1151; 33 U.S.C. § 403), Section 404 of the Clean Water Act (33 U.S.C. § 1344), or any other permit or license which may be required by Federal, state, or local statute in connection with use of the premises.

THIS EASEMENT, DACA 31-2-00-643, is not subject to Title 10, United States Code, Section 2662, as amended.

IN WITNESS WHEREOF, I have hereunto set my hand by authority of the Secretary of the Army, this 24th day of August, ~~19~~ 2000.

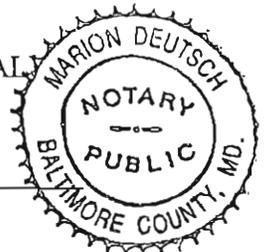
James S. Turkel

On this, the 24th day of August, 19²⁰⁰⁰, before me, a Notary Public in and for the State of Maryland, the above signed James S. Turkel, known to me, to be the person whose name is subscribed to this instrument and acknowledge that he executed the same for the purpose therein contained.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

Marion Deutsch (SEAL)
NOTARY PUBLIC

My commission expires Oct. 1, 2001



THIS EASEMENT, is also executed by the Grantee this 17th day of AUGUST, 2000.

Crescendo at Locus Lane, LLC

BY: Phyllis Michaels

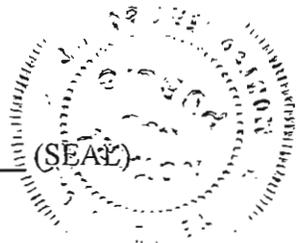
TITLE: MEMBER

TAX ID NO.: 52-2205491

On this, the 17th day of August, 2000, before me, a Notary Public in and for the State of Maryland, the undersigned Phyllis Michaels, known to me, to be the person whose name is subscribed to this instrument and acknowledge that he executed the same for the purpose therein contained.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

[Signature]
NOTARY PUBLIC



My commission expires _____

TERRI M. CAIN
NOTARY PUBLIC STATE OF MARYLAND
My Commission Expires February 17, 2004

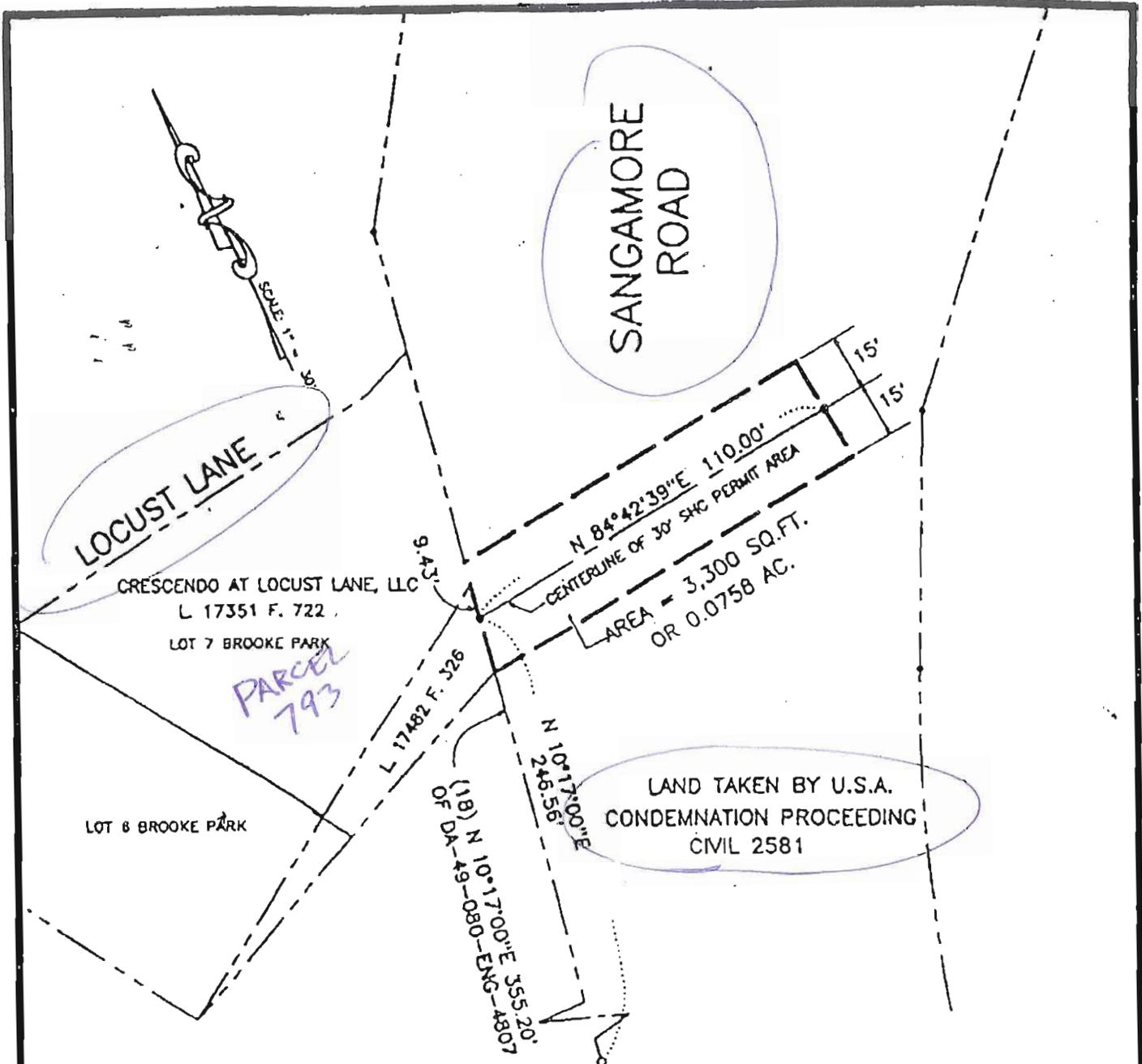
EXHIBIT "A"

**LEGAL DESCRIPTION OF LAND
 TO BE SUBJECTED TO A
 PERMIT FOR INSTALLATION AND OPERATION OF
 SANITARY HOUSE CONNECTION LINES AND APPURTENANCES
 ACROSS THE LANDS OF
 UNITED STATES OF AMERICA
 (ARMY MAP SERVICE MILITARY RESERVATION, MARYLAND)
 BETHESDA (7TH) ELECTION DISTRICT
 MONTGOMERY COUNTY, MARYLAND**

BEING a strip or parcel of land thirty (30) feet wide, fifteen (15) feet either side of the hereinafter described centerline, running in over and across the land designated as Tract No. 1 (redesignated by the U.S. Army Engineer District, Washington, as No. 6), acquired by the United States of America (U.S.A.) by condemnation proceeding entitled UNITED STATES OF AMERICA, PETITIONER, VS. 2.54 ACRES OF LAND, MORE OR LESS, IN MONTGOMERY COUNTY, MARYLAND, AND LOUGHBOROUGH DEVELOPMENT CORPORATION, ET AL, DEFENDANTS, CIVIL 2581, dated July 17, 1945, as amended to include an additional 0.764 of an acre, said land also being all that land described in Exhibit "C" (Paragraph B. Access Road) and depicted on Exhibit "B" (Tract No. ⑥) of a document entitled DEPARTMENT OF THE ARMY EASEMENT AND CONSENT FOR ROAD OR STREET ON ARMY MAP SERVICE MILITARY RESERVATION, MARYLAND, NO. DA-49-080-ENG-4907, more particularly described as follows in the survey meridian of said Exhibit "C", and as shown on the attached sketch, made a part hereof by this reference:

BEGINNING for said centerline at the end of 246.56 feet on the 18th or N 10° 17' 00" E, 355.20 feet line described in said Paragraph B. Access Road, said point also lying at the end of 9.43 feet on the 3rd or South 13°30'00" West, 25.00 feet line of the land described in a deed from Robert J. Bragan and Lucia G. Bragan to Crescendo At Locust Lane, LLC, dated July 30, 1999, recorded in Liber 17482 at Folio 326 among the land records of Montgomery County, Maryland; thence running through said land of the U.S.A.

- 1) North 84° 42' 39" East, 110.00 feet, containing 3,300 square feet or 0.0758 acres of land.



ATTACHMENT TO EXHIBIT "A"
 PERMIT FOR SANITARY HOUSE CONNECTIONS

ACROSS THE LAND OF

THE UNITED STATES OF AMERICA
 ARMY MAP SERVICE MILITARY RESERVATION, MARYLAND

Appendix D

ICC-B Community Coordination

SELFLESS SERVICE

“PUT THE WELFARE OF THE NATION, THE ARMY AND YOUR SUBORDINATES BEFORE YOUR OWN.”

U.S. Army Core Value #4



INTELLIGENCE COMMUNITY CAMPUS - BETHESDA

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 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.

DISPOSITION OF NATIONAL GEOSPATIAL-INTELLIGENCE AGENCY (NGA)
PROPERTY POST-BRAC (as of 5-28-10)

Prepared by the Office of Congressman Chris Van Hollen

2005 Base Realignment and Closure (BRAC) Actions effect on National Geospatial Intelligence Agency (NGA), Bethesda, MD

- The following information is provided regarding the Sumner Site in Bethesda, MD. This is the current location of the National Geospatial Agency.
- This property consisting of 39 acres, five buildings and 1,480 flat parking spaces was never declared surplus to the needs of the Federal government.
- During Federal screening in 2005-2006 the property was requested by GSA for occupation by the National Institutes of Health (NIH). Subsequently, the Navy requested the property, and then later declined their interest. At that time, the Office of the Director of National Intelligence (ODNI) requested the use of the property for national intelligence requirements. The ODNI is currently conducting a detailed study regarding converting the Bethesda site into an intelligence community campus (ICC). Final results of this feasibility study and a subsequent use decision are expected this fall.
- The Army approved the application from the ODNI for the entire Sumner Site on June 12, 2009.
- As things stand now, the property will transfer from the Army to the ODNI via an intergovernmental letter of transfer following the completion of BRAC 2005. NGA is projected to occupy the site through the summer of 2011, and preliminary planning indicates that transfer of administrative jurisdiction to ODNI would occur in December 2011.
- Since this is a Fed-to-Fed transfer, none of the reuse planning milestones or environmental cleanup issues apply. The property will transfer "as is where is" and remain as Federal property.

The size of the ODN's anticipated workforce:

It is anticipated the Sumner site will become an intelligence community campus (ICC) housing several intelligence community (IC) agencies, in addition to staff from the ODNI. The on-going feasibility study will help the ODNI determine the exact size and composition of the intelligence community staffs that will be housed at Bethesda. The ODNI expects an estimated intelligence community workforce of about 2500 to 2800. (NGA workforce now: approximately 3000 employees, so this represents a reduction.)

The status of the property between NGA's departure and ODNI's arrival:

Ideally, ODNI plans to work closely with the current NGA staff to allow some work to begin before NGA completely vacates the Sumner site. ODNI does not intend for the site to become vacant for any period, and will work with the Army on the necessary permits after NGA's departure. At a minimum, the Sumner site will be in a caretaker status for a period prior to initial occupancy. The feasibility study will also tell us how the staffs from the IC will occupy the campus.

ODNI does not intend for the Sumner site to become vacant for any period. The site will remain guarded by the appropriate security force.

Anticipated construction once ODNI takes occupancy:

ODNI anticipates some construction will be required to bring the Sumner site up to appropriate building standards and to meet DoD anti-terrorism/force protection (AT/FP) standards.

reducing our footprint

more community
sustainable
walking
nature
transit
time



less

deforestation
grass-cutting
pavement
emissions
nitrogen
garages
energy
carbon
sprawl
waste
trips
cars
land
oil



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executive summary

2009-2011 growth policy

what is the growth policy?

The County Council adopts the Growth Policy every two years after considering recommendations forwarded by the Planning Board. The Growth Policy resolution sets the rules the Planning Board will use to consider subdivisions over the following two year period, in the context of the Adequate Public Facilities Ordinance (APFO). The APFO ensures that there is enough school and road capacity to accommodate new development.

The Growth Policy originated during the era of suburban expansion and was designed to stage development so that there was no gap between the creation of new business and residential communities and the facilities needed to serve them. This sound policy prevented leapfrogging sprawl as vacant land was converted into new communities.

has the growth policy resulted in smart growth?

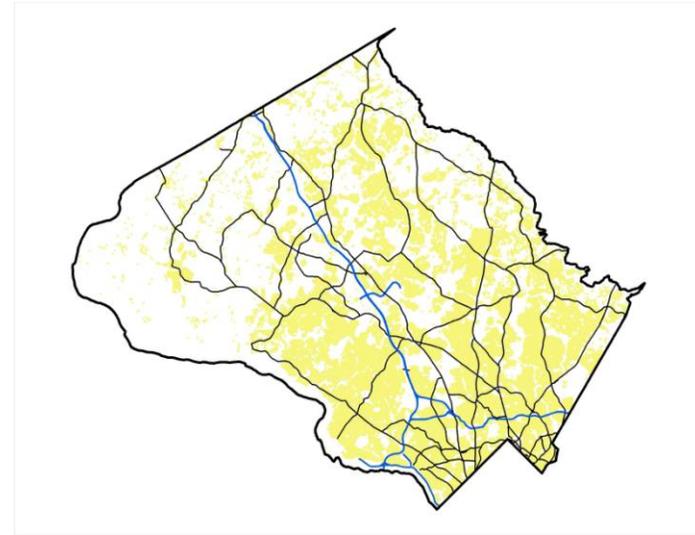
The Growth Policy has done a reasonable job of coordinating new development with the building of key facilities throughout the County. However, the Policy has had no visible impact on the total amount or pace of growth. The Policy has directed where growth will occur but it has often been in areas with lower densities, where the road and school capacity exists. These are also the areas where basic services and transit do not exist.

As a result, residents of these areas travel longer distances through more densely settled areas to get to jobs, buy groceries, visit the doctor, mail a parcel, or bring their children to school or soccer. The pattern has contributed to an increase in the number of vehicle miles traveled (VMT) by County residents.

can we continue the current pattern of growth?

If we continue along the path of low-density suburban growth, the VMT will only increase. Separating homes, jobs, and services only creates longer commutes. Traffic problems will continue to worsen, creating a ripple effect throughout the roadway system. The road capacity will be used up by people driving longer distances from job centers. A road system with less capacity will increase the cost of developing in the urban areas where more mitigation will be required.

single-family residential zones



Single-family areas account for 97.5% of the County's residentially zoned property

Examining our current growth pattern brings a new realization. We are almost out of new land to develop. But growth will continue and shifting demographics will demand new types and patterns of development.

How we grow impacts the amount of VMT. We can address this issue one of two ways. Either by building more capacity, meaning more and wider roads, or we can influence demand through development location and transit service. The first option is not viable nor would it reduce VMT. Instead, encouraging growth in smarter locations with transit can over time, reduce the levels of VMT relative to the growth in jobs and residents.

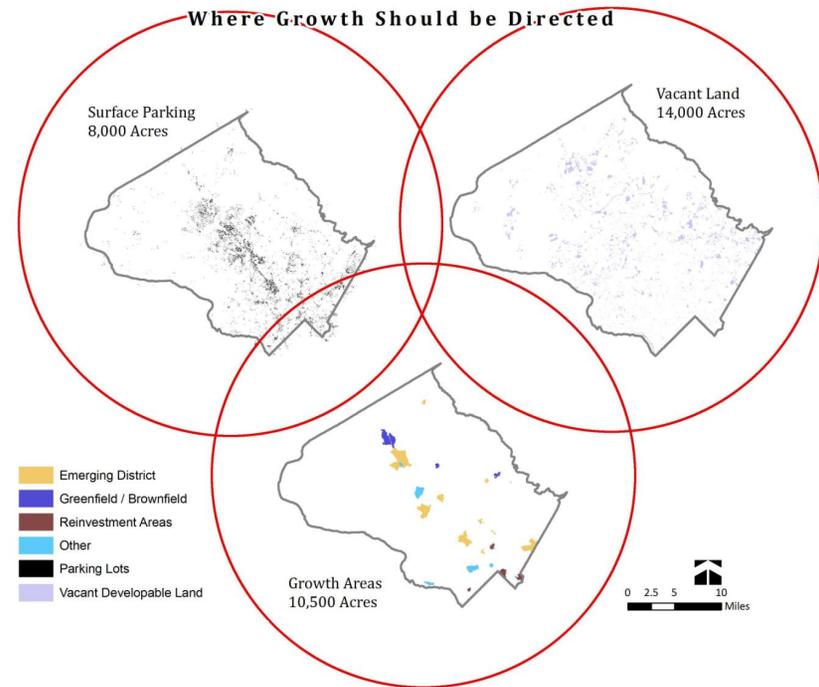
what land is left to develop?

There is little vacant land left to develop.

- Only four percent of the County zoned for development, about 14,000 acres remains undeveloped. There is even less developable land when slopes, floodplains, and forest stands are included.
- 47 percent of County land is part of the Agricultural Reserve and various parks at all government levels.
- The County has 8,000 acres of surface parking, with more on the top of parking garages.
- Considering remaining land zoned for development, surface parking, and other strategic growth areas, the County has about 28,800 acres where development should be encouraged.

Growth Policy can contribute to sprawl by requiring unsustainable mitigation requirements where growth is desirable—such as underdeveloped areas around transit stations. These areas have higher development costs to begin with, and the cost of mitigation adds to them, especially when compared to traditional suburban, large-lot subdivisions. With little room left to grow, development will need to occur in areas where densities can be higher, on sites closer to transit, reusing underdeveloped sites, or redeveloping strip malls and surface parking lots. Development in these areas will reduce vehicle trips and make the best use of our infrastructure investments.

The question for this Growth Policy is how to establish policies and standards that direct growth near transit and within the Metro Station Policy Areas.



With little vacant land left, the availability of surface parking lots as well as land in smart growth locations near transit or on existing strip malls, offers a considerable supply of land upon which to build. Development on these 28,800 acres can result in smarter locations for future growth.

what other factors impact how we should grow?

changing demand

Most policy areas will experience little growth and little, if any, change in the way in which the Adequate Public Facilities Ordinance is administered. Changes are recommended for Metro Station Policy Areas that can reduce the demand for auto trips.

housing affordability

Making it more difficult and costly to build near transit not only increases traffic congestion but also adds to the housing affordability problem. Transportation costs make up about 18 percent of the average County household budget. As energy costs rise, so will this component of household costs, leaving less income to pay for housing. An important part of growth strategy should be to provide people the opportunity to live closer to where they work so their housing, energy and transportation costs are more affordable.

the environmental need for compact growth

Compact development has the potential to reduce VMT per capita by 20% to 40% relative to sprawl development. ULI – Growing Cooler, 2008

growth

The Washington area remains one of the nation's most attractive for new growth. The Metropolitan Washington Council of Governments forecasts an additional 1.3 million people will live in the region by 2030, a growth rate of 25 percent. Montgomery County can expect to house 195,000 of them—a growth rate of 21 percent. This is about the same amount of growth that occurred over the past 20 years.

Sixty percent of workers who live in the County also work here. MWCOG forecasts 166,200 more jobs in the County by 2030, an increase of 33 percent. The County's highly educated workforce will continue to attract leading edge employers.

job growth

Between 1986 and 2008 the number of jobs in the County increased by 136,832, to a total of 503,822, an increase of 37%. A further 166,200 new jobs are expected by 2030, a 33% increase above the current total.

changing demographics

The County's demographics have been changing—and will continue to change.

- There will be an 81 percent increase in people over the age of 65 by 2030.
- The number of persons in prime income earning years will continue to fall.
- The percentage of two-parent households dropped precipitously, from 48 percent to 32 percent between 1970 and 1980 before leveling off to about 27 percent over the past two decades.
- The percentage of the County's minority population has more than doubled in the past two decades, from 21 percent in 1987 to 46 percent in 2008.
- Montgomery County is increasingly diverse, and by 2020 no single race or ethnicity will make up a majority of the population.
- The number of people living in a household has dropped from 3.6 persons in 1960 to 2.6 today.

working age adults to seniors

There has been a steady decline in the number of working age adults to the number of seniors in the County. This decline is expected to drop dramatically by 2030, with implications for County revenues.

year	2005	2010	2030
ratio	5.5	5.2	3.4

changing environment

In a time of growing commitment to reduce our carbon footprint, conserve energy, and protect the quality of our air, forest, and water resources, continuing a policy that works against these national and regional imperatives is counterproductive and unwise. The time has come to emphasize sustainability in the Growth Policy. A smart growth strategy for reducing VMT results in greener growth. Reducing VMT is a traffic capacity strategy that will also reduce

carbon emissions. Sprawling growth impacts the quality of our watersheds and ultimately the Chesapeake Bay.

The rising costs of energy, combined with the consequences of increasing greenhouse gas emissions are building strong support for policies at all government levels that effectively reduce our carbon footprint.

increase in minority population

The County population has increased 20% since 1990. Minorities make up 46% of the population, an increase of 5%, with Hispanics accounting for almost 50% of the growth. The foreign-born population has doubled, making up 30% of the population.

what has changed and what is not changing?

This edition of the Growth Policy provides an alternative review method that encourages changes in travel patterns by directing growth to the urban areas. The policy recommends an incentive that would replace some commercial space capacity with residential capacity to create a better jobs-housing balance. The outcome of this approach would be fewer vehicle miles traveled.

The County uses several tools to manage growth (see table). The Local Area Transportation Review (LATR) calculation will remain the same with some proposed changes to foster mitigation. A minor change in the school test is recommended that will slightly reduce mitigation fees on development, but not the threshold for moratorium.

Growth Management Tool	Application	Proposed
Master plans	where	same
Zoning	how	same
Subdivision regs	how	same
School capacity	when	minor change to monetary assessment
LATR	when	minor changes to mitigation types
PAMR	when	stay within general bounds of PAMR – encourage smart growth

comparison of current and proposed requirements

The growth management tools used in the County along with an indication of whether changes are proposed.

The proposed Growth Policy includes eleven recommendations for changes that would take effect January 1, 2010, plus a twelfth recommendation describing future studies needed to inform the 2011-2013 Growth Policy.

Summary of Proposed Changes

Category	Description	Current Process	Proposed Process	Motivation for Change	Appendix
Smart Growth Criteria: 1. Transit Proximity	Alternative Review Procedure for Policy Area Mobility Review (PAMR)	None	For compact, mixed-use projects near transit that exceed otherwise required energy efficiency, PAMR mitigation resources will be directed to transit, additional affordable housing, and a reduction in development costs.	Encourage mixed-use projects with proximity to transit to reduce vehicle trip generation rates. Promote affordable housing and Climate Protection Plan goals.	N
APFO Transportation: 2. Balance Between Land Use and Transportation	Establish symmetry in transit and arterial LOS standards	Relative Arterial Mobility must be LOS D or better regardless of transit service	Relative Arterial Mobility of LOS E allowed in areas where Relative Transit Mobility is LOS B	Promote more efficient utilization of scarce transportation resources	M
APFO Transportation: 3. Non-Auto Facility Values	Expand the range of candidate non-auto facility types eligible for impact mitigation and set values at \$11,000 per vehicle trip	Candidate Non-auto facilities limited to twelve types of projects, each valued based on outdated cost information, and most types no longer accepted by County DOT	Non-auto facility types expanded to include additional projects, with all but sidewalk/bike path connectivity projects valued at \$11,000 per vehicle trip.	Encourage candidate project identification based on area needs rather than lowest cost. Improve predictability for applicants. Obtain projects appropriately valued at the cost of the trips being mitigated.	M
APFO Transportation: 4. APF Transferability	Allow vested APF rights to be transferred into a Metro Station Policy Area from an adjacent Policy Area	APF rights not transferable	APF rights transferred with joint subdivision application between sending and receiving sites to apply unused/remaining APF capacity in suburban areas.	Encourage development approvals in urban areas. Applies/reduces pipeline of approved but unbuilt projects.	K
APFO Transportation: 5. TOD Trip Generation Rates	Expand the geographic application of residential trip generation rates	Customized trip generation rates provided by staff for only Bethesda, Silver Spring, and Friendship Heights CBDs	Lower residential trip generation rates based on TCRP Report 128 allowed for TOD applications in MSPAs.	Encourage residential development near all transit stations.	M

Summary of Proposed Changes

Category	Description	Current Process	Proposed Process	Motivation for Change	Appendix
APFO Transportation: 6. White Flint APF approval process	Replace LATR and PAMR with public entities and funding mechanisms to be determined through the Draft Sector Plan	LATR and PAMR applies	LATR and PAMR replaced by public entities and funding mechanisms as recommended in the Draft Sector Plan.	Streamline funding and delivery of master plan transportation infrastructure.	M
Other: 7. Policy Area boundary changes	Establishment of Life Sciences Center Policy Area, revision to White Flint, Germantown Town Center, and R&D Village Policy Area boundaries	Policy Area boundaries established per 2007-2009 Growth Policy	Changes to Policy Area boundaries as recommended in Draft Sector Plans.	Improve relationship between planned land uses, transit services, and Policy Area boundaries as recommended in Draft Sector Plans.	H
APFO Schools: 8. School Facility Payment Threshold	Establish the threshold for the application of the school facility payment	The application of a school facility payment occurs when projected enrollment exceeds 105% of projected program capacity at any school level by cluster	Set the threshold for application of a school facility payment at projected enrollment greater than 110% of projected program capacity at any school level by cluster.	Several school clusters have a projected enrollment slightly over 105% of projected capacity yet more significant deficits are required for CIP programming.	M
APFO Schools: 9. Moratorium Threshold	Retain the current threshold for moratorium	A moratorium on residential subdivision occurs when projected enrollment exceed 120% of projected program capacity at any school level by cluster	Retain the threshold for moratorium at projected enrollment greater than 120% of projected program capacity at any school level by cluster.	No change recommended.	M
APFO Schools: 10. Grandfather Completed APFO Applications	Grandfather all applications completed 12 months prior to the imposition of a moratorium on residential subdivisions	All projects not approved by the Planning Board at the date of moratorium are restricted from proceeding to Board approval	Grandfather all applications completed 12 months prior to the imposition of a moratorium on residential subdivisions.	To limit the impact of moratorium on the development process for projects with completed applications working toward a Board approval date.	M
APFO Schools: 11. APF Transferability	Allow vested APF rights to be transferred within a school cluster	APF rights not transferable	APF rights transferred with joint subdivision application between sending and receiving sites to apply unused/remaining APF capacity to other sites within a school cluster.	Improve efficiency of the pipeline, reducing approved but unbuilt projects.	K

conclusion

The Growth Policy needs to be smarter.

It should guide new development to make the most efficient use of available land and existing and planned infrastructure, where it can add value to the County's economy and improve the quality of life for all. Policies and standards should encourage mixed uses near transit and provide a framework for minimizing the carbon footprint and environmental impacts of new growth.

It means fostering development that is more dense and diverse, that provides wide choices in housing, employment, and mobility, and that connects our neighborhoods and activity centers to each other, to the region, and to the world. And it means insisting on high design standards that can create great places for active and creative living, and that can respect and add value for established nearby neighborhoods.

compact development advantages

As sprawl decreases, average vehicle ownership, daily VMT per capita, the annual traffic fatality rate, and the maximum ozone level decrease to a significant degree. At the same time, the share of work trips by transit and walk modes increase significantly. ULI – Growing Cooler – 2008

Density is a major factor in where people decide to live. More people living closer together reduces VMT, carbon emissions and air quality, and stimulates new investment and jobs.

The Growth Policy must address ways to stimulate growth that attracts young professionals. Bethesda and Silver Spring, like D.C. and Arlington, remain the primary places where the majority of this group wants to live. We must strategically replicate those urban nodes in

metro station policy areas to provide space for compact, denser growth to attract younger workers and employers.

Replicating the successes of Silver Spring and Bethesda will create opportunities for new job growth in an environment that attracts young professionals—thus ensuring a robust economy that supports Montgomery County's quality of life for people living here and still to come.

Creating this future requires shifting the Growth Policy from a regulatory framework that implicitly emphasizes what cannot be done, to one that enables growth to occur where it should and in ways that advance the Smarter Growth agenda. Our effort will be framing the technical and policy changes to the County's growth management tools to align policy with that agenda.

direction

The 2009-2011 Growth Policy continues the County's commitment to balancing growth with adequate facilities. It introduces a new strategy for more productive use of existing infrastructure and services, focusing on promoting growth near public transportation. The goal is to manage growth to meet the needs of current residents as well as prepare for the new residents who will choose the County as a place to live and work.

This version of the Growth Policy recommends minor changes to school capacity measures and introduces an alternative review procedure for meeting the traffic adequacy requirement. The goal is to offer an incentive for growth that results in fewer VMT. We cannot build our way out of congestion. We can direct growth to strategic locations where people will drive less and make shorter trips, in effect, reducing demand.

To manage that growth, to provide better connections to where and how people move about their daily lives, we introduce four themes that position the County to grow sustainably and stay competitive.

connections

To transit, jobs, services, parks, schools and recreation

environment

Growth that is more compact, uses less land and resources, and generates opportunities for lowering carbon footprints of individuals and business

diversity

In economic activity, land uses, housing styles and costs, mobility

design

That results in great public space, energy efficiency, smart building practice and outstanding buildings and neighborhoods

The built area has pushed to the edge of our development envelope. We must now look inward, at how we can grow differently, to enhance the quality of place and its long-term value for future residents.

These themes reflect the smart growth principles expressed in the County's Climate Protection Plan and the goal of directing development to areas with infrastructure.

the challenge of growth – balance and evolution

The current growth policy tends to be ad hoc and reactive, focusing on the impacts of individual projects. Growth Policy should continue the commitment to adequate schools and transportation. At the same time, there is a growing number of factors like public awareness of climate change, the economy, and emerging national policies all pointing to reorienting growth to balance jobs and housing, and create quality of place.

- new variables for growing smart**
- defining strategic growth
 - moving from sprawl to infill development
 - encouraging growth that reduces our impacts on the environment
 - using existing infrastructure
 - providing mobility options

the past and its impact on the future

The County has developed in accordance with its General Plan. However, development occurred at a low density of less than five people per acre.

land consumption
 To accommodate the last 195,000 residents since 1990, 40,000 acres of land was developed with 72,000 housing units, at a density of two units per acre. Also, 20 million square feet of office space was built.

In addition to single-family homes, much of the development since has been for office parks and malls with large surface parking lots. This car-centric pattern has a considerable carbon footprint.

- single-family home statistics**
- At 97,000 acres, land occupied by single-family detached housing accounts for
- 30 percent of County's land area and
 - 75 percent of all developed land in the County—more area than the Agricultural Reserve.

Only four percent of County land zoned for development remains undeveloped (approximately 14,000 acres), less when factoring in the environmentally sensitive areas. Most of that land is scattered with few large assemblies. That four percent represents only 35 percent of the land built on to house and service the last 195,000 residents.

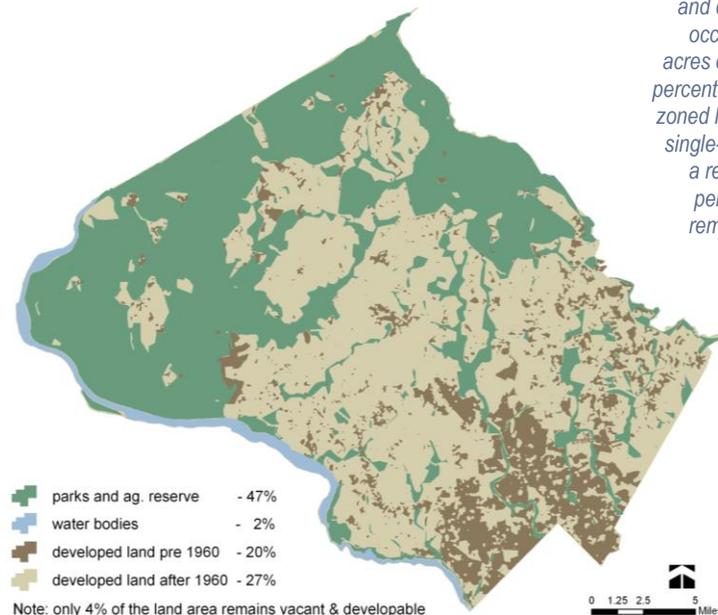
There are few choices about how to grow. We must redevelop, refocus and be strategic about growth.

growth comparison

	1960	2008	increase
population	340,928	946,100	178%
households	92,433	356,395	286%
jobs	73,870	503,822	582%
acres used	63,752	152,627	139%

Between 1960 and 2008, the ratio of jobs to households has more than doubled, highlighting the County's increasing role as an employment center. This trend is expected to continue.

historic growth



The Agricultural Reserve and dedicated parkland occupy about 151,000 acres of the County. 97.5 percent of the residentially zoned land is reserved for single-family housing. As a result, less than four percent of the County remains undeveloped, much less when environmental considerations are applied.

future growth cannot be more of the same

For many years, master plans and Growth Policy directed development to greenfield sites. Recent master plans are reversing that trend. Shady Grove, Twinbrook, Germantown, Gaithersburg West, White Flint, Kensington, Takoma/Langley Crossroads, and Wheaton plan for more balanced jobs-housing ratios. Each plan builds on current or planned transit infrastructure to manage where growth occurs, how it occurs, and when it occurs.

commuting patterns

Over the past two years, commuting patterns have shifted as energy costs increased:

- annual VMT dropped by 93 billion miles nationwide between 2006 and 2008, with a one percent drop in Montgomery County
- transit use increased five percent nationally in 2008 compared to 2007. The WMATA system alone increased by 13 million additional riders (three percent).



reducing commuting through compact development

In 2000, the relatively compact Portland Oregon metropolitan area generated 23.6 VMT per capita, while the sprawling Raleigh-Durham metropolitan area produced 31.0 VMT per capita, a difference of 24%. ULI – Growing Cooler – 2008

where can we grow?

The County is expected to grow by 195,000 people by 2030. We do not have 45,000 acres left to build the houses and retail space for them that were developed for the last 195,000 people. That means growth must occur in underdeveloped areas near transit where we can use existing infrastructure facilities more efficiently and upgrade where necessary.

Infill development on parking lots along Rockville Pike or Route 29 brings a different set of challenges than building 1,000 new single-family homes in Cabin Branch. It also brings about a different set of expectations.

infill lowers VMT

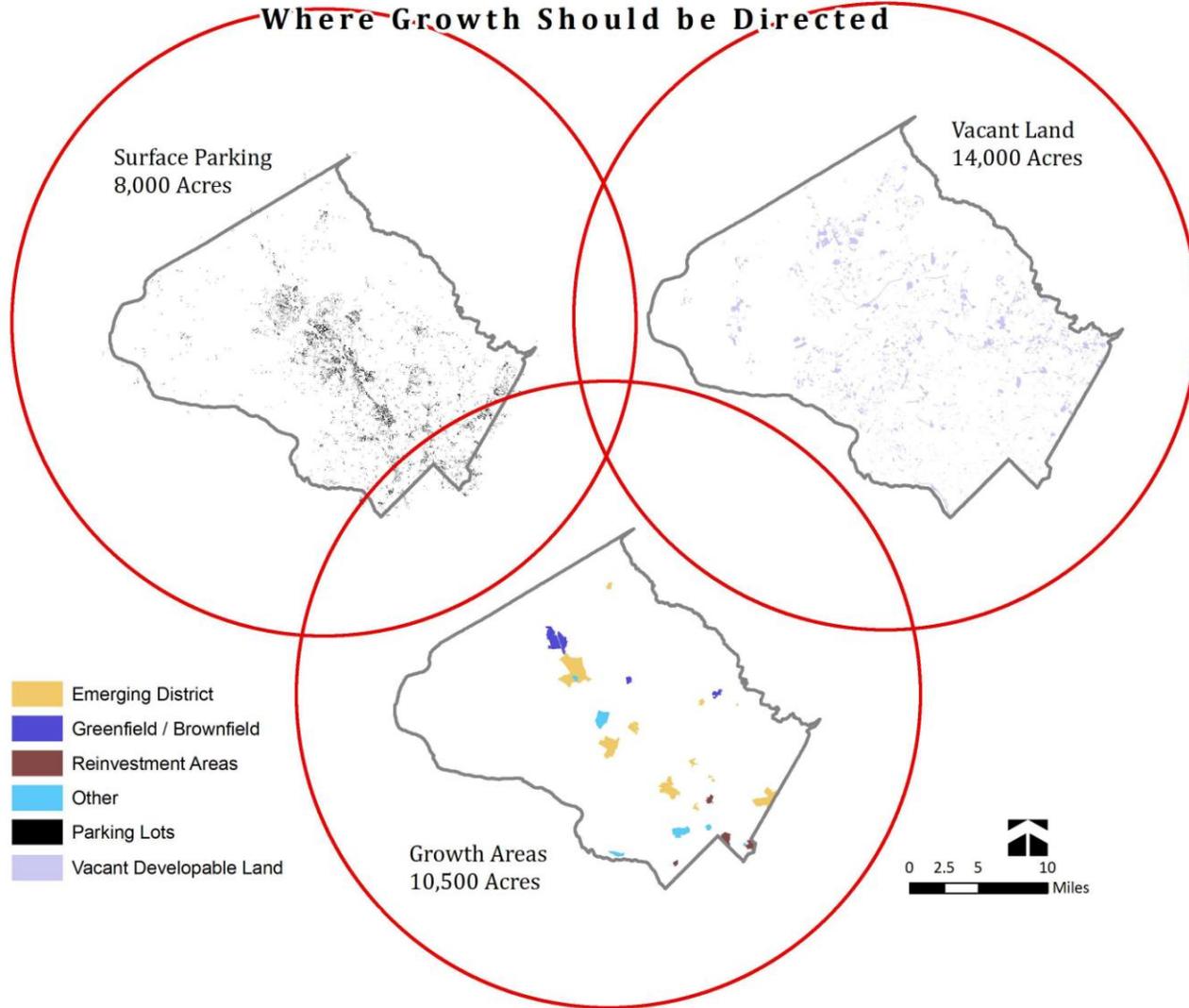
Infill locations generate substantially lower VMT per capita than do greenfield locations, from 13% to 72% lower. ULI – Growing Cooler – 2008

Considering the overlap between these areas, future growth should be guided toward a limited supply of less than 28,800 acres of land, or about nine percent of the County.

Infill and higher densities at strategic locations benefit the community:

- more efficient use of existing utilities, transit, parks, and other infrastructure
- lower maintenance costs for existing and future facilities and services
- redevelopment of strip malls into mixed-use centers improves connectivity for existing and new residents
- better pedestrian environments for all residents
- decreased VMT per capita
- lower carbon emissions per capita
- more housing closer to employment opportunities.

Where Growth Should be Directed



Developable land is a scarce resource in Montgomery County. Only 14,000 acres are left as greenfields to develop and 10,500 acres are identified as growth areas in master plans. Surface parking lots cover about 8,000 acres, representing a redevelopment opportunity currently being examined throughout the County.

strategic growth map

infrastructure costs

The Envision Utah scenario resulted in a compact growth plan estimated to save the region about \$4.5 billion in infrastructure spending, leave 171 square miles of open space, and reduce per capita water use by more than 10%. ULI

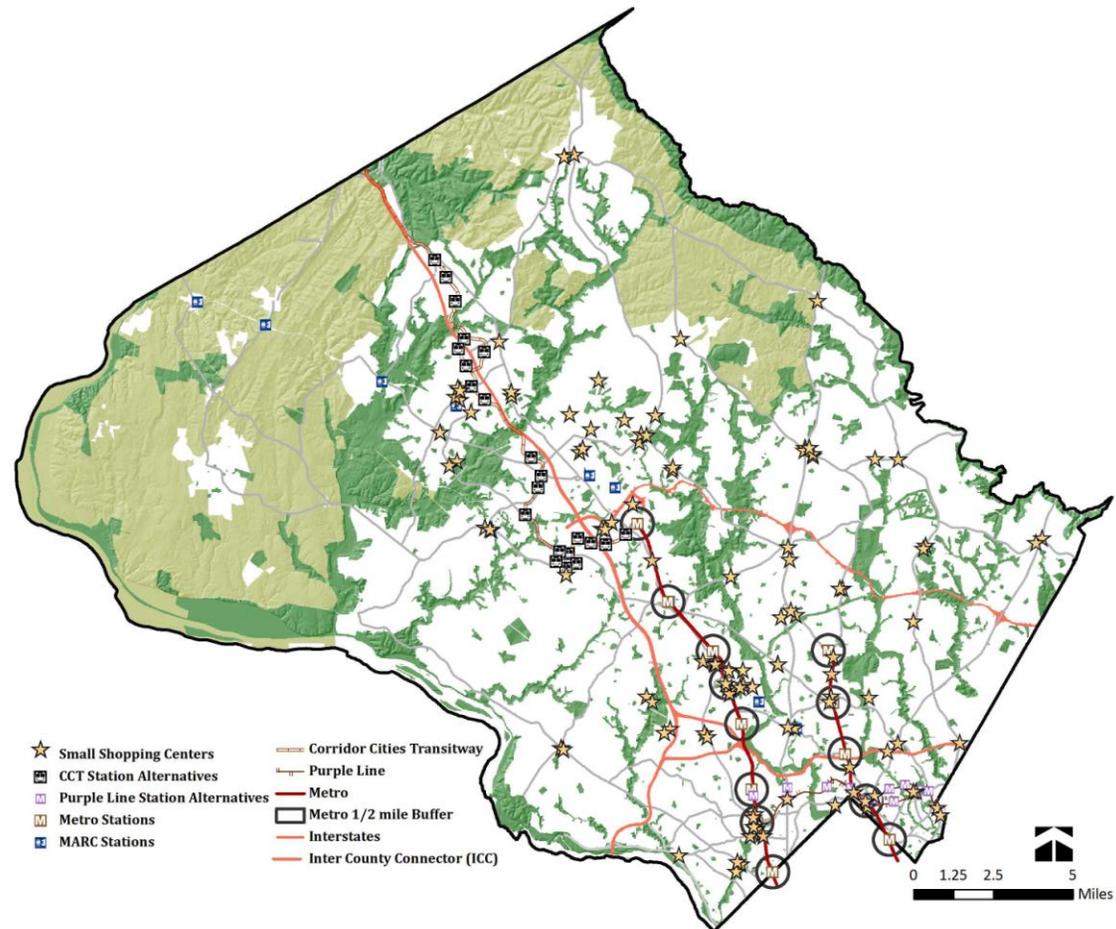
– Growing Cooler – 2008

neighborhood typologies

The Strategic Growth map uses land typologies, based on the character of the existing neighborhoods, to illustrate a clear pattern of where infill development should occur.

The map has been built using a number of variables:

- the location of surface parking lots
- radius around transit stations
- areas of established residential neighborhoods
- recyclable land uses like shopping malls



Strategic infill can be directed through the master planning process, taking advantage of existing infrastructure while preserving established neighborhoods. The areas around Metro stations as well as the many strip malls represent opportunities for strategic growth.

land typologies

established neighborhoods
These neighborhoods are firmly established and will see little change. Development may occur in the form of small lot infill and strengthening neighborhood retail at existing locations.



Infill housing on Georgia Avenue

greenfield/brownfield

There are few greenfield areas left, and much of it is difficult to build on or prohibited through environmental controls. The brownfield areas should be reserved for light industry that offers services and job development, close to residential areas.



Brownfield near Rockville Pike

reinvestment areas

Downtown Silver Spring is an example of successful reinvestment. Proximity to Metro, new businesses, and an enhanced pedestrian environment have revitalized the area.



Wheaton Central Business District

Wheaton and Takoma/Langley Crossroads provide opportunities to replicate that success. The pending master plans will address how we can strengthen those community centers with a mix of new uses.

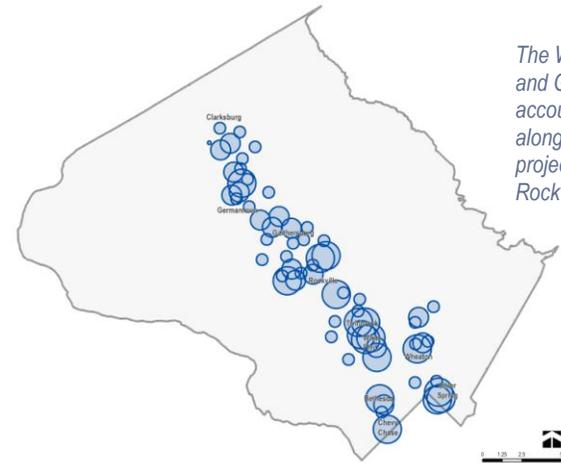


In Gaithersburg West planners envision a vibrant pedestrian environment near transit.

emerging districts

The plans for White Flint and Gaithersburg West both advance strategic new districts that focus on transit station planning and life sciences. A future planning area that fits this category is the FDA site on New Hampshire Avenue.

The 2009-2011 Growth Policy recognizes the effect of running out of land to build single family houses and proposes ideas to encourage strategic infill development. New ideas such as LEED for Neighborhoods as well as emerging trends to encourage smarter growth near transit are factored into the growth equation.



The White Flint, Germantown, and Gaithersburg West plans account for much of the growth along the I-270 Corridor projected out to 2030, outside of Rockville and Gaithersburg.

Communities around the nation are coming to grips with the same challenges. Can we have smarter buildings and neighborhoods that reduce dependence on the automobile for many daily travel needs?

Both Silver Spring and Bethesda are national models of how growth can be a catalyst for better urban neighborhoods. Twenty years ago neither were destinations for living, working, or recreation. Today, they are vibrant activity centers that offer a wealth of amenities for the people who live and work there as well as the thousands of visitors who move through these places each day.

silver spring and bethesda – core area comparison

Along with considerable growth came busy streets and sidewalks. People flock to the restaurants, stores, and events. Home values are among the highest in the county and new businesses and jobs are being created.

And when visitors come, they may either use transit or drive, but if they drive, they expect urban traffic conditions.

age

Between 1987 and 2005, the age of persons living in the downtown areas of Silver Spring and Bethesda dropped considerably, while the same figure for the County rose. This is a telling statistic when considered with the projections for an 81-percent increase in the over-65 population by 2030. Clearly, younger, working-age people want to live in our urban areas if provided the opportunity. They represent the people who will fill in the gaps of the prime wage earners as County demographics shift.

This also demonstrates that people are seeking opportunities to live in multifamily buildings, counter to the decades-long trend of young families moving into large, single-family homes.

	average age of residents		
	1987	2005	% change
County	35.3 years	36.9 years	+4.5%
Silver Spring	45.8 years	35.5 years	-22.5%
Bethesda	43.4 years	38.1 years	-12.2%

children

More children are living in the downtown areas of Silver Spring and Bethesda, a change partially reflected in the recent increase in projected enrollment in Bethesda-area schools. People with children are moving into downtown areas as multifamily units offer relatively affordable housing.

	percentage of population under 17 years	
	1987	2005
Silver Spring	6.0%	10.8%
Bethesda	6.8%	10.9%

cultural diversity

Silver Spring's and Bethesda's cultural diversity compared to the County is relatively consistent, with some differences. The downtown areas are increasingly playing a role in providing housing for minorities. Across the County and in the downtowns, the percentage of Hispanic population has almost doubled. The jump in the Asian population in downtown Bethesda stands out as a major demographic shift while the Black population in Silver Spring continues to far outpace the percentage in Bethesda or the County.

	minority population							
	Asian		Black		Hispanic		White	
	1987	2005	1987	2005	1987	2005	1987	2005
County	6.3%	13.4%	9.3%	16.6%	5.4%	13.9%	84.2%	64.0%
Silver Spring	5.1%	9.4%	35.0%	43.2%	6.6%	11.3%	58.2%	43.1%
Bethesda	2.0%	12.2%	3.0%	5.8%	8.0%	14.1%	95.1%	75.2%

income

Income levels in the downtown areas rose at a higher than they did across the County. Combined with the statistics above, these numbers show that many younger, well-paid residents are choosing the urban areas as a better fit for the lifestyles they seek. The Growth Policy recommendations foster opportunities for the County to attract this high wage-earning segment of the economy, rather than see them move to more urban centers evolving in Virginia or downtown D.C.

	income levels		
	1993	2004	% increase
County	\$59,083	\$83,880	42.0%
Silver Spring	\$31,011	\$48,715	57.1%
Bethesda	\$43,090	\$70,230	63.0%

value of compact, urban growth

As growth occurred in the urban areas, the assessed value of the properties on a per-acre basis soared in the downtowns. Land values in the CBDs increased considerably more than the rest of the County from 1988 to 2008. Assessment of growth was \$9.7 million per acre in Bethesda; \$4.1 million per acre in Silver Spring; and \$417,000 per acre across the rest of the County. The potential of compact, higher density growth in strategic areas on County revenues is considerable.

	assessed value per acre		
	assessment growth	acres	20 year assessment growth per acre
County	\$131,959,241,118	315,736	\$417,942
Silver Spring	\$1,572,957,949	377	\$4,172,302
Bethesda	\$1,521,040,254	156	\$9,750,258

house prices

House prices increased dramatically in the Bethesda CBD compared to the County at large. The popularity of living in an urban environment that offers proximity to services and transit is evident. Combined with the other statistics, these numbers add to the potential of the urban areas of the County to play a significant role in providing services, revenue, and a place of choice for people to live including families.

	change in median house price		
	single detached	single attached	condos
County	62.1%	70.4%	85.7%
Bethesda	90.4%	270.9%	144.1%

“Nobody goes there anymore because it’s too crowded” Yogi Berra

can we achieve greener growth?

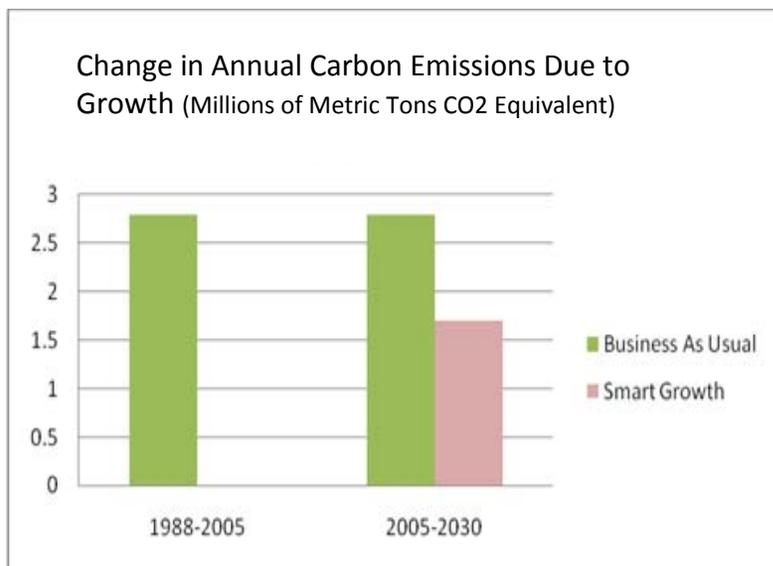
We must. Our car-centric communities have staggering carbon footprints with health and economic impacts that limit children, the elderly, and those who cannot afford a car from fully experiencing life in the County.

carbon impacts

Since 1990, just 38 percent of the 72,000 dwelling units built in the County have been multifamily units. Between now and 2030 we forecast that 80 percent of the new dwellings units will be multifamily units.

Compact development can lower the proportion of carbon emission growth relative to continuing past development patterns.

greener growth



The next 195,000 people in the County will have a dramatically smaller carbon footprint than the last 195,000 people, due in large part to the higher number of multi-unit buildings vs. the past pattern of single-family home construction.

infill and compact growth reduces carbon output and VMT

Comparison of an infill compact development in the heart of Atlanta vs. the equivalent amount of commercial space and the number of units in a sprawl pattern in the outer suburbs, found that the infill location would generate about 36% less driving and emissions than the outlying comparison sites. ULI – Growing Smarter – 2008

energy consumption

Montgomery County is a big energy consumer due to a development pattern that frequently separates homes in low-density neighborhoods from services and amenities. The average condominium or apartment uses 40 percent less energy than a single-family detached house. Our past development has been “energy negative.”



The County's surface parking lots contribute to stream pollution, increase heat island impacts, reduce tree cover, and waste land.

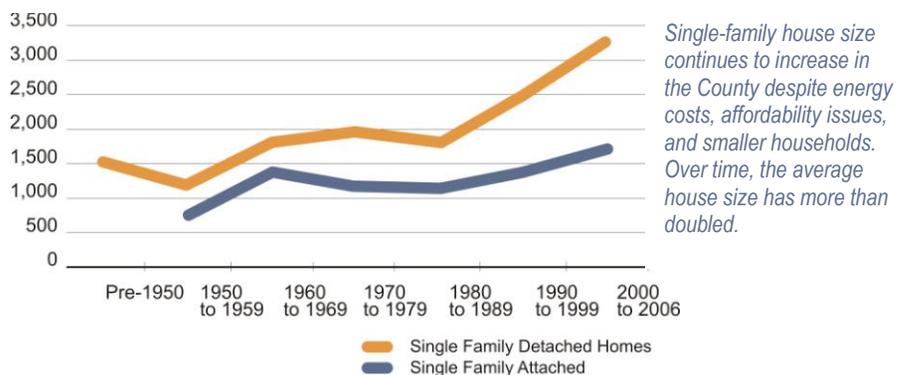
county climate protection plan

The Plan states that “The Growth Policy should direct growth to areas with significant existing or planned transit resources, and promote development that fulfills smart growth criteria such as those required as part of the LEED for Neighborhood Development or more stringent County standards.”

larger homes for smaller households

In 1960 the average County house had 3.6 residents. In 2008, that number dropped to just over 2.6 residents. Despite this decrease, home size continues to increase. Even the larger, more energy efficient homes use more energy.

house size



Single-family house size continues to increase in the County despite energy costs, affordability issues, and smaller households. Over time, the average house size has more than doubled.

change in unit types

Since 1990, the number of units in multifamily buildings has kept pace with single-family detached house construction, a positive trend. Since 1990, the ratio of unit types is:

- 38% single-family detached
- 24% townhouse
- 38% multifamily

lot sizes grew as households got smaller

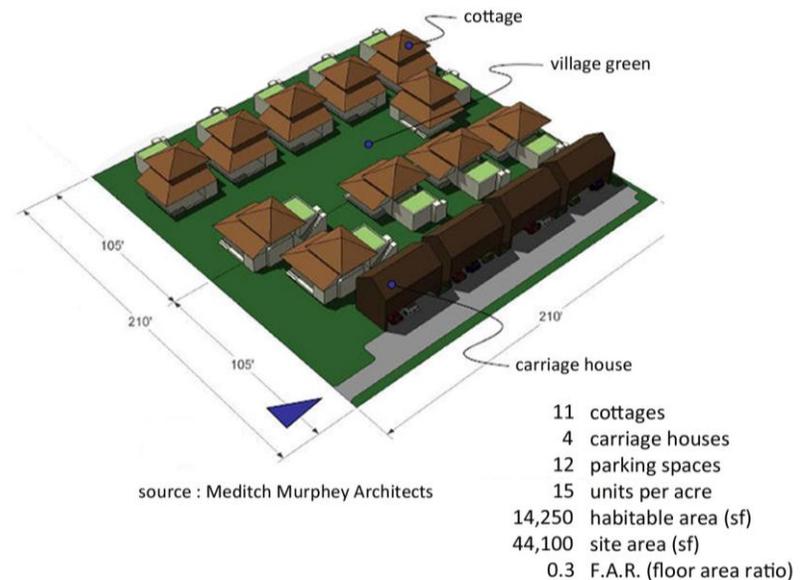
The average lot size for a single-family detached house built in the County after 1980 is 58 percent larger than lots created before 1980. Lot sizes for townhouses decreased 23 percent during the same period, a more efficient use of land.

Since 1980, the average lot size for a new single-family detached house is 16 times greater than a townhouse lot. The difference increases dramatically if comparing houses to multi-unit buildings. From an environmental standpoint, County housing trends are unsustainable on several fronts:

- the amount of building materials consumed per house increased
- energy used per person increased
- energy consumed to get to and from houses located farther away increased
- the amount of land consumed is inefficient, relative to the number of people being housed.

Growing smarter means considering what we are building, not just where we are building it. Encouraging growth near transit stations will result in significant energy reductions if the new units are in a multi-unit building.

cottage housing



Recent subdivisions in the Pacific Northwest provide examples of more compact, neighborhood oriented, pedestrian-friendly developments that are geared to a range of lifestyles. House sizes range between 800 and 2,200 square feet. (First Addition development, Portland, OR)

can we grow healthier?

We must. The average suburban dweller is more likely to be overweight than the average resident of a more compact community where services and jobs are accessible by walking.



A typical Montgomery County subdivision includes large lots, big houses, and car-centric design, with clustered commercial activity that still requires car trips for daily errands.

Obesity levels, especially among children have increased through the decades as we have built car-dependent environments isolated from schools, services, and jobs.

Several new schools in the County do not have sidewalks. Children are discouraged from walking or riding their bikes to school. A survey of 83 metro areas shows that only 18 percent of children walk or bike to

school compared to the rate of 71 percent when their parents attended school.

housing density and obesity

Housing density in Europe is three times greater than the U.S. while the level of obesity there is one third of what it is in this country. Several studies have linked suburban growth patterns to increases in obesity. In sprawling counties, 21 percent of residents are obese as compared to 19 percent of residents in compactly developed counties.

connections

The statistics are surprising. On average, 86 percent of daily trips taken by Americans are made in a car. As a result, the average American only walks about 5,000 steps a day, or just about half what is recommended to sustain a healthy lifestyle.

In America only 9.4 percent of daily trips are made on a bicycle or by walking. The percentage drops to six percent for persons over the age of 75. Many towns and cities around the country are providing opportunities for residents to walk and bike to services and work.

In Montgomery County, the built environment often discourages walking through design that makes it dangerous and/or unpleasant. But where pedestrian systems are attractive and continuous, as in Bethesda, 70 percent of the people boarding the Bethesda Metro Station walk there, demonstrating how smart growth can improve transit connections.

walk mode share expectations

Walk mode shares can rise to 20% or more in mixed use neighborhoods even without high quality transit service. ULI – Growing Cooler – 2008

diversity and design

Recent development in downtown Silver Spring highlights how design and the diversity of services can result in greater numbers of people walking to services, transit, and work. With two grocery stores within blocks of each other, and services like dry cleaners, restaurants, and coffee shops, a lot of people can do most of their errands on the walk home, or drive a shorter distance to services.

the need for growth

The County's assets—top public schools, both legs of the Red Line, recreation and cultural opportunities, working farmland, and urban and suburban lifestyle choices—are the foundations on which we can build the future.

more density is cost efficient

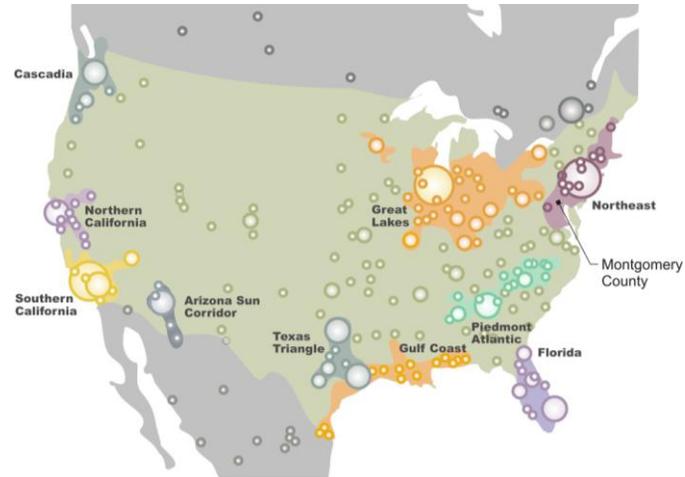
For every one percent increase in density (persons per acre) infrastructure costs decrease by \$1.86 per person.

megaregions

Eighty percent of the nation's economic growth and 70 percent of its new residents through 2050 are expected to occur in a few megaregions (America2050.org). The growth will prompt a construction boom.

The County is an important part of the Northeast megaregion, where it is expected that Montgomery County will experience growth pressures, especially considering its historical position as a first-tier suburb of Washington, D.C. Consider:

- 100 million new people in the US by 2040
- most of the growth will be through immigration and minority population increase
- 35 million new residential units (EPA).



Source: America 2050.org

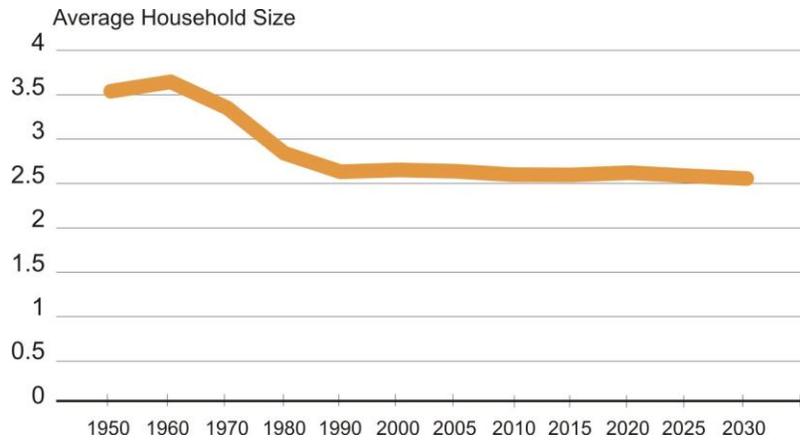
The D.C. region is within the Northeast megaregion extending from Virginia to Maine. The region produces 20 percent of the nation's gross domestic product with 18 percent of the population and only two percent of the land area (America2050.org).

population growth

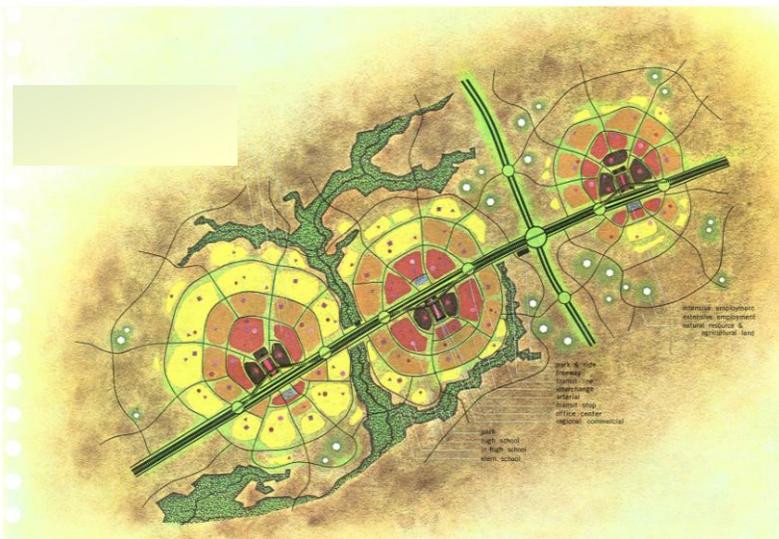
The County's 1964 General Plan projected a year 2000 population of 994,894. The actual census total for that year was 873,341. The estimate for January 2008 is 946,100. We're still a little behind the old forecast, yet close for a 40-year-old estimate.

population growth by 2030

- County growth – 194,900 new residents, a 21 percent increase
- regional growth – 1.3 million people, a 25 percent increase
- national growth – 67 million people, a 22 percent increase



The average number of persons living in a household in the County has generally been dropping since a peak in 1960.



The 1962 On Wedges and Corridors plan set the pattern for growth in the County. The envisioned nodes have developed, though their jobs-housing ratios are not ideal. The adverse environmental effects of single-family sprawl were not anticipated. This Growth Policy reinforces the concepts first laid out 40 years ago.

migration trends

From 2002 to 2007, greater domestic out-migration exceeded foreign immigration with the net loss of 60,500 residents leaving the County offsetting the entry of 45,100 international immigrants. This trend reversed in 2008 when a consistent gain of 7,100 foreign immigrants outpaced the sharply reduced net outflow of 5,600 residents due to the recession.

an aging population

The County population is aging. Estimates show an 81 percent increase in persons 65 years or older by 2030. To maintain a balanced population, the County needs to attract and maintain a corresponding increase in residents 25 to 60 years old to fill the loss of high income wage earners as people retire.

working age adults to seniors ratios

There has been a steady decline in the ratio of working age adults to the number of seniors in the County. This decline is expected to accelerate dramatically by 2030, as the population pyramids (next page) indicate.

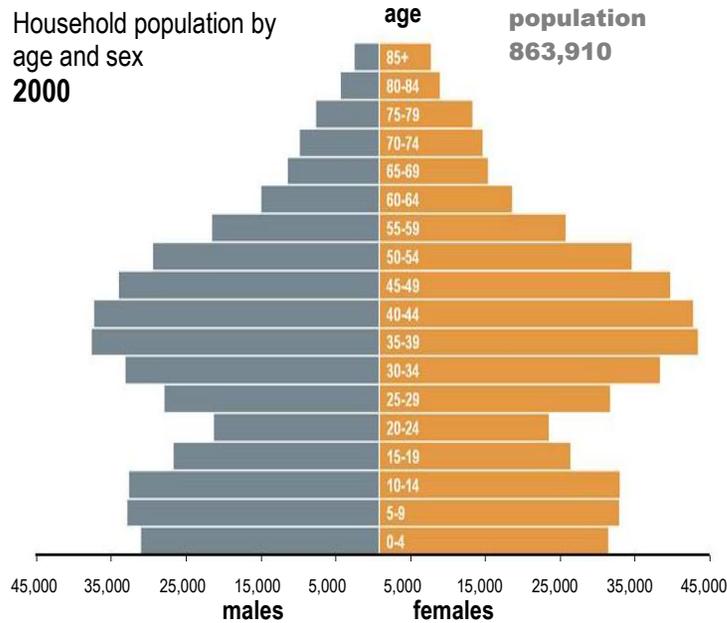
year	2005	2010	2030
ratio	5.5	5.2	3.4

The number of County residents in each age category is expected to shift to a larger percentage of the population over 60 years old. The County needs to attract new residents to fill the age groups under that age.

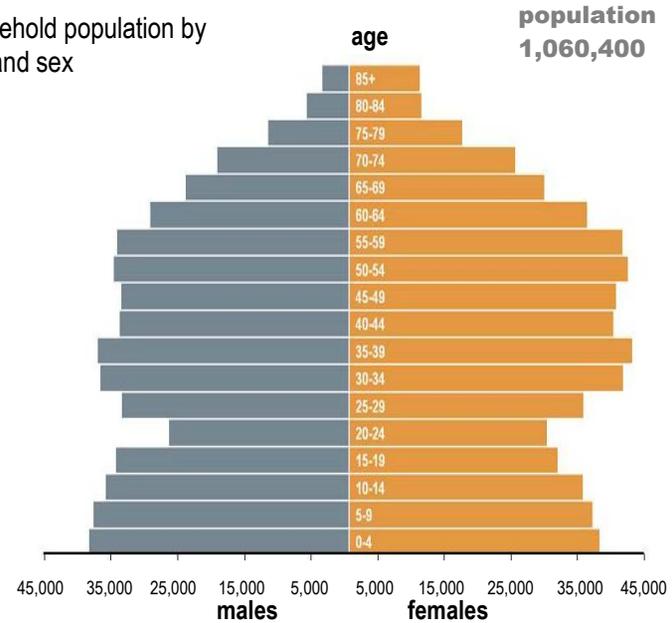
job growth

Job growth will continue to be strong and is an important consideration in growth policy. A key objective of pending master plans is to improve the jobs-housing balance and to identify ways to bring people and jobs closer together, shortening commutes and enabling people to walk or ride transit.

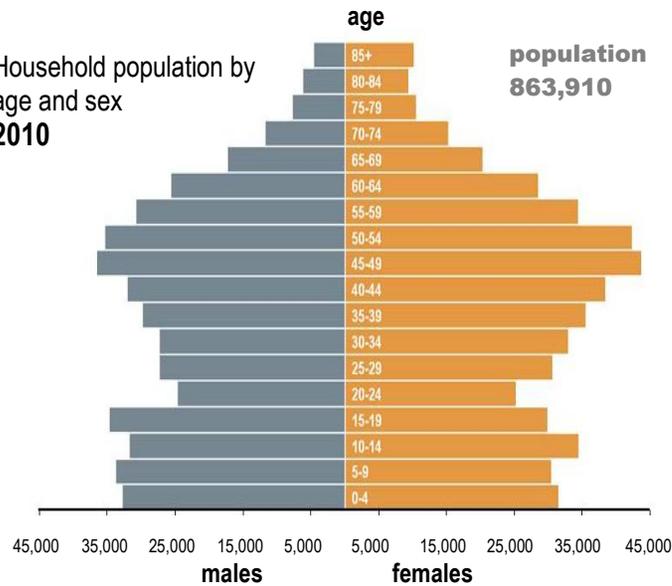
Household population by age and sex
2000



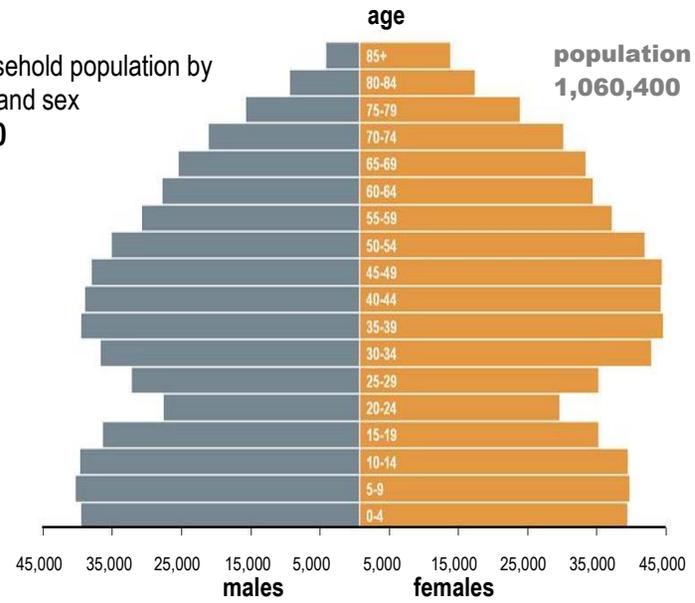
Household population by age and sex
2020



Household population by age and sex
2010



Household population by age and sex
2030

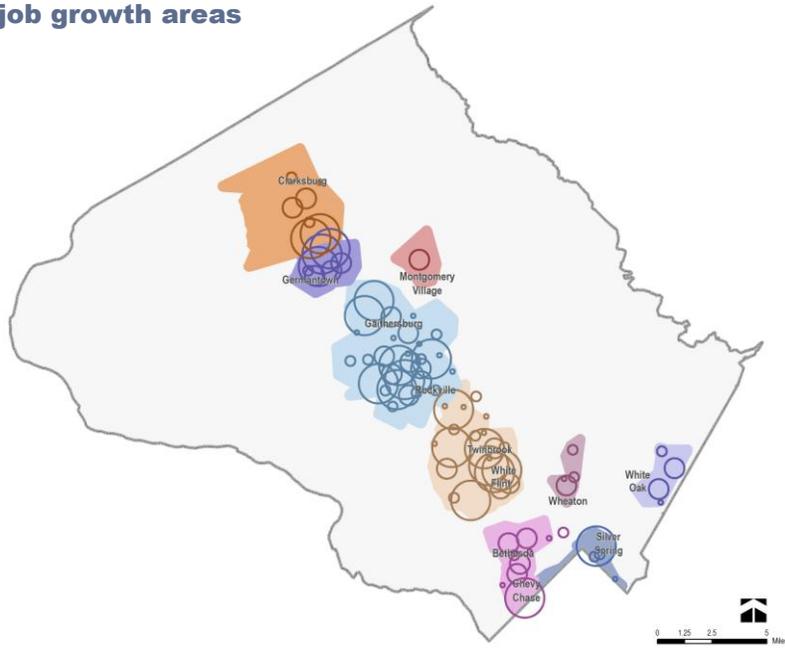


The number of County residents in each age category is expected to shift to a larger percentage of the population over 60 years old. The County needs to attract new residents to fill the younger age groups.

jobs forecast

By 2030, the number of jobs in the County is expected to increase by 166,200, a 33-percent increase. Regionally, 1 million more jobs are predicted—a 32-percent increase.

job growth areas



The White Flint, Germantown, and Gaithersburg West plans will help balance jobs and housing along the I-270 Corridor. This map highlights the changes in job growth between 2008 and 2030.

Appendix B includes a table that projects growth in population, housing and number of jobs to 2030, by Policy Area. In pending master plans, one objective is to improve the jobs-housing ratio in those areas. Overall, projections show an improvement over the next 20+ years as the ratio moves from 1.41 to 1.52, closer to the target ratio of 1.6.

where are the jobs and housing?

In 2009, only 20% of the County's jobs and 9% of its households are in urban areas. There is a need to achieve a better balance. The forecast for 2030 shows that 20% figure holding steady with the households in urban areas rising to 17% of the County total. That would be a 49% increase for the total of urban households.

- In 2009, the jobs to household ratio in urban areas is 4.64 compared to 1.11 in the rest of the County
- By 2030, the ratio is forecast to drop to 2.74 in urban areas and to increase in the rest of the county to 1.31

coordinating growth policy, master plans, and zoning

Within a year, the Planning Department will have introduced five area master or sector plans and three functional plans including the Purple Line. Three of the master plans are game changers that redefine how growth can occur.

These will be followed within months by another sector plan as well as two functional plans focused on the environment. Those efforts embody the approach of this Growth Policy: sustainable development that matches our current and future needs.

Strategic infill offers a different set of challenges. In higher density areas, motorists perceive congestion differently, accepting higher levels as expectations of travel time are not the same as in lower density suburbs.

transit development

People moving to transit-adjacent development areas are twice as likely not to own a car. (tcrp report 128)

zoning

The current revision of the zoning ordinance is addressing transit proximity, green building techniques, and promotion of diverse retail and services that will bring activities closer together, reducing VMT. This approach also mirrors the recommendations of the Growth Policy. The coordination of the Growth Policy, master plans, and zoning creates a unified approach to encouraging new development to be smarter and greener.

how we manage growth

how does the APFO manage growth?

The Planning Board uses several tools to manage growth (see table). Master plans recommend basic land uses and densities. Zones contain key development standards. When a subdivision is proposed, the Board applies Growth Policy rules for administration of the Adequate Public Facilities Ordinance to determine whether there is sufficient capacity in the transportation and school systems to serve the new project.

Growth Management Tool	Application	Proposed
Master plans	where	same
Zoning	how	same
Subdivision regs	how	same
School capacity	when	minor change to monetary assessment
LATR	when	minor changes to mitigation types
PAMR	when	stay within general bounds of PAMR – encourage smart growth

comparison of current and proposed requirements

Growth management tools used in the County and whether changes are proposed.

transportation APF

definition and measurement of transportation adequacy

The County's transportation adequacy system requires that new development be measured two ways.

- Local Area Transportation Review (LATR) evaluates the level of congestion forecasted at specific intersections near a development site.
- Policy Area Mobility Review (PAMR) evaluates the average level of congestion forecasted throughout the neighborhood of a proposed development.

Both LATR and PAMR share certain features:

- both measure roadway adequacy in terms of congestion; the County's policy is to allow higher levels of congestion in areas with good transit service
- both consider the impact the proposed development will have on traffic, when added to existing traffic and traffic that will be generated by previously approved, but as yet unbuilt "pipeline" development.

Both LATR and PAMR require the applicant to mitigate unacceptable traffic impacts generated by the development. The Department's *Local Area Transportation Review and Policy Area Mobility Review Guidelines* sets out mitigating actions in five categories (trip reduction, transit, non-auto facilities, intersection improvements, and roadway construction) to satisfy LATR or PAMR guidelines.

LATR/PAMR guidelines

Priority	Mitigation Approach	PAMR Mechanism	LATR Mechanism	Single mitigation action addresses	Examples of mitigation actions
1	Peak hour vehicle trip reduction	Traffic mitigation agreement (TMAg)	Traffic mitigation agreement (TMAg)	Both PAMR and LATR impacts	Vehicle trip caps, flex-time/telecommute programs, shuttle services
2	Public transit capacity	Service provision	Not applicable	PAMR impacts only	Purchase of Ride-On bus with 12 years of operation
3	Non-auto facilities	Project implementation	Project implementation	Both PAMR and LATR impacts	Offsite sidewalks and bus shelters
4	Intersection improvements	Not applicable	Project implementation	LATR impacts only	Turn lanes, change of lane use configurations
5	Roadway link improvements	Project implementation	Project implementation only if site-specific LATR impacts are addressed	PAMR impacts, LATR impacts if applicable	Roadway widening

Staff forecasts PAMR conditions every year to update mitigation requirements and ensure a uniform approach for each neighborhood regardless of application type, size, or location.

LATR conditions are developed from information submitted by the applicant (and checked by staff) and vary significantly based on an application's type, size, and location.

Across the country, most jurisdictions require a site-specific transportation test like LATR; very few use an area wide test like PAMR.

the local test – local area transportation review

LATR examines pipeline developments within a half-mile of an application. These projects will likely have the greatest impact on local intersections. However, approved projects several miles away may each also generate small amounts of traffic through the same

intersections, and traffic flows may be affected by roadway improvements outside the immediate area. Tracking these minor but cumulative impacts requires a travel demand model.

The County's policy allows more congestion in Metro Station Policy Areas and these areas have robust street grids. So LATR has not generally been a limiting factor in encouraging smart growth near transit.

the area wide test – policy area mobility review

Assessing a development's traffic impacts can be thought of as looking at the ripples generated by a raindrop falling into a pond; the larger the drop, the bigger the ripple. As the ripple moves outward, it gets smaller until it is no longer noticeable. If two drops fall into the pond simultaneously, they generate overlapping ripples.

PAMR evaluates the cumulative effect of approved and anticipated development and of programmed transportation system improvements County wide. In short, it tracks the effect of an entire rainstorm.

what is policy area mobility review?

PAMR is an area wide assessment of mobility that considers how much delay motorists experience during rush hour and how competitive transit service is compared to the automobile.

PAMR uses Level of Service (LOS) grades like those in school: A is best and F is worst. One important difference is that while LOS A provides the best service for each customer, the most efficient use of resources to move people and goods on roadways occurs at LOS E, when roads are well used (but not gridlocked), even though all customers experience some delay.

Requirements for area wide arterial LOS and transit LOS reflect County policy that transportation mobility should be multimodal. Areas with better transit service are not as reliant on auto travel; consequently more congestion can be accepted as transit LOS improves.

LOS grades are given to each of the 21 PAMR policy areas by measuring current and forecasted conditions and by considering approved development and roadway and transit improvements.

PAMR mitigation requirements for all development in a policy area are based on the area's forecasted travel conditions and the LOS standards. PAMR mitigation techniques include trip reduction agreements and construction of off-site improvements like streets, sidewalks, or transit service.

Trip reduction strategies and provision of non-auto facilities count towards both LATR and PAMR mitigation.

Impact of PAMR on smart growth

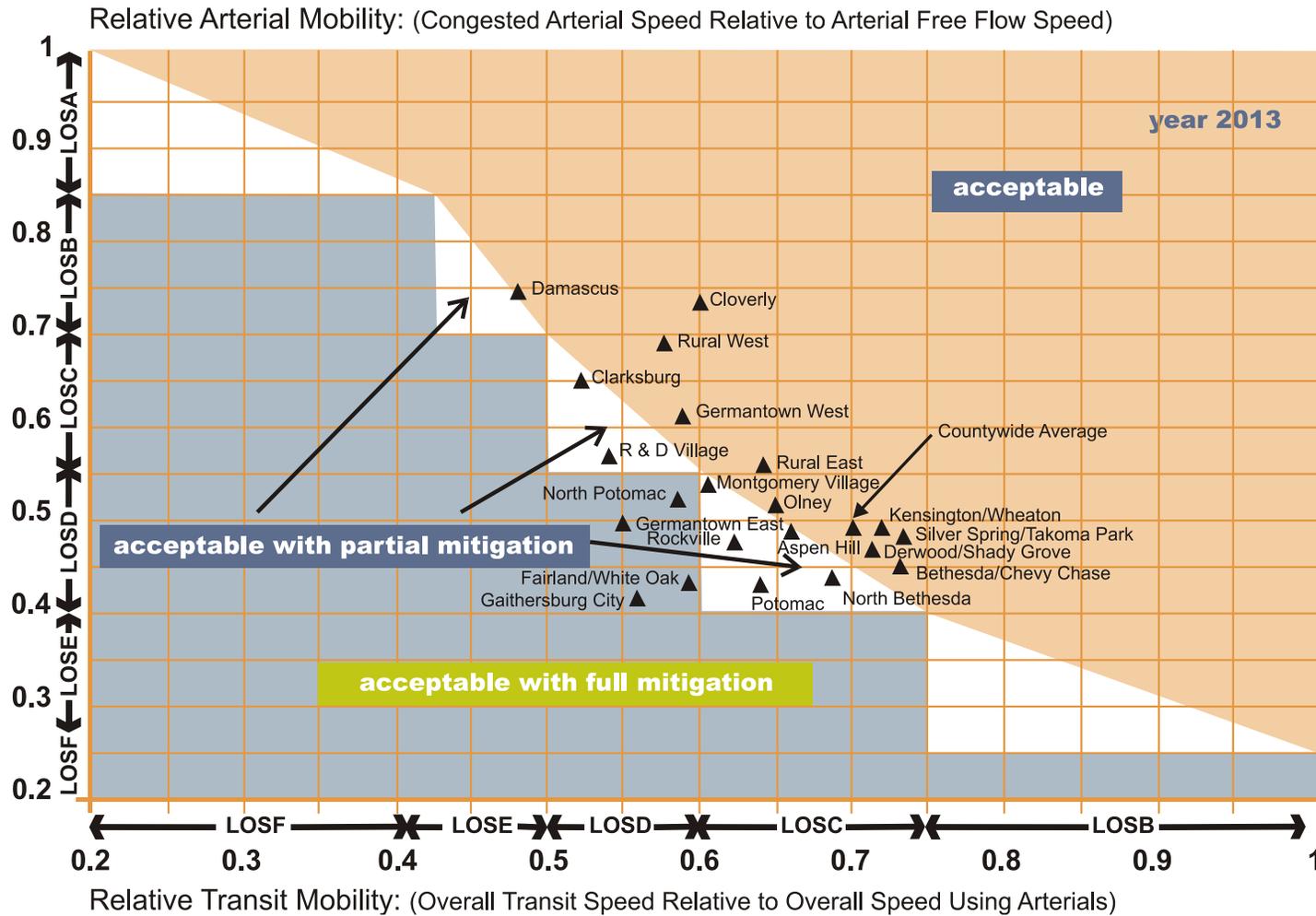
The current definition of PAMR is criticized by many stakeholders as being insensitive to smart growth elements such as location and mix of uses. Development applicants are concerned that uniform PAMR criteria penalize smart growth and that mitigation proposals are unpredictable. Residents are concerned that mobility issues along roadway segments are not adequately examined in the development of average area wide conditions and that mitigation strategies often are not proportionate to a development's impacts.

PAMR concerns and recommendations

Four types of changes to PAMR are recommended, from Smart Growth Criteria to administrative improvements. These proposals are summarized in the table and additional information is contained in appendices K, M, and N.

Element	Concern	Proposed Changes
Location	PAMR applies to all development, even in Metro Station Policy Areas, because any development will generate traffic that impacts adjacent communities.	Smart Growth criteria provide an Alternative Review Procedure for development applications within ½ mile of transit.
Mixed-Use	Trip generation rates do not adequately reflect development that blends commercial and residential uses or that offers basic services within walking distance.	New trip generation rates based on household survey data available for the County's Metro Policy Station Areas Smart Growth criteria include a 50% minimum residential component.
Travel Expectations	The level of desired mobility for car travel in most suburban and urban areas is higher than the level of mobility that is practical to provide. The most efficient use of transportation infrastructure is a system where all users experience some delays.	Revise PAMR congestion standards to require LOS A arterial service where transit is at LOS F and allow arterial conditions to degrade to LOS E if transit is LOS B.
Predictability and relevance in impact mitigation	The current PAMR mitigation process requires a burdensome amount of interagency coordination. Some suggested mitigation facilities, such as bus shelters, are not approvable. Values of allowed mitigation yield irrelevant solutions, such as an over-reliance on curb ramps.	Revise non-auto facility mitigation criteria to define mitigating impacts based on \$11,000 per vehicle trip.

Year 2013 PAMR chart with “symmetrical” level of service standards



school APF

defining and measuring school adequacy

The annual school test determines if residential subdivisions in a school cluster should be subject to either a school facility payment or a moratorium.

School adequacy evaluation is based on three factors:

- Montgomery County Public Schools (MCPS) enrollment projections
- existing capacities of schools
- any additional capacity (additions and new schools) programmed in the Capital Improvements Program (CIP) adopted by the County Council

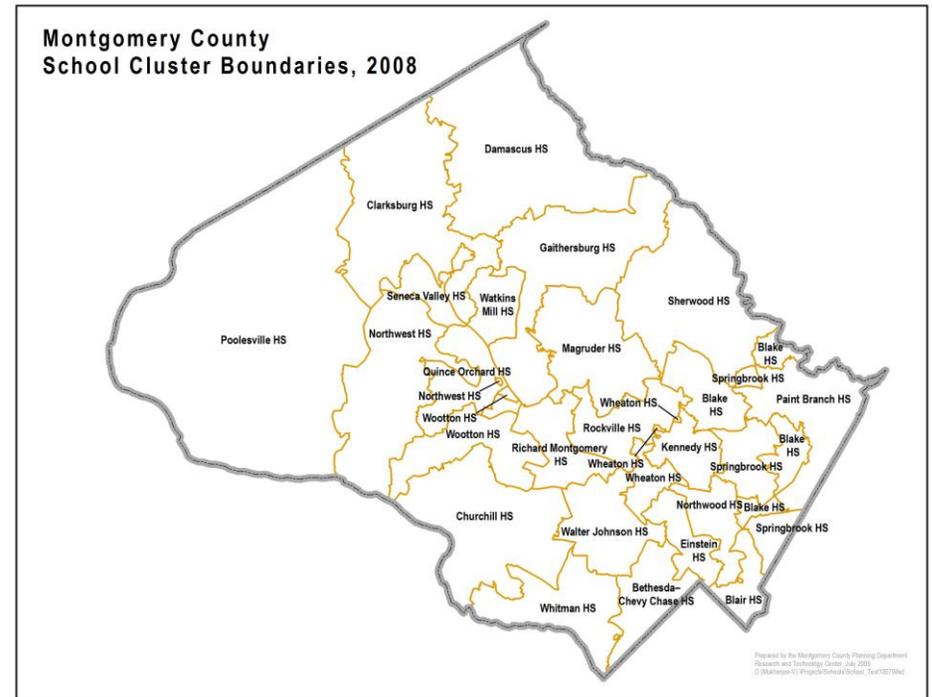
The school system evaluates 25 school clusters each year to measure facility capacity in the coming five years. The five-year period represents the estimated time for development to proceed through the review and construction phases to occupancy. Additional students are counted at occupancy.

If a cluster's projected enrollment exceeds projected capacity, residential subdivision approvals can be halted or assessed. The Growth Policy is used to determine the level of "overcrowding" that warrants an assessment (school facility payment) or moratorium.

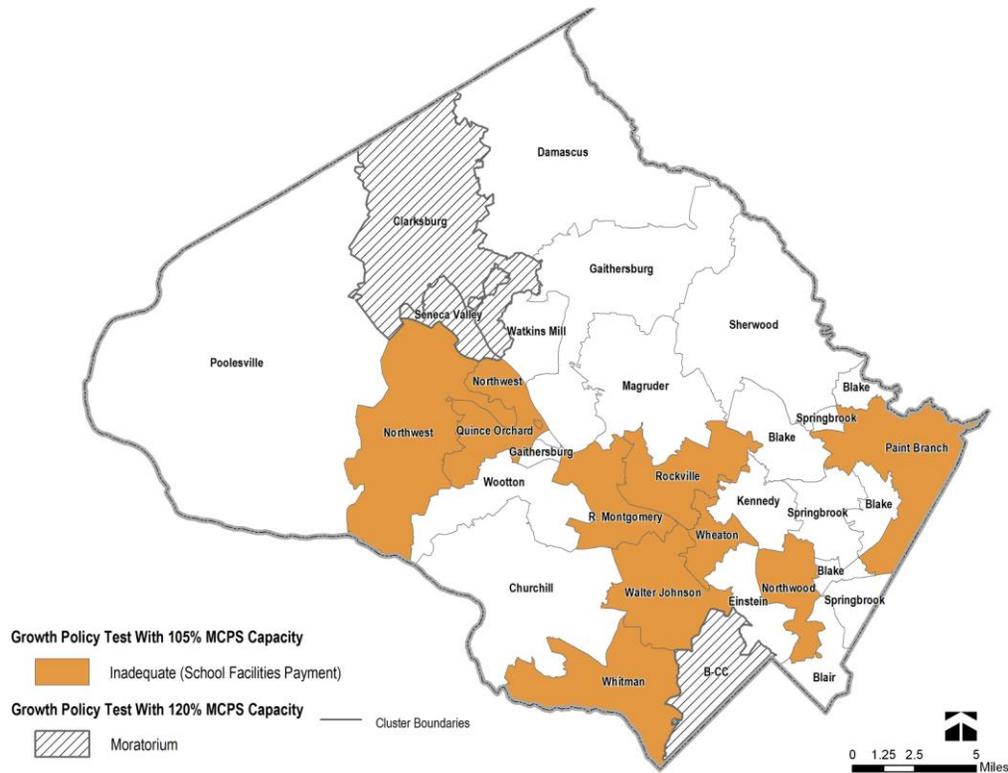
The 2007-2009 Growth Policy stipulated that at each level—elementary, middle, and high school—enrollment must not exceed 105 percent of program capacity. Borrowing capacity from adjacent clusters is not permitted. If projected enrollment at any level exceeds 105 percent of program capacity, residential subdivisions in the affected cluster will be required to make a school facility payment. The school facility payment is derived from the per-student cost for new schools, using student generation rates for each school level by housing type.

In FY2010, residential development in nine school clusters will require a school facility payment to proceed.

school clusters



FY2010 school test results at 105 percent



A residential development in any of these nine school clusters requires a School Facility Payment to proceed. Three other clusters, Bethesda/Chevy Chase, Clarksburg, and Seneca Valley are in moratorium and no new residential developments can occur until funds are programmed to construct additional classroom space.

In addition, at all three school levels, if projected enrollment exceeds 120 percent of projected program capacity ("borrowing" prohibited), residential subdivisions in the affected cluster will be in moratorium.

how we will manage growth

The Growth Policy recommendations are based on the following ideas and approaches:

- fostering development that lowers carbon emission through reduced VMT and better buildings
- creating a mix of commercial and residential uses to reduce the high VMT created by commercial uses and shorten trip distances
- higher levels of congestion resulting in the more efficient use of the existing road infrastructure, particularly in urban areas with better transit service
- trading existing, unused adequate public facilities capacity for schools and roads to encourage shifting potential VMT from suburban areas into urban areas where infrastructure and transit already exist and higher levels of congestion are acceptable
- developing traffic mitigation strategies that can impact capacity
- using exactions and mitigation fees that cannot fully fund our transit facilities, but can help create a base to leverage additional funding
- setting the threshold for requiring a school impact fee at a level that will foster action by the school system to increase capacity

Minor changes to the school capacity tests and the Local Area Transportation Review (LATR) calculation are proposed.

Four major changes are proposed to the Policy Area Mobility Review test:

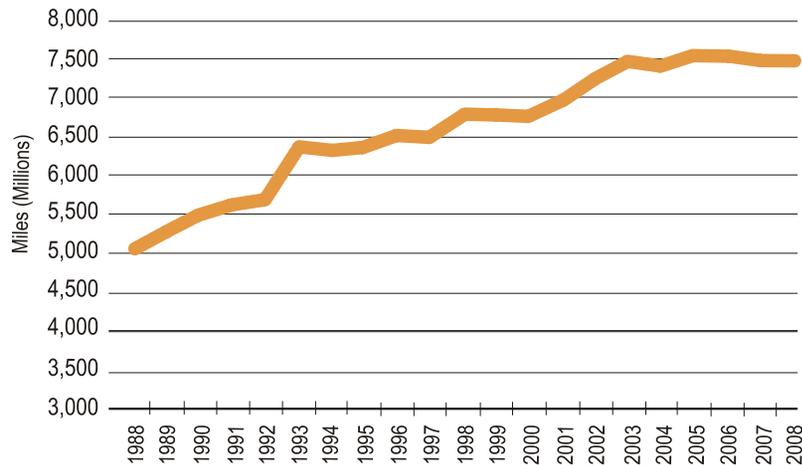
- a smart growth offset for mitigation
- trading approved school and road capacity from unbuilt approved projects
- rebalancing mobility standards
- increased value of transportation mitigation.

The best way to reduce automobile trips is to not generate them at all. The second way is to mitigate them. The reality is that we can never build our way out of congestion. Accordingly, the growth policy should provide an alternative that reduces demand for automobile travel. The by-product of this approach is a start at creating a greener environment for residents through reduced carbon emissions.

land use change can bring substantial changes to VMT

Using a reasonable rate of growth in the market share of compact development and the relationship between VMT and CO₂, smart growth could, by itself, reduce the total transportation related CO₂ emissions from current trends by 7% to 10% by 2050. ULI – Growing Cooler – 2008.

total vehicle miles traveled (vmt) on state highway in montgomery county, md



Source: Maryland State Highway Administration

The total vehicle miles traveled in the County has leveled off in the past three years but still remains high. The average commuter in the D.C. area wastes 42 gallons of gas in traffic jams per year, second highest in the nation. Our development pattern of cul-de-sacs channels traffic to choke points.

recommendations

The proposed Growth Policy makes 11 recommendations for changes that would take effect January 1, 2010, plus a twelfth recommendation for future studies to inform the 2011-2013 Growth Policy.

The first eight recommendations are primarily related to transportation; recommendations 9-11 relate to schools.

More specifically, the PAMR mitigation process should improve the provision and application of transportation services to areas with the greatest need.

- Adopting **symmetrical level of service standards** for arterial and transit mobility will provide more realistic expectations for mobility across County land uses. Metro station areas like Bethesda, Silver Spring, White Flint, and Wheaton are planned to function in a more urban manner with slower roadway speeds as transit quality of service improves. Suburban communities will require greater roadway mobility where development densities limit the effectiveness of transit service.
- Establishing a **fixed value for non-auto facilities**, at \$11,000 per vehicle trip, will improve both the type and effectiveness of transportation mitigation associated with PAMR.
- Providing for the **transfer of APF approvals into Metro Station Policy Areas** will promote development where transit and community services are most robust as well as reduce the backlog of approved but unbuilt projects in parts of a policy area less well served by transit.

These recommendations will result in a net increase in resources for transportation system mitigation, as the increase in per-vehicle trip mitigation values will offset the reduction in the number of development cases requiring mitigation.

transportation and land use-related recommendations

- 1. Provide an alternative review procedure for policy area mobility review (PAMR) within Metro Station Policy Areas, based on incentives to direct growth to areas served by regular public transit that meets the Smart Growth Criteria** (table, next page).

For projects meeting the Smart Growth Criteria, the PAMR mitigation costs should be allocated as follows:

- 50% applied to providing public transit improvements
- 25% applied to providing affordable housing near transit within the development, where the number of units provided may vary, provided the funding value is met, allowing for cost

differentials for providing the units in high rise construction vs. low rise

- 25% retained by the developer.

Fifty percent of the transportation impact tax required of a development should be applied toward the implementation of capital facilities that improve transit capacity or the quality of transit service, including the purchase of new (but not replacement) buses, the expansion of maintenance yards and facilities, bus shelters, or the installation of real time information systems. These improvements are to be directed toward benefitting riders within the PAMR policy area in which the development is located.

The best way to reduce traffic congestion is to reduce VMT. If VMT are reduced, congestion drops. In addition, development is much greener through less carbon emissions that benefits everyone.

The Growth Policy can be used to reduce VMT through incentives for smart development that locates in areas of higher infrastructure including transit service. Rather than building far out where capacity exists and commutes are longer, the growth policy can work in synch with master plans and zoning, to bring development into our existing urban areas.

The recommendation is based on five principles:

- housing near transit reduces VMT
- substituting housing capacity for commercial capacity reduces VMT
- providing funding for transit can help improve the transit system
- building to a minimum density helps reduce VMT by ensuring strategic sites near transit are not underutilized
- providing energy efficient buildings reduces carbon emissions.

Montgomery County - Smart Growth Criteria

All projects must meet the following criteria to be considered for an Alternative PAMR Review and 100% PAMR offset:

- Project must be located within ½ mile of an existing or planned major transit stop or high-quality transit corridor. A high-quality transit corridor means a corridor with fixed route bus service where service intervals are no longer than 15 minute during peak commute hours. A project shall be considered to be within one-half mile of a major transit stop if all parcels within the project have no more than 25% of their area farther than one-half mile from a transit stop or corridor and if not more than 10% of the residential units in the project are farther than one-half mile from the stop or corridor. A planned transit stop or corridor is one that is funded for construction within the first four years of the Consolidated Transportation Program and/or the Capital Improvement Program.
- Project must be mixed-use with a minimum 50% residential use.
- Project must seek to achieve the maximum density of the site using 75% or more of the maximum density allowed in the zone (including all applicable bonuses) subject to the limits specified in the master/sector plan.
- Building(s) exceeds energy efficiency standards by 17.5% for new buildings or by 10.5% for existing building renovation. Or, building(s) has on-site energy production such that 2.5% of the annual building energy cost is off-set by the renewable production system (*LEED New Construction/Major Renovation*).
- The project must provide additional affordable housing, either workforce housing or moderately-priced dwelling units, above and beyond that required for plan approval such that 25 percent of the PAMR mitigation resource being offset is applied to this obligation.

The PAMR offset will be directed as follows:

- Fifty percent of the PAMR mitigation resource being offset must be directed to transit infrastructure.
- Twenty-five percent of the PAMR mitigation resource being offset must be applied to the provision of additional affordable housing, either workforce housing or moderately-priced dwelling units, above and beyond that required for plan approval.
- And, the remaining twenty-five percent of the PAMR mitigation resource will be retained by the developer.

The Smart Growth Criteria alternate review procedure for Policy Area Mobility Review is recommended as an incentive to development within one-half mile of a transit station or bus line with high frequency service.

transit proximity

“The most effective strategy to increase ridership is to increase development densities in close proximity to transit.” (tcrp report 128)

This approach is based on pioneering sustainability initiatives:

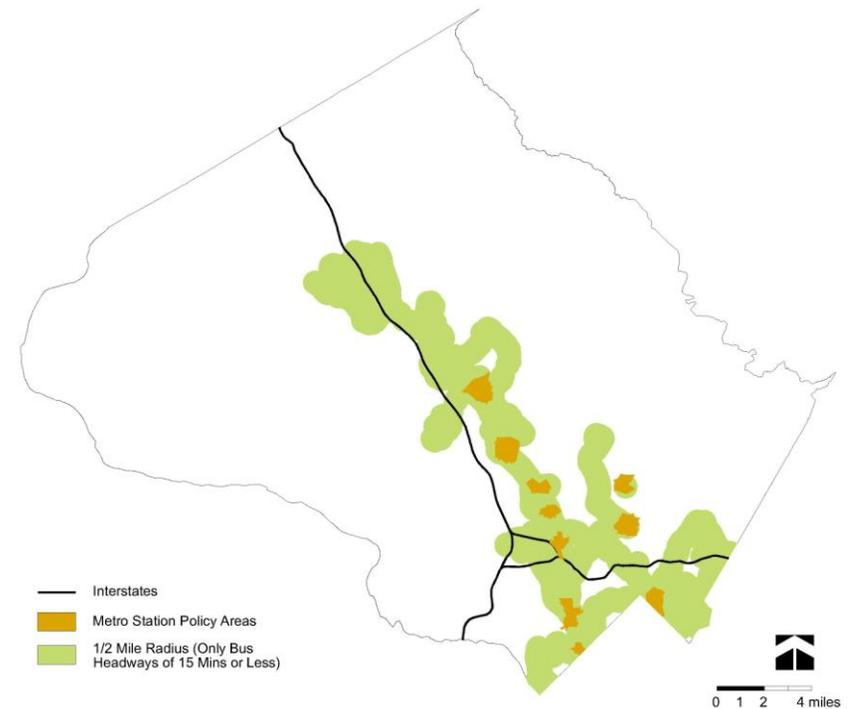
- proximity to transit is the cornerstone of new California legislation to reduce vehicle trips, stunt sprawl, reduce carbon emissions, and incentivize development close to transit facilities
- LEED for Buildings encourages energy efficiency standards in new development
- the Montgomery County MPDU requirement and Workforce Housing can be used to improve transit access and lower the combined household costs of housing, transportation and utilities
- creating area based transit funding sources, where development contributes funding to improve transit service and facilities within the area.

car ownership and transit proximity

People living near transit typically own fewer cars, live in smaller houses and take advantage of the transit. (tcrp report 128)

The eligibility for a development to use the Smart Growth alternative review procedure (offset) borrows criteria from each of these strategies, to create minimum requirements that must be met to make use of the alternative review procedure.

metro station policy areas



Smart Growth Alternative Review Procedure Areas

Development in the areas shown on the map would currently be eligible for the alternative review procedure, if the criteria noted were met.

For projects electing to use the Smart Growth alternative review procedure, the PAMR calculation would still be made. However, the required value of the mitigation would be directed primarily to public transit and affordable housing and some could be retained by the developer.

Smart Growth alternative review mitigation

The PAMR mitigation fee determined for a specific development would be split up so that 50% would be directed to transit funding; 25% for affordable housing; while the remaining funds would be available for the owner to help offset the costs meeting the basic requirements as noted above. Also, 75 percent of the transportation impact tax should be dedicated to improving public transit.

The policy encourages housing instead of more office space. Pending master plans may establish limits for both the overall density as well as how much of that total can be allocated for housing or commercial uses.

trip generation: housing vs. office

Housing generates fewer trips than commercial development. A hundred high rise residential units take about the same amount of space as a 100,000 square foot office building, but generate just 28 percent of the peak hour vehicle trips. At the PAMR level, the recommendations reflect this reduction.

The goal is to achieve a more balanced jobs-housing ratio. In addition, the PAMR incentive to build closer to transit promotes strategic growth that results in fewer VMT, particularly beyond intersections near the development.

This offset approach will still require the school impact tax for residential uses and the LATR traffic calculation for local trip generation. Over time, capacity frees up as people shift from longer commutes through neighborhoods to transit and people close to the transit shift their travel patterns.

Whether builders take advantage of the alternate method will depend on costs and savings. Targeting transit payments is something several builders have indicated would be a positive influence on their decisions.

demand for mixed use neighborhoods

“Because the demand is greater than the current supply, the price per square foot values of houses in mixed-use neighborhoods show price premiums ranging from 40% to 100%, compared to houses in nearby single use subdivisions”. (C. Leinberger)

Appendix N contains additional details and describes how the alternate procedure would apply to a hypothetical project.

2. Establish symmetrical treatment for level of service standards for transit and arterial mobility, allowing LOS for urban roadways to be assessed at LOS E, rather than LOS D.

Policy Area Mobility Review establishes criteria for Relative Transit Mobility and Relative Arterial Mobility that are based on Level of Service (LOS) criteria published by the Transportation Research Board. The details of the PAMR process are contained in the Planning Board’s LATR/PAMR Guidelines.

Requirements for area wide arterial LOS and transit LOS reflect County policy that transportation mobility should be multimodal. Areas with better transit service are not as reliant on auto travel; consequently, lower levels of service on arterial roads can be accepted as transit service improves.

The relationship between Transit LOS and Arterial LOS in the PAMR process should be symmetrical as shown below to provide an equitable level of multimodal transportation service across the County.

If Transit LOS is	Then Arterial LOS Must Be
F	A
E	B
D	C
C	D
B	E
A	F

PAMR symmetrical LOS standards relate arterial traffic levels to good transit service. Areas with better transit service that allow people to take transit rather than drive can function with higher levels of congestion.

The symmetrical LOS standards would change current County policy that states the area wide Arterial LOS should never fall below LOS D. A LOS E is recommended for two reasons:

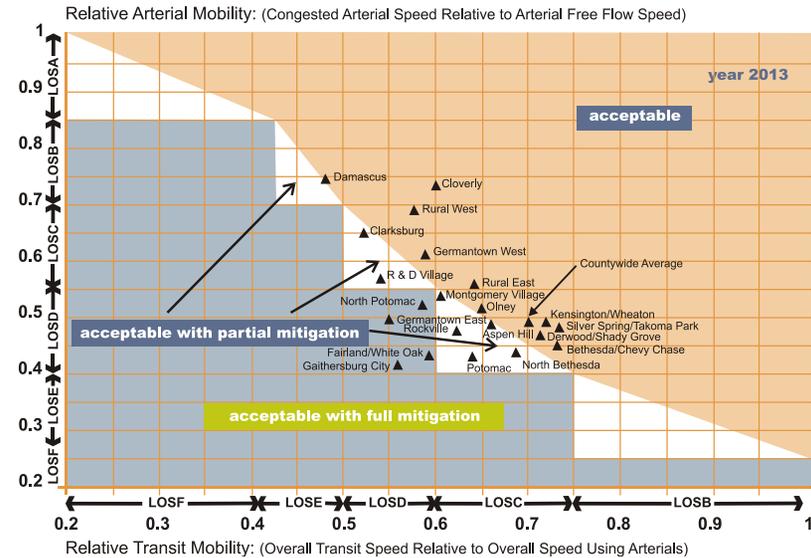
- At LOS E the movement of cars on a road is maximized. For drivers, LOS A represents the least delay, and therefore the best level of service. However, this level is not practical from fiscal or community-building perspectives. Most jurisdictions require conditions ranging from LOS C to LOS E.
- The County's current requirement for LOS D creates pressure to add turn lanes and widen roads in areas where this is not possible or desirable. In urban areas especially, the pedestrian environment should not be compromised to provide better access for cars.

PAMR charts

The recommendation would shift the line delineating areas that are "acceptable" to a roadway level of service E. Those areas that would move from "partial mitigation" to "acceptable" are shown. Shifting the line would move the Bethesda/Chevy Chase, Derwood/Shady Grove, Kensington/Wheaton, Olney, and Silver Spring/Takoma Park PAMR mitigation areas from a partial mitigation requirement to an acceptable level. These are areas where new growth should be encouraged.

year 2013 PAMR chart with "symmetrical" level of services standards

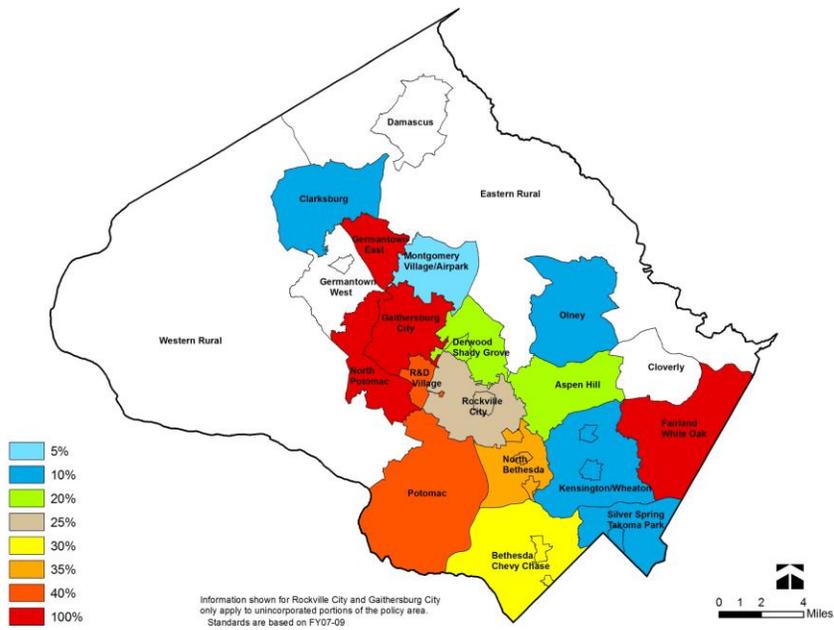
Year 2013 PAMR chart with "symmetrical" level of service standards



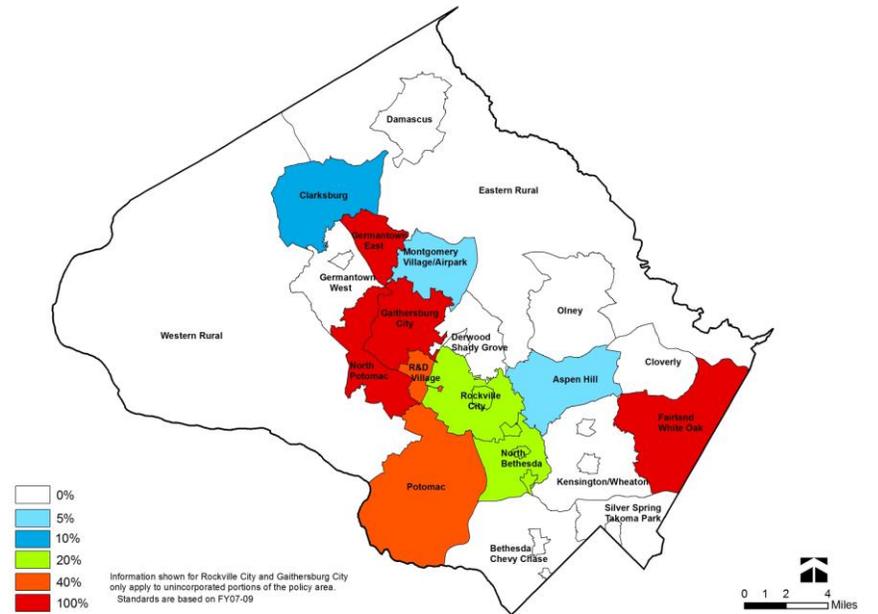
How slow is LOS E?

The Rockville Pike segment between the Capital Beltway and White Flint is 1.5 miles long. The time to drive this distance is:

- 2 minutes at LOS A or LOS B
- 3 minutes at LOS C
- 4 minutes at LOS D
- 5 minutes at LOS E



The 2007-2009 Growth Policy requires PAMR mitigation in 16 of 21 policy areas.



The proposed 2009-2011 Growth Policy requires PAMR mitigation in 11 of 21 policy areas.

3. Set the value of each vehicle trip mitigated at \$11,000.

The Planning Board's LATR/PAMR Guidelines allow for facilities such as sidewalks, bike lockers, and bus shelters to offset car trips by improving alternatives such as walking or cycling. This practice has been used for over 10 years.

The LATR and PAMR Guidelines do not include a wide enough range of potential traffic mitigation solutions and the mitigation actions are not appropriately priced. For example, Montgomery General Hospital mitigated their PAMR impacts with a transit center that will ultimately serve the Georgia Avenue busway. This solution will provide service far beyond the specific development at the hospital to serve a broader community of bus riders. The facility however, was not on the pre-approved list of mitigation facilities.

An improvement to this approach would be to assess a uniform mitigation fee based on the capital value of the improvements. This solution ensures all applicants are treated fairly and directs the mitigation toward solutions that best benefit the community.

In October 2008, the Planning Board revised the LATR/PAMR Guidelines to allow applicants to pay the County an \$11,000 per vehicle trip mitigation fee where fewer than 30 peak hour vehicle trips needed to be mitigated. The \$11,000 value should be retained as the basis for mitigation with one exception. The cost of construction of offsite sidewalk and bike paths is a known quantity and should continue as an option for mitigation.

How much is a vehicle trip worth?

The Planning Board recommendation for \$11,000 per vehicle trip is based on average County costs and is in the middle of a wide range of mitigation examples:

- < \$1,000: Wheaton Hills mitigation
- \$3,000: City of San Jose policy
- \$6,500: Washington Adventist Hospital mitigation

- \$11,000: Cost of Montgomery County responsibility within regional plan
- \$21,000: Montgomery General Hospital mitigation
- > \$50,000: National Naval Medical Campus BRAC mitigation

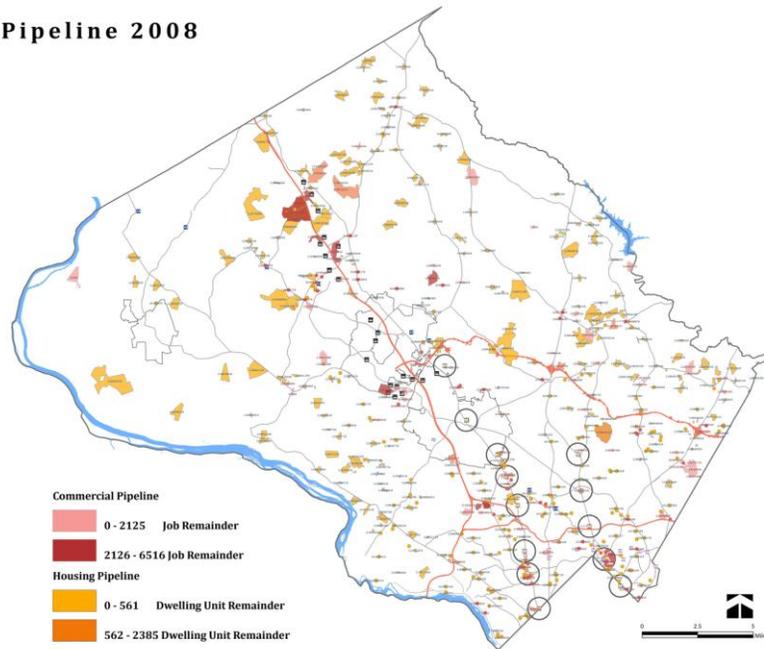
4. Permit the transfer of approved APF trips to Metro Station Policy Areas from within the same PAMR policy area.

The current pipeline of approved but unbuilt projects in the County includes 33 million square feet of commercial development and 29,000 housing units. Most of these projects are outside the County's Metro Station Policy Areas. When these projects were approved, the potential vehicle trips these developments could generate were included in the PAMR mitigation calculation. This means that any modeling for a new development application would include these hypothetical trips in the calculations. As a result, new development may have higher mitigation costs because of the unbuilt development which may or may not go forward.

The hypothetical trips are scattered throughout areas of the county less served by transit. They have the potential to create more and longer trips as people travel farther to job centers. If a portion of these trips could be shifted to the Metro Station areas, the same number of vehicle trips would, due to higher transit mode shares and shorter driving distances, have less of an impact on the road system. Vehicle trips are shorter in urban areas that have more destinations.

This recommendation would allow an applicant to meet his/her APF transportation requirement by acquiring previously approved capacity from another project in the adjacent or "parent" PAMR policy area. The "sending" project would then be unable to move forward.

Pipeline 2008



There are many approved but unbuilt projects in the development pipeline. Trading apf approvals to more dense areas would result in greater sustainability.

Where are the approved but unbuilt projects?

The 33 million square feet of approved but unbuilt commercial development is scattered around the County:

- only 13% is in Metro Station Policy Areas
- 27% is in the incorporated cities of Rockville or Gaithersburg
- 60% is elsewhere in the County.

The County has 16 urban areas in the Road Code. These urban areas have streets designed for a pedestrian environment, including wider sidewalks and slower travel speeds. Each of the urban areas already has a base of commercial development that provides some basic

services and a level of transit service higher than the surrounding suburban development.

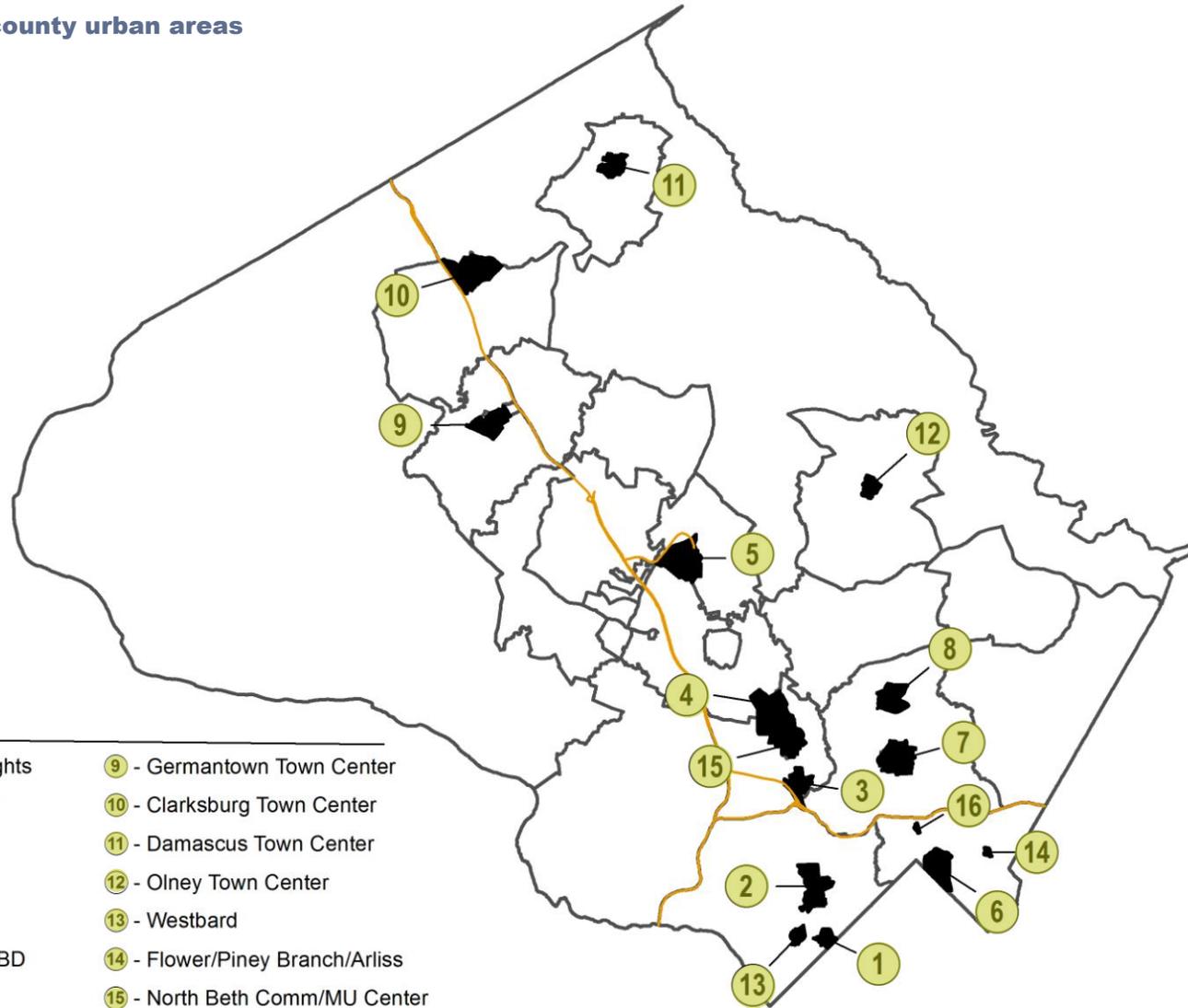
5. Adjust the residential trip generation rates by 18 percent in Metro Station Policy Areas only.

The LATR trip generation rates are based primarily on data collection efforts for developments County wide during the 1980s. Separate trip generation rates were developed for the Silver Spring, Bethesda, and Friendship Heights CBDs as sector plans for those areas were adopted in the 1990s. A discounting factor is available for offices near Metrorail stations to reflect the higher transit mode share at those locations.

Two recent studies add to the data on the value of transit-oriented development and proximity to basic services in reducing the reliance on auto travel. The Transit Cooperative Research Project (TRCP) Report 128, *Effects of Transit Oriented Development on Housing, Parking, and Travel*, released by the Transportation Research Board in fall 2008, contains data collected at 17 transit-oriented developments nationwide. Two of those sites are in Montgomery County (the Avalon at Grosvenor Station and the Lenox Apartments in the Silver Spring CBD), and create trip generation relationships that are similar to those already incorporated in our LATR/PAMR Guidelines.

The Metropolitan Washington Council of Governments conducted a survey of 11,000 households between February 2007 and March 2008 to identify area wide travel patterns. The survey compares vehicle trip generation and VMT comparisons between residents in the region's Regional Activity Centers and Clusters compared to those who reside outside of the activity center areas.

montgomery county urban areas



Urban Areas

- ① - Friendship Heights
- ② - Bethesda CBD
- ③ - Grosvenor
- ④ - Twinbrook
- ⑤ - Shady Grove
- ⑥ - Silver Spring CBD
- ⑦ - Wheaton CBD
- ⑧ - Glenmont
- ⑨ - Germantown Town Center
- ⑩ - Clarksburg Town Center
- ⑪ - Damascus Town Center
- ⑫ - Olney Town Center
- ⑬ - Westbard
- ⑭ - Flower/Piney Branch/Arless
- ⑮ - North Beth Comm/MU Center
- ⑯ - Montgomery Hills Parking Lot District



Residents in Regional Activity Centers and Clusters generate fewer VMT, 18% fewer auto trips (4.6 per day as compared to 5.6 per day) and 33% less VMT (19.6 per day as compared to 29.3 per day). Source: mwcog report 2009

The study concluded that residents in these areas generate fewer vehicle trips and VMT than residents elsewhere in the region. This tendency is greatest in areas with the best transit service. The Planning Board proposes to reflect this finding in the LATR and PAMR Guidelines by establishing a residential vehicle trip generation rate for MSPAs that is 18 percent lower than County wide rates, a factor similar to the existing transit proximity reduction available for office uses in Metro Station Policy Areas.

Much of this difference in trips is due to demographic differences. Residents in Regional Activity Centers and Clusters have different household characteristics.

- fewer persons per household (24% of center/cluster households have three or more residents compared to 45% of households outside these areas)
- fewer workers per household (37% of center/cluster households have two or more workers compared to 51% of households outside these areas)

- fewer autos per household (18% of center/cluster households do not own a vehicle, compared to 3% of households outside these areas).

6. For the White Flint area, replace the LATR and PAMR mitigation with designated public entities and other funding mechanisms.

The White Flint Adequate Public Facilities (APF) approval process should be related to Council action on the *White Flint Sector Plan*. The Plan recommends replacing LATR and PAMR with a more coordinated approach to financing and building the street grid and transit facilities needed to support the planned growth. The *White Flint Sector Plan* includes a transportation staging ceiling and a detailed network of capital transportation projects, including the reconstruction of Rockville Pike into a multimodal boulevard.

Implementing these projects requires a comprehensive phasing plan to ensure the local street grid is in place to support Pike reconstruction. The implementation plan includes an alternative APF review procedure with an exaction process based on the proportional contribution of new development to the cost of planned transportation infrastructure. This process will improve the efficiency of both the development review process and infrastructure delivery by avoiding a piecemeal implementation of the transportation network.

7. Amend the policy area boundaries as recommended in sector plans, including the Life Sciences Center recommended in the Gaithersburg West Plan; the revision to the White Flint policy area; and the boundaries defined for Germantown Town Center

Three draft Sector Plans recommend changes to Policy Area boundaries that affect transportation APF review.

- The *Germantown Sector Plan* expands the Germantown Town Center Policy Area to be consistent with the Plan's Town Center neighborhood.
- The *White Flint Sector Plan* recommends expanding the White Flint Policy Area to be consistent with the White Flint Sector Plan boundary.

- The *Gaithersburg West Master Plan* for the Life Sciences Center recommends defining a new Life Sciences Policy Area to support the three new proposed Corridor Cities Transitway stations at the LSC Central, West, and Belward neighborhoods. This new Policy Area will have characteristics consistent with the Germantown Town Center Policy Area along the CCT.

These boundary changes:

- reflect the need for more urban, transit-oriented mobility and connectivity solutions at these transit stations
- incorporate municipal boundary changes and a more refined regional transportation analysis zone structure developed in coordination with MWCOG.

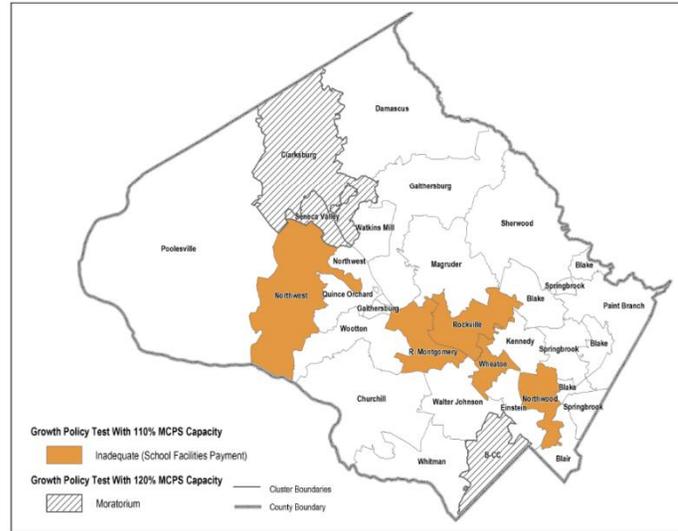
school capacity related changes

8. Set the threshold for application of a school facility payment at projected enrollment greater than 110 percent of projected program capacity at any school level by cluster.

The Planning Board recommends that the test for the adequacy of public school facilities be revised so that the threshold that triggers a School Facilities Payment is enrollment greater than 110 percent of MCPS program capacity.

Given periodic shifts in enrollment trends within clusters, either through new development, changes in neighborhood demographics or changes in the birthrate, it is fairly common to have utilization rates between five and 10 percent over or under capacity. Facility planning occurs in response to individual school capacity; the level at which an individual school requires additional infrastructure is an approximately six classroom deficit. For the average high school (1,600 student capacity) this would be equivalent to approximately 150 students over capacity; a utilization rate of 109.4 percent.

fy10 school test results at 110 percent



9. Retain the threshold for school moratorium on new residential subdivisions at projected enrollment greater than 120 percent of projected capacity at any school level by school cluster.

In moving to a stricter test on capacity during the 2007-2009 Growth Policy, the Planning Board and the School Board recommended increasing the threshold at which a school facility payment is required as well as increasing the threshold for moratorium.

The recommendation was to equate the capacity level at which a school facility payment would be required or a moratorium triggered under the prior (growth policy) capacity level to an equivalent threshold at the new (program) capacity level. Thus, the recommendation for the school facility payment threshold moved from 100 percent of “growth policy capacity” to 110 percent of “program capacity” and the moratorium threshold increased from 110 percent of “growth policy capacity” to 135 percent of “program capacity.”

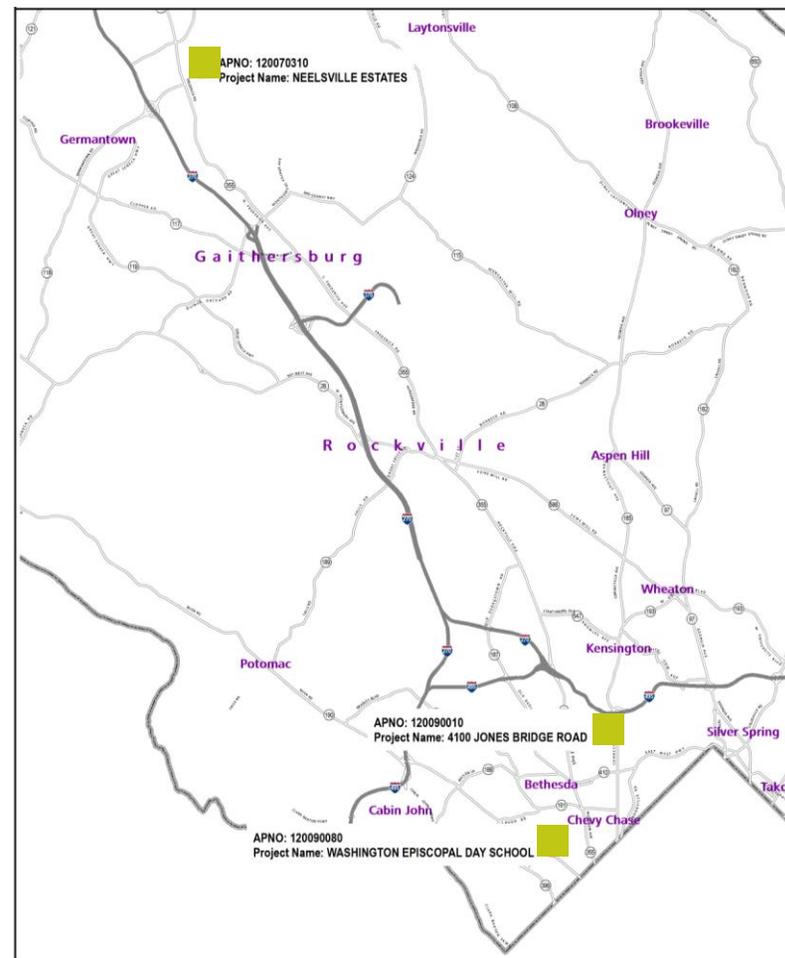
The County Council supported the switch from Growth Policy capacity to program capacity but did not agree with the school facility payment threshold or the threshold for moratorium. The Council's concern with the moratorium threshold was that at its equivalent level under Growth Policy capacity, the test was rarely failed. After committee and Council debate, the eventual compromise landed the threshold at 120 percent. The Board does not have any reason to recommend a change in the threshold for moratorium at this time, and recognizes that the choice of such a parameter is as much art as science.

Until recently, the threshold for imposition of a moratorium had rarely been exceeded, but when it was, new school facilities were promptly programmed. This suggests that there is some utility to retaining a standard that serves an alarm function when enrollment and capacity are out of balance. If this trigger is set relatively low, 120 percent compared to 135 percent then one could argue that programming to overcome capacity deficits may occur sooner.

10. Allow residential subdivision applications that are complete within the 12 months prior to imposition of a moratorium but have not been acted upon to proceed.

The most recent school test placed three school clusters into moratorium for residential subdivision approvals. Within these clusters,

applications subject to fy10 grandfathering



development applications were submitted and reviewed over the past few months to a year. A school queue was instituted as a result the last Growth Policy; it was meant to monitor school clusters as development applications were completed to gauge how quickly any one cluster was approaching either a School Facility Payment

threshold or a moratorium. The school queue did not predict the moratorium placed on the B-CC and Seneca Valley clusters.

One significant reason for this is that new development contributes only a small fraction of the enrollment changes occurring in most school clusters. In the Bethesda-Chevy Chase cluster, most of the overcrowding has been attributed to the unexpected rise in kindergarten enrollment. This is due, in part to the recent shift to all-day kindergarten, changes in the neighborhood demographics, and partly due to an increase in households choosing public education over private school, a reflection of the economy.

The APFO directs the Planning Board to approve preliminary plans of subdivision only after finding that public facilities will be adequate to serve the subdivision. For applicants who have completed their application and have engaged in discussions with Planning Staff about requirements to proceed to Board approval, the imposition of a moratorium near the end of this process can be costly and unpredictable.

The Board heard testimony that, on average, only 20 percent of the changes in enrollment are due to new development. Even though its contribution to change in enrollment is relatively small, the consequence of reaching a moratorium is placed completely on new development. To address this disparity, the Planning Board recommends grandfathering submitted applications that are completed up to 12 months prior to the moratorium.

For the three clusters now in moratorium, this would allow three projects to proceed to the Board; two projects in the Bethesda-Chevy Chase cluster (generating approximately six elementary, five middle and four high school students in total) and one in Clarksburg (generating two elementary, one middle, and one high school student). Grandfathering applicants that are within months of Board review provides predictability to the development community without significantly reducing the intent of a moratorium.

11. Allow any approved school capacity for a specific development to be transferable to another development within the same school cluster.

The Planning Board recommends extending to schools the same concept proposed for transferring transportation APF approvals for projects in Metro Station Policy areas. For schools, APF transfers should be limited to projects within the same school cluster. This approach can reduce unused potential school capacity and make room for students generated by “live” projects.

future studies

The recommendations of the 2009-2011 Growth Policy begin a discussion that has already started around the country. Communities are beginning to assess development in terms of sustainability with a much broader definition of quality of place than measuring just traffic congestion. In Montgomery County, the discussion has focused on three general areas.

First, how can compact development reduce travel demand? We have already incorporated some tools for assessing density, proximity to transit, and mixed uses into the APFO calculations. We need better information on how the provision of the right basic services in the right locations can be tailored to reduce, rather than increase, vehicle travel.

Second, how should we measure our expectations for connectivity? The LATR tools are focused on capacity. The introduction of PAMR in 2007 began a shift toward measuring mobility. Many feel that the PAMR tool still rewards car-centric development, while others feel that the assessment of forecasted improvements in transit level of service is too optimistic. However, in 2007 the PAMR test was found to provide the best combination of relevance, coherence, reliability, and availability of seven alternatives examined for thinking beyond the limited scope of the LATR process. Further consideration of changes to the LATR process that better reflect multimodal mobility was desired,

but not funded, in 2007 or 2008. These changes still need to be examined.

Finally, the discussion of APFO needs to keep pace with the discussion on climate change at both the national and local levels. We determined that our constituency is not ready for a total shift from the adequacy of transportation or schools to a broader analysis of carbon emissions or greenhouse gas impacts. However, the 2009-2011 Growth Policy recommendations begin to move the discussion in this direction. This is supported by the County's Climate Protection Plan. The 2011-2013 Growth Policy should continue this discussion.

The 2011-2013 Growth Policy should be informed by the following studies.

12. Submit the following studies to the County Council prior to August 1, 2011.

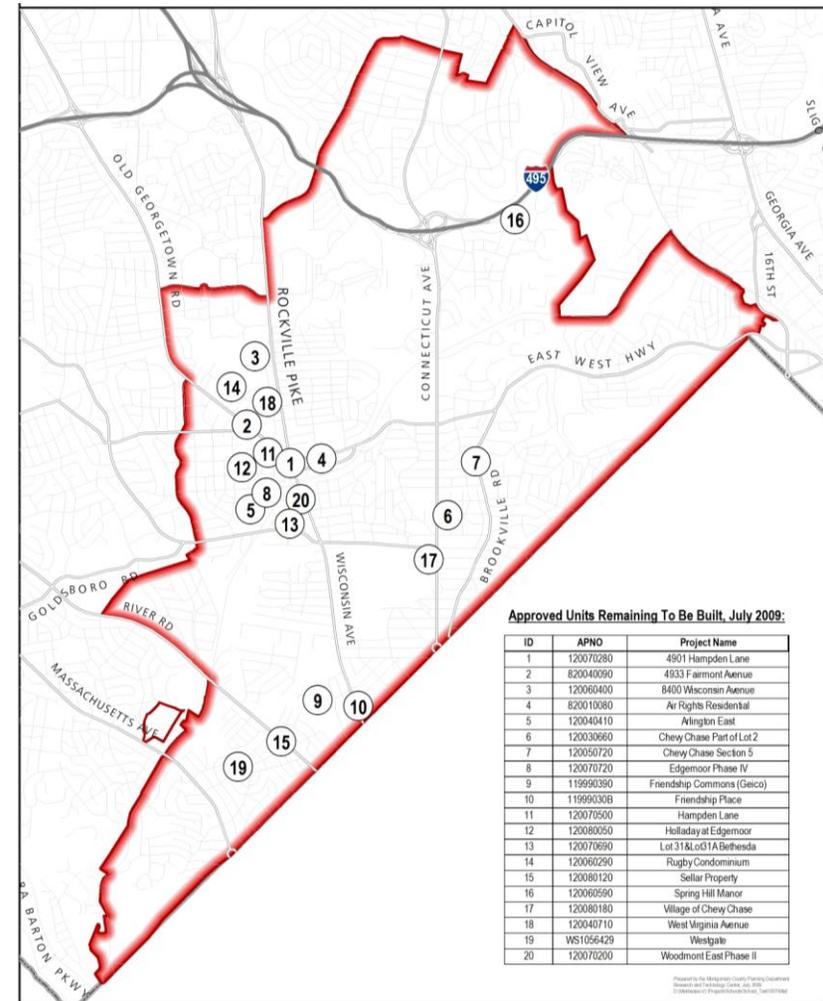
F1. biennial growth policy report

The Planning Board must submit a recommended Growth Policy by August 1st in two year periods. Starting in 2009, the Growth Policy must include:

- an analysis of current and future pace and pattern of growth and their factors in established communities
- an update on the success in meeting a set of indicators as developed under study F10 of the current Growth Policy
- an implementation status report for each master and sector plan including how development is proceeding and whether the public actions and facilities in the plan are occurring in a timely way
- summary of the Highway Mobility Report
- comprehensive list of priority facilities that are recommended for addition to the Capital Improvements Program
- recommendations on other public actions needed to achieve master plan objectives or improve the performance on adopted quality of life indicators
-

- recommendations on any policy area boundary changes to be consistent with the adopted master plans or sector plans or municipal boundaries.

bethesda/chevy chase cluster residential pipeline



F2. compact subdivision development

The recent water quality issue with the Clarksburg Stage 4 development raises the need to rethink sustainability factors in how land is developed. The 2011-2013 Growth Policy should build on the information from the Clarksburg Stage 4 master plan study as it relates to how land can be subdivided in more sustainable ways, reducing impacts on water quality, use of land, and green house gas emissions.

Future subdivision will be within urban areas as infill development and achieving low impact growth is an important element of defining how and where growth should occur. Planning staff will report on how state-of-the-art low impact design can be part of smarter growth policy.

F3. LEED Classification as a component of the Growth Policy

Planning staff will report on including elements of both the LEED for Neighborhood and New Construction or Major Renovation classification systems into the growth policy. Staff did recommend that the basic services element of the LEED Neighborhood system should be used as an alternative method for PAMR, however the Planning Board requested further study.

Staff recommended that a PAMR offset of 50 percent should be applied if new development provided or was within one half mile of ten basic services such as grocery stores, libraries, etc. Proximity to a critical mass of services will reduce VMT.

F4. using carbon offsets as an element of sustainable growth

Planning staff has started looking at the potential to use carbon offsets to mitigate the carbon created through vehicle trips by creating an equivalency between the carbon reduction achieved through a smart location, VMT reduction strategies, and energy efficient buildings to lower the carbon footprint created by a development.

For example, a building located near transit will generate fewer VMT and higher pedestrian activity; as well as provide walkable access to services. Coupled with energy efficient HVAC techniques, this building would emit far less carbon.

There is an emerging industry in “carbon accounting” that assesses the overall impact of an activity such as an office building, in terms of carbon emitted. Staff will consider the merits of assessing lower carbon emissions through buildings and the activity they create. For example, so many car trips over a year period would emit a measurable amount of carbon. If a building included methods for reducing an equivalent amount of carbon emissions, the development could occur. In effect, the lower building carbon emissions would be traded for the car emissions and rather than mitigating traffic impact, the offset would be mitigating carbon impacts.

This alternative review procedure would be limited to urban areas where there are transit alternatives to driving. Encouraging planned development in areas where increased congestion is supported by County policy would result in a higher proportion of people taking transit or walking while encouraging buildings that generate fewer emissions.

F5. dedicated transit revenue

The Smart Growth alternate review method recommends that 75 percent of the PAMR mitigation offset be used to fund transit serving the PAMR area. The Planning Board also recommends that 75 percent of the transportation impact tax be dedicated to transit projects. County Executive staff should be requested to develop a funding allocation and reporting process to monitor and report on how the resources directed to transit are being effectively implemented.

F6. land use impact on vehicle miles travelled

Planning staff should work with the County Executive to consider whether the impact of VMT vary for specific land uses by their location. For example, does a fast food restaurant in a Metro Station Policy Area

generate fewer VMT than the same use in a suburban location? How should that impact be weighed in the Growth Policy?

F7. retail impacts on vmt

Planning staff should work with the Executive to consider whether chain retail outlets generate higher VMT and parking demand than local retailers in the same business. If there is a difference, the report should consider different impact fee and mitigation requirements for different types of retail. The impact on small business growth should be considered.

F8. impact tax issues

The County Executive should complete the study requested as part of the 2007-2009 Growth Policy, which was to have reported on the collection and use of mitigation fees. That request should be made again as it is an important element in assessing the value of certain Growth Policy requirements.

This study should also look at the potential for including linkage fees between nonresidential uses and affordable housing. Currently nonresidential uses are not assessed to provide affordable housing, unlike many jurisdictions around the country. The County Executive should report on the economic feasibility of such a linkage fee.

F9. highway mobility report funding

Planning staff should complete the scheduled revision to the Highway Mobility Report in 2011 with data collection resources incorporated in the Planning Department budget, following coordination with the Executive on methods to improve data collection and reporting techniques that better address daily variability in traveler behavior. The 2011 report will continue to examine transit and pedestrian system performance as well as highway mobility.

F10. fiscally sustainable development

New development creates revenue through impact taxes, as well as the revenue created through the use of the building over its lifespan.

The County Executive should be requested to report on two issues linked to impact fees and revenue generation:

- does new development create more revenue through the taxes associated with the use of the building over its life-cycle than it creates through the one time taxes paid at permitting?
- should development impact taxes be reduced if tax revenue generated by the new development over the building's or project's life-cycle, exceed the cost of the County services provided to that development?

F11. options to latr

Planning staff should, with the aid of the Executive, study options to revise the LATR test including:

- using proximity to various levels of transit service and pedestrian connectivity as a basis for mitigation requirements
- developing a multimodal quality of service requirement to provide a more seamless integration of pedestrian, bicycle, transit, and auto modes
- considering feasible revisions of or alternatives to the Critical Lane Volume method to measure intersection performance.

For examples that illustrate the impact of the recommendations, see Appendix N.

reducing our footprint

more community
sustainable
walking
nature
transit
time



000000852

Planning Board Draft
2009-2011 Growth Policy
Montgomery County Planning Department
MontgomeryPlanning.org

Workforce Profile

Montgomery County, Maryland

- **Labor Market Characteristics**
- **Workforce Demographics**
- **Educational Attainment of County Residents**

Prepared for the

Education Committee of the
Montgomery County Council

by the

Research & Technology Center

Montgomery County Planning Department

September 10, 2007

Labor Market Characteristics

Employment & Unemployment

- **Employment**

There were more than half a million jobs (518,000) in Montgomery County as of January, 2007. (Round 7.1 COG Forecast)

- **Unemployment**

Unemployment has been steady, averaging 2.9 percent in 2007 (through July) and 2006. (Maryland DLLR)

Industry Mix

- **Largest employment sector**

Professional & Business Services, with 106,500 workers in Montgomery County is by far the largest employer; many of these jobs are concentrated in high-paying scientific, technical, legal and other advanced service fields. (Economic Forces)

- **Employment in high tech**

The technology sector supplies 23 percent of the County's jobs. Technology industry employers include Biotech, Information Technology, Communications and Aerospace companies. (Economic Forces)

- **Largest tech employer**

Lockheed Martin is the largest technology company, employing nearly 3,700 people in the County. (Economic Forces)

Job Growth

- **Employment growth**

Montgomery County's job base has increased by 50,000 since 2000. Job growth in the past year was a moderate 1.4 percent, with nearly 6,000 net new jobs added in 2006. (Economic Forces)

- **Employment forecast**

The County is projected to add nearly 100,000 new jobs by 2020, and more than 150,000 new jobs by 2030. (Round 7.1 COG Forecast)

Job Growth Drivers

- **Largest job growth sector**
Professional & Business Services, which employs 106,551, was also the fastest growing sector, with a 5.4 percent job growth rate over the past year. The largest component in this sector is the *Professional & Technical Services* industry, employing 65,000 people, grew by 3 percent over the same period. (Economic Forces)
- **Tech sector job growth** was steady at 3.4 percent. Biotech employment increased 3.8 percent. (Economic Forces)
- **The Construction industry**—which employs more than 30,000 people—expanded 4.3 percent in 2006. However, a slowdown in residential construction could have an adverse impact on this sector. (Economic Forces)

Wage & Salary Trends

- **Average Annual Salary**
In 2006, jobs in Montgomery County paid an average annual salary of nearly \$54,000, up 4.7 percent over the past year. (Economic Forces)
- **Largest High-Wage Industry**
With 65,000 jobs in Montgomery County, the *professional & technical services* pays an average annual salary of more than \$75,000. (Economic Forces)
- **Growth by Income Group**
Job growth has been strongest in both the highest and lowest wage industry clusters—that is, jobs paying more than \$50,000 per year, and jobs paying less than \$30,000 per year. Job growth in mid-range jobs—those paying between \$30,000 and \$50,000 per year—has declined in recent years. (Economic Forces)

Workforce Demographics

Resident Workforce

- **Size of Resident Workforce**
526,830 Montgomery County residents over age 16 are in the labor force. (2005 Census Update Survey)
- **Percent Working in Montgomery County**
315,000 residents (60 percent) work in the county. (2005 Census Update Survey)
- **Female Labor Force Participation**
68 percent of working-age women are employed, compared to 59 percent nationwide. (2005 Census Update Survey and 2005 American Community Survey)

Class of Worker

- **Public vs. Private Sector employment**
Most Montgomery County residents work in private industry, followed by government, non-profit, self-employment and other work. The distribution of employment across these sectors, detailed below, has been very stable over the past 15 years. (1990 and 2000 Decennial Census; 2005 American Community Survey)
 - **Private Industry**
60 percent work of Montgomery County's resident labor force works in private, for-profit industry.
 - **Government**
22 percent of Montgomery County's resident labor force works for federal, state or local government,
 - **Other**
11 percent of Montgomery County's resident labor force works in private non-profit organizations, and 7 percent are self-employed in unincorporated businesses or as unpaid family workers.

Occupations

- **Occupational Mix** (2005 American Community Survey)
 - More than 260,000 Montgomery County residents (54 percent) are employed in **management and professional occupations**, primarily in information technology, life sciences, education, finance, medicine, law, business management, the arts, law and architecture.
 - 107,000 people (22 percent of employed residents) work in **sales** jobs (including retail).
 - 60,000 residents (13 percent) work in **service** occupations—including healthcare support, public protection services, food preparation and landscaping workers.
 - 30,000 residents (6 percent) work in **construction**.
 - 20,000 residents (4 percent) work in **production and transportation** occupations.
- **Occupational Change** (2000 Decennial Census and 2005 American Community Survey)
 - Between 2000 and 2005, the fastest-growing occupations for Montgomery County residents were construction (+49 percent), health care support (+31 percent), landscaping and building maintenance (+19 percent) and arts & entertainment (+18 percent).
 - The largest absolute growth was in construction (+7,400), sales (+6,000), food services (+3,800), management and business services (+3,400) and arts & entertainment (+3,100) occupations.
 - The sharpest occupational declines among County residents were in community services (-14 percent), production (-13 percent), installation/repair work (-13 percent), computer occupations (-9 percent) and health care support occupations (-6 percent).
 - In absolute terms, Montgomery County lost mostly computer (-3,100), production (-1,400), installation/repair (-1,200) community services (-1,000) and education (-950) workers in its resident labor force.

Educational Attainment of County Residents

(population age 25 and over)

Montgomery County residents are among the best-educated in the nation, with nearly 80 percent of adults having some level of higher education.

- The Census Bureau ranked Montgomery County first in the nation for the percentage of adults with advanced degrees and third (behind Boulder County, Colorado and Fairfax County, Virginia) for the percentage of college graduates . (2004 ACS ranking tables)
- Thirty percent of adults (180,000 residents) have earned an advanced degree—a master’s, professional or doctorate degree.
- Nearly 56 percent of adults (350,000 residents) have earned a bachelor’s degree or higher.
- Nearly 78 percent of the county’s adult population (475,000 residents) have at least some post-secondary education (including those with some college education, associate’s degree holders, and 4-year college graduates).
- Ninety-one percent of adults in Montgomery County have completed high school.

Educational attainment rates are high for both men and women, though men are somewhat more heavily represented among the most advanced degree-holders.

- 36,000 residents (6 percent of adults age 25+) have a doctorate degree, with men accounting for the great majority (70 percent) of these. Nine percent of the county’s adult male population has a doctorate, compared to 3 percent of women.
- 38,000 residents (6 percent of adults) have law, medical or other professional degree. Men account for 63 percent of residents who have earned up to a professional degree.
- 108,000 residents (18 percent of adults) have earned up to a Master’s degree. Women make up the majority (53 percent) of residents with Master’s degrees.
- 162,000 residents (26 percent of adults) have earned up to a Bachelor’s degree. Women account for 54 percent of these residents.

Educational Attainment levels vary somewhat by race and ethnicity.

- Non-Hispanic whites are more likely than minority residents to be 4-year college graduates (65 percent versus 44 percent) and advanced degree holders (36 percent versus 21 percent).
- Asian-Americans have the highest levels of educational attainment among minority residents. 61 percent are college graduates, and 33 percent have a graduate degree.
- Among African-American residents, 44 percent are college graduates, and 19 percent have a graduate degree.
- Hispanic residents as a group have comparatively lower levels of educational attainment, with 21 percent being college graduates and 10 percent holding an advanced degree. Overall, only 43 percent of Hispanics have had some post-secondary education. Hispanics make up 35 percent of the population that has not completed high school.

In-movers

- 90 percent of adult County residents were born outside Maryland.
- Residents born elsewhere in the U.S. generally have higher levels of educational attainment than those born in Maryland, with in-movers holding advanced degrees at twice the rate of Maryland-born adult residents. This suggests that Montgomery County historically has attracted very highly educated individuals and their families from around the nation.

Foreign-born

- 36 percent of adult residents in Montgomery County are foreign-born.
- 45 percent of foreign-born residents have earned a bachelor's degree or higher. 24 percent have a graduate degree. Foreign-born residents account for 30 percent of Montgomery County residents with advanced degrees.
- At the other end of the scale, 18 percent of foreign-born residents did not finish high school; 77 percent of County residents who lack a high school education are foreign-born.

Language

- English is the primary language of 65 percent of Montgomery County adults in the workforce, followed by Spanish (13 percent), other Indo-European (10 percent), Asian (9 percent) and other languages (4 percent).
- More than two-thirds of English speakers have a bachelor's degree or higher (67 percent), and an additional 20 percent have an associate's degree or some other college education. Only 2 percent of English-speakers have less than a high school education.
- Among Spanish-speakers, 22 percent have a bachelor's degree or higher, and 23 percent have an associate's degree or some other college education. Fully one-third (33 percent) have not completed high school.

Selected BLS Economic Indicators

www.bls.gov/ro3/areaindicators.htm



Bethesda-Rockville-Frederick

Metropolitan Division

Selected Indicators

This fact sheet presents recent **employment and unemployment, price, and pay** for the District of Columbia, Maryland, Virginia, the Washington-Arlington-Alexandria Metropolitan Statistical Area (MSA), the Bethesda-Frederick-Rockville Metropolitan Division (MD), and the United States. The **Consumer Price Index (CPI)** measures price changes, or inflation, for particular commodities and services at the retail level. The **Producer Price Index (PPI)** measures price changes, or inflation, for particular commodities and services at the wholesale level, and is widely used by business firms as an escalator in long-term contracts. The **Employment Cost Index (ECI)** measures price changes, or inflation, of labor costs which includes wages and salaries and employer costs for employee benefits. The earnings data are from the **Occupational Employment Statistics (OES)**.

Consumer Price Index (1982-84) = 100	March 2010	March 2011	Percent change
All Urban Consumers (CPI-U)			
U.S. City Average	217.631	223.467	2.7
South	211.216	217.214	2.8
Washington-Baltimore*	141.741	146.044	3.0
Urban Wage Earners & Clerical Workers (CPI-W)			
U.S. City Average	213.525	220.024	3.0
South	208.621	215.272	3.2
Washington-Baltimore*	141.782	146.572	3.4
Producer Price Index, U.S. (1982 = 100)	March 2010	March 2011	Percent change
Finished goods	179.1	189.4	5.8
All commodities	183.3	199.1	8.6
Industrial commodities	185.6	200.1	7.8

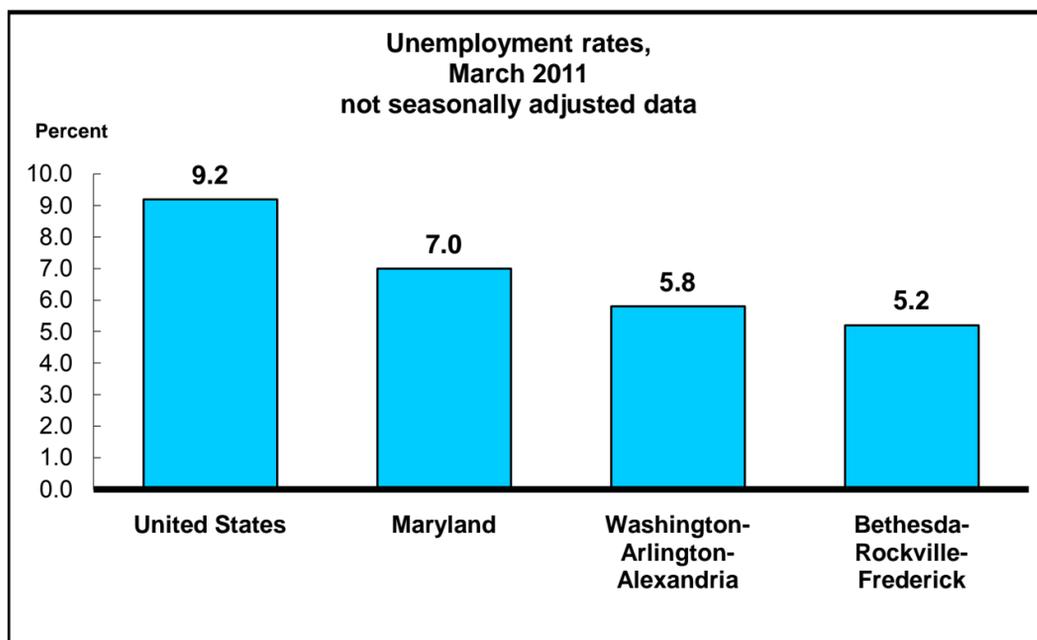
*November 1996=100.

Most recent PPI numbers are preliminary.

Unemployment levels, age 16 years and over (not seasonally adjusted, in thousands)

Area	March 2010	March 2011	Net change	Percent change
United States	15,678	14,060	-1,618	-10.3
Maryland	229.6	208.7	-20.9	-9.1
Washington-Arlington-Alexandria	201.0	178.2	-22.8	-11.3
Bethesda-Rockville-Frederick	38.0	33.6	-4.4	-11.7

Most recent numbers are preliminary.

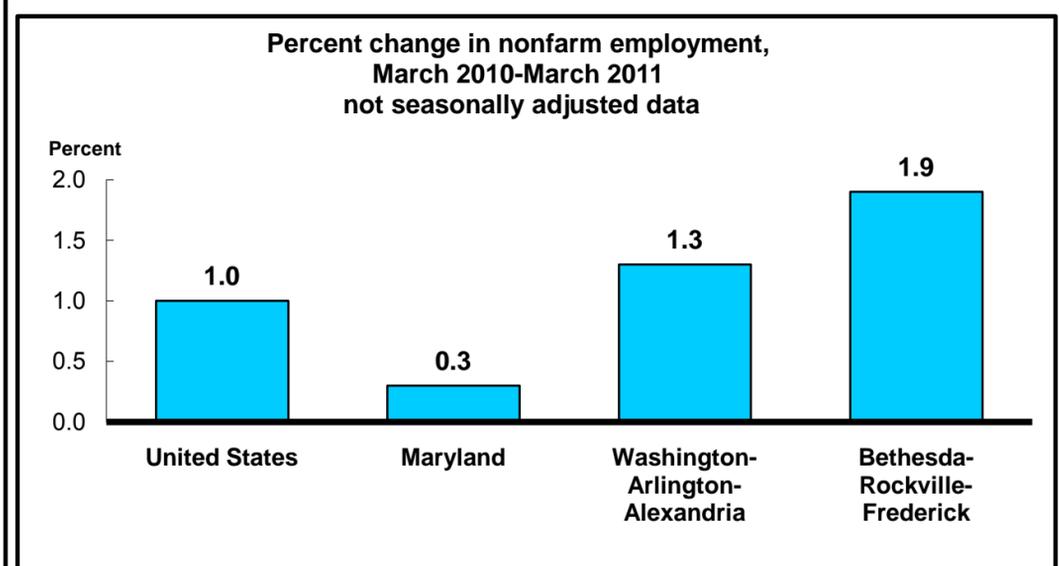


Employment Cost Index (December 2005) = 100	1st Qtr. 2010	1st Qtr. 2011	Percent change
Total Compensation-Private Industry Workers			
United States	111.1	113.3	2.0
South	111.5	113.4	1.7
South Atlantic	112.2	113.8	1.4
Occupational Wages Selected Occupations	Mean Hourly Earnings May 2009		
Washington-Baltimore-Northern Virginia			
Total, all occupations	\$27.36		
Education, training, and library	29.40		
Office and administrative support	18.27		
Construction and extraction	20.89		
Sales and related	18.59		
Healthcare practitioner and technical	43.67		
Food preparation and serving related	11.02		
Production	17.41		
Installation, maintenance, and repair	22.86		
Transportation and material moving	15.28		

Nonfarm payroll employment (not seasonally adjusted, in thousands)

Area	March 2010	March 2011	Net change	Percent change
United States	128,584	129,907	1,323	1.0
Maryland	2,479.8	2,486.9	7.1	0.3
Washington-Arlington-Alexandria	2,922.6	2,962.0	39.4	1.3
Bethesda-Rockville-Frederick	550.7	561.1	10.4	1.9

Most recent numbers are preliminary.



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U.S. Department of Labor

Bureau of Labor Statistics

The Curtis Center -- Suite 610 East

170 South Independence Mall West

Philadelphia, PA 19106

The Bethesda-Rockville-Frederick, Md. Metropolitan Division (MD) includes Frederick and Montgomery Counties in Maryland.

The Washington-Arlington-Alexandria, D.C.-Va.-Md.-W.Va. Metropolitan Statistical Area (MSA) includes the District Of Columbia; Arlington, Clarke, Fairfax, Fauquier, Loudoun, Prince William, Spotsylvania, Stafford, and Warren Counties, and Alexandria, Fairfax, Falls Church, Fredericksburg, Manassas, and Manassas Park Cities in Virginia; Calvert, Charles, Frederick, Montgomery, and Prince George's Counties in Maryland; and Jefferson County in West Virginia.

Updated Monday, May 02, 2011

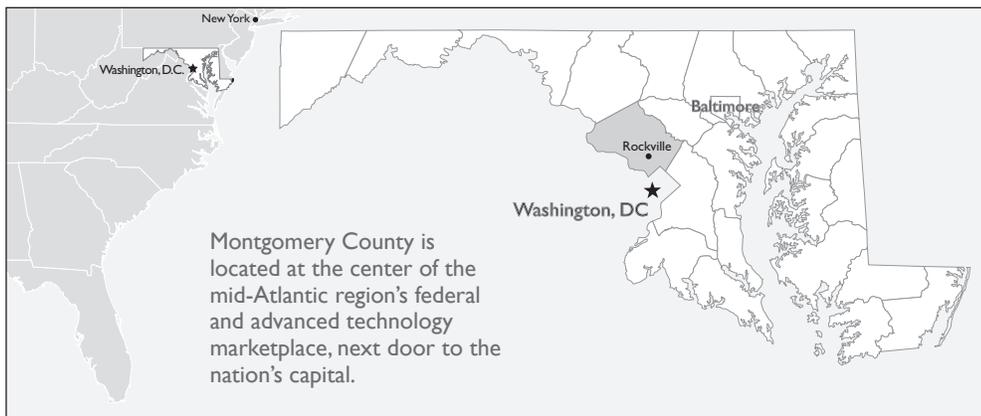
www.bls.gov/ro3/bethesda.pdf

BRIEF ECONOMIC FACTS

MONTGOMERY COUNTY, MARYLAND

Montgomery County is the gateway to the mid-Atlantic's robust business community, centrally located in the region's federal and advanced technology marketplace. It is literally next door to the nation's capital and home to over 250 biotech companies and industry leaders such as Human Genome Sciences, MedImmune, and United Therapeutics. Nineteen federal facilities in the county include the National Institutes of Health, the National Institute of Standards and Technology and the Food and Drug Administration. In addition, the county is home to educational and research organizations such as The Johns Hopkins University's Montgomery County Campus, the Howard Hughes Medical Institute, the Henry M. Jackson Foundation and the Universities at Shady Grove.

Montgomery County's 32,300 businesses employ over 361,000 workers in areas including information technology, telecommunications, biotechnology, software development, aerospace engineering and professional services. Nearly 600



businesses employ over 100 workers. Leading companies include BAE Systems Applied Technologies, Discovery Communications, GEICO, Hughes Communications, IBM, Kaiser Permanente, Lockheed Martin, Marriott International and Westat.

Current developments in the county include a satellite campus of the National Cancer Institute, new headquarters of the Nuclear Regulatory Commission, and a 117,000-square-foot expansion of QIAGEN's North American headquarters.

LOCATION

Driving distance from Rockville:	Miles	Kilometers
Atlanta, Georgia	624	1,005
Baltimore, Maryland	38	61
Boston, Massachusetts	436	702
Chicago, Illinois	670	1,078
New York, New York	225	363
Philadelphia, Pennsylvania	136	219
Pittsburgh, Pennsylvania	207	333
Richmond, Virginia	118	190
Washington, DC	16	26

CLIMATE AND GEOGRAPHY¹

Yearly Precipitation (inches)	43.1
Yearly Snowfall (inches)	14.3
Summer Temperature (°F)	73.1
Winter Temperature (°F)	34.2
Duration of Freeze-Free Period (days)	190
Land Area (square miles)	495.4
Water Area (square miles)	10.1
Elevation (feet)	10 to 880

POPULATION^{2,3}

	Montgomery County Households	Montgomery County Population	Maryland part of Washington DC metro*	Maryland
2000	324,565	873,341	2,065,242	5,296,486
2010	360,500**	971,777	2,303,870	5,773,552
2020**	398,000	1,065,000	2,518,700	6,276,300

*Calvert, Charles, Frederick, Montgomery and Prince George's counties

**Projections

Selected places population (2010): Germantown 86,395; Silver Spring 71,452; Rockville 61,209; Bethesda 60,858; Gaithersburg 59,933; Aspen Hill 48,759; Wheaton 48,284

POPULATION DISTRIBUTION^{2,3} (2009)

Age	Number	Percent
Under 5	69,752	7.2
5 - 19	190,970	19.7
20 - 44	321,962	33.1
45 - 64	269,405	27.7
65 and over	119,511	12.3
Total	971,600	100.0
Median age		38.3 years

MONTGOMERY COUNTY, MARYLAND

LABOR AVAILABILITY^{3,4,5} (BY PLACE OF RESIDENCE)

Civilian Labor Force (2010 avg.)	Labor Mkt.	
	County	Area*
Total civilian labor force	511,813	1,082,395
Employment	483,508	1,013,214
Unemployment	28,305	69,181
Unemployment rate	5.5%	6.4%

Residents commuting outside the county to work (2007-2009)	Number	Percent
	201,827	40.1%

Employment in selected occupations (2007-2009)

Occupation	Number	Percent
Management, professional and related	282,342	55.1%
Service	77,458	15.1%
Sales and office	100,437	19.6%
Production, transp. and material moving	19,874	3.9%

* Montgomery, Prince George's and Frederick counties

MAJOR EMPLOYERS^{6,7} (2010)

Employer	Product/Service	Employment
National Institutes of Health*	Medical research	14,761
National Naval Medical Ctr.*	Medical services	8,108
Adventist Healthcare	Medical services	6,600
U.S. Food and Drug Admin.*	R&D and standards	5,745
Marriott International	Hotels, motels	5,025
Lockheed Martin	Defense, aerosp., electr.	4,741
Giant Food	Groceries	4,377
Montgomery College	Higher education	3,451
Kaiser Found. Health Plan	Medical services	2,244
National Geospatial-Intelligence Agency*	National security intelligence	3,000
Verizon	Telecommunications	2,895
Holy Cross Hospital	Medical services	2,890
National Institute of Standards and Technology*	Testing and standards, R&D	2,700
National Oceanic and Atmospheric Admin.*	Weather analysis and reporting	2,550
U.S. Nuclear Reg. Comm.*	Utilities regulation	2,391
GEICO	Insurance	2,372
Chevy Chase Bank/Cap. One	Banking services	2,000
Suburban Hospital	Medical services	1,972
Westat	Contract research, surveys	1,905
MedImmune	Pharmaceutical R&D, mfg.	1,900
Discovery Communications	Media, entertainment	1,738
IBM	Information services	1,709
Hughes Network Systems	Communications systems	1,697
Safeway	Groceries	1,619

Excludes post offices, state and local governments; includes higher education

* Federal and military facilities exclude contractors

EMPLOYMENT⁴ (2009, BY PLACE OF WORK)

Industry	Estab-lishments	Annual Avg. Empl.	Emp. %	Avg. Wkly. Wage
Federal government	122	43,158	9.7	\$1,899
State government	8	1,029	0.2	771
Local government	239	37,834	8.5	1,183
Private sector	32,333	361,284	81.5	1,120
Natl. resources and mining	50	719	0.2	774
Construction	2,638	24,223	5.5	1,125
Manufacturing	469	13,431	3.0	1,766
Trade, transp. and util.	4,162	56,566	12.8	801
Information	579	14,117	3.2	1,677
Financial activities	2,993	31,908	7.2	1,660
Prof. and business svcs.	7,928	99,577	22.5	1,440
Educ. and health services	3,820	61,977	14.0	938
Leisure and hospitality	2,103	37,133	8.4	392
Other services	7,441	21,460	4.8	706
Unclassified	150	173	0.0	720
Total	32,702	443,305	100.0	1,201

Includes civilian employment only

Businesses by Employment Size Class (2nd Q 2010)

No. of employees	0-9	10-49	50-99	100-499	500+
No. of businesses	25,558	5,035	743	559	36

HOURLY WAGE RATES⁴ (2010)

Selected Occupations	Median	Entry	Experienced
Accountants	\$37.00	\$25.25	\$49.25
Biochemists and biophysicists	31.25	21.00	53.25
Biological technicians	23.25	16.25	29.00
Bookkeeping/accounting clerks	21.25	14.25	24.75
Computer support specialists	25.25	17.75	31.00
Computer systems analysts	46.00	31.50	53.25
Customer service representatives	17.50	12.00	21.75
Electrical engineers	46.00	32.75	54.00
Electronic engineering technicians	28.25	20.50	33.25
Freight, stock and material movers, hand	12.00	8.75	15.25
Industrial truck operators	14.25	10.75	17.75
Network administrators	37.50	25.00	47.00
Packers and packagers, hand	10.25	7.25	12.00
Secretaries	20.25	13.50	23.00
Shipping/receiving clerks	13.50	10.00	17.00
Team assemblers	13.50	10.25	17.25

Wages are an estimate of what workers might expect to receive in Montgomery County and may vary by industry, employer and locality

MONTGOMERY COUNTY, MARYLAND

SCHOOLS AND COLLEGES^{3,8}

Educational Attainment - age 25 & over (2007-2009)

High school graduate or higher	90.6%
Bachelor's degree or higher	56.1%

Public Schools

Number: 131 elementary; 38 middle; 26 high
Enrollment: 141,722 (Sept. 2009)
Cost per pupil: \$14,969 (2008-2009)
Students per teacher: 14.7 (June 2009)
High school career / tech enrollment: 20,837 (2010)
High school graduates: 10,271 (June 2009)

Private Schools

Number: 336 (Sept. 2009)

Higher Education (2009)	Enrollment	Degrees
-------------------------	------------	---------

2-year institution

Montgomery College	26,144	1,773
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Major 4-year institutions

National Labor College	468	96
Uniformed Services University of the Health Sciences	948	NA
Washington Adventist University	1,177	227

Nine University System of Maryland institutions, including the University of Maryland College Park, offer programs at the Universities at Shady Grove, a regional higher education center. The Johns Hopkins University also offers coursework and degree programs in the county.

TAX RATES⁹

	Montgomery Co.	Maryland
Corporate Income Tax (2011) Base – federal taxable income	none	8.25%
Personal Income Tax (2011) Base – federal adjusted gross income *Graduated rate peaking at 5.5% on taxable income over \$500,000	3.20%	2.0% - 5.5%*
Sales & Use Tax (2011) Exempt – sales for resale; manufacturer's purchase of raw materials; manufacturing machinery and equipment; purchases of materials and equipment used in R&D and testing of finished products; purchases of computer programs for reproduction or incorporation into another computer program for resale	none	6.0%
Real Property Tax (FY 11) Effective rate per \$100 of assessed value In addition to this rate, there are some miscellaneous taxes and/or special taxing areas in the county; in an incorporated area, a municipal rate may also apply	\$0.699	\$0.112
Business Personal Property Tax (FY 11) Rate per \$100 of depreciated value Exempt – manufacturing and R&D machinery, equipment, materials and supplies; manufacturing, R&D and warehousing inventory In an incorporated area, a municipal rate may also apply	\$1.747	none
Major Tax Credits Available Enterprise Zone, Job Creation, R&D, New Jobs		

INCOME³ (2007-2009)

Distribution	Montgomery Co.	Percent Households Maryland	U.S.
Under \$25,000	9.6	15.4	23.8
\$25,000 - \$49,999	15.4	19.9	24.9
\$50,000 - \$74,999	15.2	18.3	18.7
\$75,000 - \$99,999	13.4	14.2	12.2
\$100,000 - \$149,999	19.5	17.3	12.1
\$150,000 - \$199,999	11.7	7.8	4.2
\$200,000 and over	15.1	7.0	4.1
Median household	\$93,199	\$69,695	\$51,369
Average household	\$126,336	\$90,500	\$70,404
Per capita	\$46,506	\$34,384	\$27,100
Total income (millions)	\$43,387	\$189,088	\$7,962,931

HOUSING^{2,3,10}

Occupied Units (2007-2009) 343,423 (70.1% owner occupied)

Housing Transactions (2009)	Units	Median Selling Price
All arms-length transactions	8,281	\$399,000
All multiple-listed properties*	10,371	\$340,000

*Excludes auctions and FSBO

BUSINESS AND INDUSTRIAL PROPERTY⁶

Already home to over 250 biotech companies, the county plans tech parks along the I-270 and Rt. 29 corridors, adding to its global reputation as a technology center.

East County Center for Science and Technology - 115-acre site to include an incubator, pilot manufacturing facility, lab, build-to-suit office space and a higher education facility adjacent to the new U.S. Food and Drug Administration headquarters campus.

Montgomery College Germantown Campus Science and Technology Park - Up to one million sf planned, including an academic and training facility tied in with the college's biotech program, a business incubator, and build-to-suit facilities.

Johns Hopkins University Belward Research Campus - In addition to the 36 acres currently under use, 108 acres are to be developed for research and education.

Business Incubators

Association for Entrepreneurial Science (AES), Rockville
Bethesda Green Business Incubator, Bethesda
Germantown Innovation Center, Germantown
Rockville Innovation Center, Rockville
Shady Grove Innovation Center, Rockville
Silver Spring Innovation Center, Silver Spring
Wheaton Business Innovation Center, Wheaton

Market Profile Data	Low	High	Average
Land – cost per acre			
Industrial	\$100,000	\$325,000	\$212,500
Office	\$325,000	\$2,000,000	\$1,162,500
Rental Rates – per square foot			
Warehouse / Industrial	\$6.00	\$15.85	\$10.39
Flex / R&D / Technology	\$6.00	\$28.50	\$14.61
Class A Office	\$10.00	\$49.00	\$32.94

MONTGOMERY COUNTY, MARYLAND

TRANSPORTATION

Highways: I-270 (“The Technology Corridor”), I-370, I-495, and U.S. Route 29; ten-minute access to I-95

Rail: 12 Metrorail stations, including three of the system’s busiest; Amtrak, MARC and CSX Transp. offer long-distance passenger and commuter service as well as freight rail service

Bus: 234 Metrobuses operating on 41 routes in the county, plus extensive service via the county’s Ride-On bus system

Truck: 20 local and long-distance trucking establishments

Water: Served by the Port of Baltimore with a 50’ channel; a leading U.S. automobile and break-bulk port; seven public terminals including the state-of-the-art Intermodal Container Transfer Facility

Air: Commercial passenger and air cargo services are available through Baltimore/Washington International Thurgood Marshall, Washington Dulles International, and Ronald Reagan Washington National Airports; commuter and corporate air service is available at the Montgomery County Airpark (4,200 ft runway)

RECREATION AND CULTURE

Parks and Recreation: More than 410 different parks, including national, state, regional and neighborhood, featuring tennis courts, ball fields and totalling 34,600 acres; more than 100 miles of trails provide recreational opportunities

Golf: Nine public golf courses, 22 private golf courses, and more than a dozen country clubs, including the Tournament Players Club at Avenel; county will host 2011 US Open at Congressional Country Club

Sports: 11 public pools and 50 private community pools; public and private tennis courts throughout the county; year-round amateur and professional sports as well as thoroughbred racing

Cultural: The Music Center at Strathmore’s 1,978-seat concert hall and adjacent education center; Olney Theatre Center in Olney; American Film Institute’s Silver Theatre and the Round House Theatre’s Black Box in Silver Spring; planned venue includes The Fillmore in Silver Spring to feature Live Nation

Attractions: Clara Barton Natl. Historic Site, Natl. Capital Trolley Museum, Chesapeake & Ohio Canal Natl. Historical Park, Sugarloaf Mountain Vineyard and Brookside Gardens

Events: Sugarloaf Craft Festival, Montgomery County Agricultural Fair, SILVERDOCS Film Festival, AT&T National Golf Tournament, and Seneca Creek State Park Light Festival

FEDERAL FACILITIES AND FUNDING³ (2009)

Direct Federal Expenditures or Obligations

	Total	Per Capita
Total	\$27,946,847,021	\$28,764
Defense	\$8,382,939,211	\$8,628
Non-defense	\$19,563,907,810	\$20,136

Major Federal Facilities: NIH, FDA, NIST, NOAA, NRC, National Naval Medical Center, DOE

UTILITIES

Electricity: Potomac Electric Power Company, Baltimore Gas and Electric and the Allegheny Power System; customers of investor-owned utilities and major cooperatives may choose their electric supplier

Gas: Natural gas supplied by Washington Gas; BGE serves the northern section of the county; customers may purchase gas from other natural gas suppliers

Water and Sewer: Washington Suburban Sanitary Commission (WSSC) maintains and operates the county’s water and sewer system; the City of Rockville operates its own water and sewer system

Telecommunications: Verizon Maryland, Comcast and RCN provide cable television, high-speed wired and wireless internet and telephone services in the county; services available include Ethernet, VoIP, and Verizon FiOS

GOVERNMENT¹¹

County Seat: Rockville

Government: County executive and nine county council members elected for four-year terms; charter form of government allows for the separation of the executive from the legislative branch; lawmaking powers are vested in an elected legislative body

Isiah (Ike) Leggett, County Executive 240.777.2500

Valerie Ervin, President, County Council 240.777.7900

Website: www.montgomerycountymd.gov

County Delegation to Maryland General Assembly:

Richard S. Madaleno, Jr., Senate Chair 410.841.3137

Brian J. Feldman, House Chair 410.841.3186

U.S. Congressional Election Districts: 4th, 6th, 8th

County Bond Rating: AAA (S&P); Aaa (Moody’s); AAA (Fitch)

Montgomery County Department of Economic Development

Steven A. Silverman, Director

111 Rockville Pike, Suite 800

Rockville, Maryland 20850

Telephone: 240.777.2000

Email: ded.info@montgomerycountymd.gov

www.smartmontgomery.com

Sources:

1 National Oceanic and Atmospheric Administration and Maryland State Office of Climatology (30-year averages); Maryland Geological Survey

2 Maryland Department of Planning

3 U.S. Bureau of the Census

4 Maryland Department of Labor, Licensing and Regulation, Office of Workforce Information and Performance

5 U.S. Bureau of Labor Statistics

6 Montgomery County Department of Economic Development

7 Maryland Department of Business and Economic Development

8 Maryland State Department of Education; Maryland Higher Education Commission

9 Maryland State Department of Assessments and Taxation; Comptroller of the Treasury

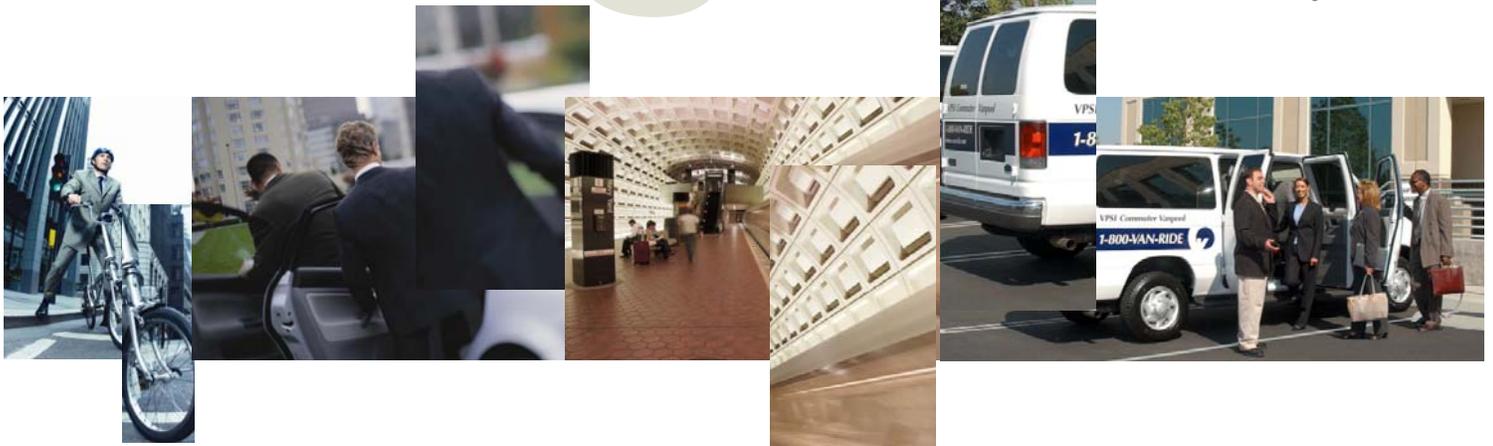
10 Maryland Association of Realtors

11 Maryland State Archives; Maryland Association of Counties

Implementing a Successful
TMP

Transportation
Management
Program

May 2008



This handbook resulted from recommendations from the Congestion and Mobility Summit for the National Capital Region in 1998, as well as key future emission reduction dates that were set forth under the Clean Air Act Amendments of 1990.

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1.1 Introduction



Purpose

This handbook provides federal agencies within the National Capital Region (NCR)* with procedures and guidelines for preparing a Transportation Management Program (TMP). The purpose of a TMP is to document an employer’s active program to foster more efficient employee commuting patterns by minimizing “single occupant vehicle” (SOV) trips related to federal agency worksites. This is mandated by Federal air quality regulations, local trip reduction ordinances, and National Capital Planning Commission planning requirements. While Travel Demand Management addresses overall strategies and policies that influence travel behavior, a TMP documents how these strategies and policies can be applied. Both TMPs and TDM seek to optimize the use of existing and future transportation facilities and preserve our natural environment with the aim of reducing single occupant automobile travel.

The purpose of this handbook is to:

- Define Travel Demand Management in general, why it is important in the National Capital Region, and demonstrate how an aggressive TMP can benefit a federal agency;
- Describe specific TDM strategies and programs available in local jurisdictions;
- Describe specific TDM strategies available to federal agencies;
- Provide a step-by-step process for designing and implementing a TMP;
- Identify resources and contacts available to aid TMP efforts.

The need for a handbook initially evolved from initiatives sponsored by the General Services Administration (GSA), the Metropolitan Washington Council of Governments (MWCOC), and the National Capital Planning Commission (NCPC). This handbook resulted from recommendations from the Congestion and Mobility Summit for the National Capital Region in 1998, as well as key future emission reduction dates that were set forth under the Clean Air Act Amendments of 1990.

* Jurisdictions within the NCR include: Arlington, Loudoun, Prince William and Fairfax Counties, and the cities of Alexandria, Falls Church, Fairfax, and Manassas in Virginia; Prince George’s and Montgomery Counties in Maryland; and the District of Columbia.

This Handbook is designed to be used by each of the following types of professionals, who are likely to have TMP planning, administration and/or implementation roles and responsibilities:

- Facility Managers
- Directors of Human Resources
- Employee Transportation
- Coordinators (ETC)
- Directors of Labor Relations
- Union Representatives
- Transportation Planners

Organization of the Handbook

This handbook is designed to be easy-to-use and readily available. The handbook is published electronically and is available on the Internet, with links provided from the homepages of NCPC and www.federaletc.org.

The Appendix lists additional sources of information that are related to specific municipalities, provides sample TMPs, and identifies outside resources that may be used in the preparation and implementation of a TMP.

This handbook is organized into the following five sections:

- **Section 1** provides an introduction to this handbook and serves as an overview of the transportation management planning process for facility managers and Employee Transportation Coordinators (ETCs).
- **Section 2** provides a discussion of the roles and responsibilities of parties involved in the TMP process.
- **Section 3** provides a description of the different strategies and tools available in the development and implementation of a TMP.
- **Section 4** provides step-by-step guidance to the Employee Transportation Coordinator or manager in the preparation of a TMP.
- **Section 5** (Appendix) contains reference material, including local ordinances, sample worksheets, a glossary, a bibliography, and a listing of TMP resources and contacts in the NCR.

Federal agencies are encouraged to supplement this handbook and agency resources by contacting local and regional officials who are responsible for TMP development, implementation, and monitoring. Additionally, there is a wide range of resources available to employers, including federal agencies, within the Washington metropolitan area. These resources along

with a genuine desire on the part of local governments to work with the federal government, will help federal agencies meet the requirements of federal transportation management plan (TMP) guidelines.

Background

Congress created NCPC to serve as the central planning agency for federal activities and interests in the National Capital Region. One of NCPC's principal responsibilities is to coordinate federal development activity within the region. In 2004, NCPC adopted the most recent version of its comprehensive plan - the *Comprehensive Plan for the National Capital: Federal Elements*. The plan contains guidelines that require a TMP for all projects that will increase work site employment to 500 or more employees (existing and proposed employees), and encourages a TMP for projects that will increase work site employment to 100 or more employees.

NCPC guidelines suggest that the TMP should incorporate the following information:

- Stated goals for "single occupant vehicle" (SOV) trip reduction, transportation mode split, and vehicle occupancy;
- Strategies to minimize SOV work trips and discourage SOV travel during peak and off-peak hours;
- Measures to monitor achievement of goals and to adjust SOV trip reduction strategies, as needed;
- A description of existing and projected peak hour traffic by mode;

A summary of existing and proposed parking by type of assignment (official cars, vanpools, carpools, single-occupant vehicles, handicapped persons, visitors, etc.);

- An evaluation of projected transportation impacts and description of proposed mitigation measures
- A summary of the relationship of the TMP provisions to transportation management requirements of local, state, and regional agencies, including provisions for working cooperatively with affected agencies to address these requirements.

NCPC's comprehensive plan also offers the following additional TMP-related guidance:

Develop TMPs that explore methods and strategies to meet prescribed parking ratios (contained in the comprehensive plan), and include a thorough rationale and technical analysis in support of all TMP findings;

Analyze scenarios that incorporate data on employee home zip codes, nearby bus routes, Metrorail, MARC, and VRE lines and their schedules, and that identify existing and planned HOV or “High Occupancy Toll” (HOT) lanes;

Include, within TMPs, implementation plans with timetables outlining each agency’s commitment to reaching TMP goals;

Reflect, within TMPs, planned regional transportation infrastructure or service improvements within five miles of the federal facilities; and

Update TMPs at least every two years to reflect the most current employee information.

NCPC is not alone in identifying the need for addressing TMP requirements and responsibilities. Executive Order 12191, dated February 1, 1980, delegated the primary responsibility for program development, implementation and administration of the Federal Facility Ridesharing Program to GSA, which includes a nation-wide system of Federal facility Employee Transportation Coordinators (ETCs).

As part of GSA’s continuing role in supporting the network of federal agency ETCs, GSA and MWCOG established a Memorandum of Understanding (MOU). The MOU calls for GSA and MWCOG to cooperate in training federal ETCs in the NCR, to provide various marketing materials and assistance to these ETCs, and to link federal ETCs to regional services on an as-needed basis. MWCOG has taken a lead role through the publication, distribution, and coordination of several TDM activities.

The Challenges: Traffic Congestion & Air Pollution

Single occupancy vehicle travel, particularly during the morning and evening rush hour periods, will continue to be discouraged in the future because of its significant contribution to regional and local traffic congestion and poor regional air quality.

The following facts describe the future projected growth of the region and its resulting impacts on vehicle trips, traffic, delays, and air pollution:

By 2030, the region’s population is expected to increase by 40% while the workforce is expected to increase by 45%.

The majority of growth will occur outside the Beltway, in areas with limited road capacities and public transportation services. In fact, 92% of population growth is expected to be in suburban areas.

The number of trips made daily by Washington residents is expected to grow by more than 48%, between 2000 and 2030, and the number of miles driven will increase by more than 45%. At the same time, current regional long range transportation plan projects would only nominally increase the region’s highway system capacity with very little planned expansion of the transit system during the same period of time.

77.4% of daily trips are expected to be suburb-to-suburb travel in 2030, while future planned highway infrastructure is largely intended to improve mobility between suburban areas and downtown Washington, DC. These trips are more often than not SOV trips, as there are fewer non-personal vehicle travel options available in suburban areas.

The use of “alternative” modes for commute trips, such as transit and ridesharing, has declined as a percentage of travel since 1960.

These trends will only increase SOV trips, thus negatively impacting economic productivity and quality of life for employers and commuters, alike.

According to MWCOG, if existing development trends continue and no highway improvements are made beyond those that are currently under construction or programmed, some likely transportation impacts in the NCR would be:

- Average travel speeds along highways would decline, resulting in significantly increased travel times during peak travel periods. Commuters could spend a significant amount of extra hours per year commuting. The productivity loss of which, is substantial when the “lost” time is multiplied by the number of affected employees;
- Declining rush-hour travel speeds would result in lengthened morning and evening travel periods;
- The significant majority of all peak-period auto travel would occur in stop-and-go traffic, with major delays happening routinely; and
- A substantial percentage of the regional roadway network would operate at an unacceptable level of congestion during morning and evening rush hours.

Increases in traffic volumes, distances, and delays contribute to other problems, including air pollution. This is because ozone, the prime ingredient in smog, is formed when gases in motor vehicle exhaust react with oxygen in the air. As the number of trips increase in quantity and length, higher emission levels result, causing an increase in ozone and, therefore, smog.

Evidence is mounting that young people raised in heavily polluted areas are losing lung capacity faster than young people raised in less polluted areas. The implications of lifetime exposure to polluted air include greater incidence of respiratory infections, such as colds, croup, and asthma attacks.

Traffic congestion and air pollution problems pose continued, significant challenges for the nation and the NCR, in particular. Eliminating the growth in population and workforce is an impossible and possibly undesirable goal. However, the development and implementation of policies and strategies that manage and help reduce traffic congestion by focusing on more efficient movement of people and goods is an achievable goal. One fundamental strategy requires the sharing of responsibilities: employees must work to reduce their SOV trips and employers must work to help make alternative travel modes available and more convenient.

TMP as Part of the Solution

A TMP offers a set of strategies to reduce traffic congestion and air pollution. An evaluation of Travel Demand Management by the Federal Highway Administration (FHWA) points out that:

“The accomplishment of a [transportation management] program depends entirely on the actions that are applied. If travelers are presented with no alternative that realistically competes with the private auto, they will not stop driving. And if driving continues to be subsidized in the form of free (or heavily subsidized) on-site parking, alternative modes will represent bad economic choices for travelers. If these factors are confronted by a [transportation management] program, trip reductions in the range of 20% to 40% can be the norm, rather than the exception.”

FHWA concludes that the techniques developed by TDM professionals are valuable tools for alleviating traffic congestion and regional air pollution problems.

1.2 Overview

What is a Transportation Management Program?

A Transportation Management Program (TMP) documents an employer's active program to foster more efficient employee commuting patterns. The plan includes specific strategies to encourage changes in travel modes, trip-timing, frequency and length, and travel routes in an effort to reduce traffic congestion and improve regional air quality.



What Are The Benefits of a Transportation Management Program?

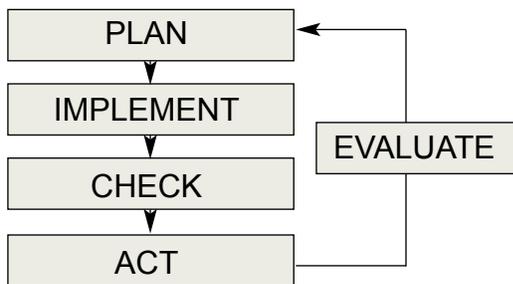
TMPs offer the following potential benefits to a federal agency:

- Reduces tardiness and absenteeism.
- Expands the regional area from which to draw more qualified candidates.
- Meets local government trip reduction ordinances, as required under the Clean Air Act, where such ordinances are in force.
- Low preparation and implementation costs - most of the activities focus on low-cost marketing efforts and training.
- Low-cost method of reducing employee turnover due to relocation from an area with high levels of transit service, to an area with low levels of transit service.
- Reduces traffic congestion in the vicinity of federal facilities.
- Provides alternatives and assists employees who must make longer commutes or switch travel modes, when relocating to a new or existing work site.
- Reduces both on-site and off-site parking demand.
- Demonstrates federal agency concern about reducing traffic and parking impacts to local and adjacent communities.
- Improves local/regional air quality and overall quality of life for the region's workers, residents, and visitors.
- Conserves energy, which contributes to a more sustainable society and reduces national dependence upon foreign energy sources.

What is Included in a TMP?

The overall process follows a plan, implement, check, and act cycle. The four steps of the cycle are as follows:

1. The federal agency plans a change to its employee transportation policies and programs, to comply with particular regulations or agency needs.
2. The program is implemented.
3. The federal agency checks the results of the program.
4. Based on the results of the evaluation, the federal agency acts either to adopt changes or to begin the cycle again, based on new information gleaned from the evaluation.



Details of how to accomplish the four steps are provided in Sections 3 & 4. They are summarized here:

Program Initiation

To begin the preparation of a TMP, the federal agency must define the mobility problem. The definition should include a summary of the work location's existing transportation facilities, programs, and resources. The problem definition is necessary in order to develop initial program goals.

As a next step, specific performance objectives, such as increasing the average number of people per vehicle, reducing the agency's contribution to the regional "Vehicle Miles Traveled" (VMT), or reducing the number of trips during rush hour must be established. The objectives may be set by local or regional ordinances. Setting realistic objectives often requires a federal agency to conduct a baseline survey of its employee and/or visitor travel patterns to establish a realistic starting point. This information can then be used to evaluate the effectiveness of various programs.

Selecting TMP Strategies

There are numerous strategies, tactics, and services that a federal agency can utilize in the preparation and implementation of a TMP.

The following list contains the potential components of an agency's TMP, which are described in more detail in Section 3:

- Parking Management
- Carpooling
- Ridematching
- Vanpooling
- Transit Services
- Subsidies
- Travel Allowance
- Guaranteed Ride Home
- Bicycling/Walking
- Telecommuting
- Variable Work Hours
- Commuter Work Centers

Regional and local efforts often augment these employer-initiated strategies. Examples include the provision of ride-matching services and planning/construction of HOV/HOT lanes. Agencies can also make use of MWCOG's Commuter Connections Program, which consists of the Ridematching and the Guaranteed Ride Home programs, among other services.

By providing a menu of TMP options to employers, local governments allow for flexibility and foster creativity in complying with objectives. The reluctance to prescribe specific actions is due to the diverse nature of each worksite's operating environment and business requirements.

Due to its "social-engineering" nature, it is difficult to predict a TMP's outcomes with a high degree of certainty, unless specific market research is conducted for a particular location. Mixes of strategies and pricing levels can have dramatically different results in different combinations and locations, which reinforces the need for an iterative and responsive TMP process.

Implementing a TMP

To facilitate the implementation of selected tasks, a work plan for each service/product should be prepared with the following elements:

- Task Description/Objective
- Identification of transportation mode(s) impacted by task
- Description of current and forecasted levels of participation
- Marketing Plan
- Performance measure and monitoring procedures
- Budget
- Timetable
- Responsibilities and staff time allocations
- Priorities

Monitoring a TMP

Monitoring the progress of a TMP is crucial to improving performance and productivity, and controlling program costs. A successful plan evaluation will use procedures that determine one or more of the following:

- The extent to which the program has achieved its stated goals and objectives (e.g., increases in average number of persons per vehicle).
- The extent to which the accomplishment of the goals and objectives may be attributed to the TMP (direct and indirect effects).
- Degree of consistency in program and plan implementation (relationship of planned activities to actual activities).
- The relative effectiveness of different tasks (which ones worked, which did not, how well).

A TMP assists a federal agency in making more efficient use of the regional transportation system by changing worker and visitor travel behavior at specific worksites. There are numerous entities at each worksite that contribute to the success of a TMP. The federal agency needs two key ingredients to design and implement an effective TMP: strong management support and a motivated, enthusiastic Employee Transportation Coordinator (ETC).

2.1 The Federal Government Role



The Roles and Responsibilities of the Federal Agency

The way that employees and visitors choose to travel is based on agency and worksite policies, as well as other factors, such as out-of-pocket costs, convenience, travel time, reliability and safety. Employers may influence employee and visitor travel behavior with certain policies, which are described in this section of the handbook below. Adjustments to these policies can contribute to minimizing work and visitor-related single-occupant travel during peak hours.

Federal Agency Policies Affecting Mode Choice Decisions

PARKING POLICIES

Federal agency parking policies may either be used as an incentive or disincentive. “Free” or heavily subsidized parking promotes driving alone among employees and visitors. However, market-rate pricing can have a dramatic impact on travel mode choice. Another parking policy example is the assignment of limited parking spaces. Assignment of spaces close to the entrance of a worksite for carpools and vanpools can serve as a low-cost incentive to using these travel modes.

WORK HOURS POLICIES

Another type of policy that could affect employee travel behavior is the agency’s work hour policy and practices. Allowing the scheduling of last-minute or late-day meetings, places a burden on employees who must meet a bus or carpool. While a common perception is that ridesharers of all kinds are “clock watchers,” employers have found that increased carpool activity helps reduce tardiness and absenteeism.

Alternative work hour programs such as flex-time, staggered work hours, compressed work weeks and telecommuting, all help increase the flexibility of individuals in meeting commuting schedules including transit schedules and carpools.

Unscheduled overtime requirements can also place a burden on ridesharers. However, more TMPs now include Guaranteed Ride Home (GRH) programs as low cost “safety nets” for these situations. GRH programs are described in more detail in Sections 3 and 4.

What is Required of the Federal Agency?

While each federal agency is encouraged to use its existing role and responsibilities to help guide how employees and visitors choose to travel, some agencies are required to submit a TMP. NCPC requires the following process to be followed for federal agencies that are undertaking any project(s) that would increase a work site population to 500 or more employees (including existing and proposed employees):

- Consult at an early date with NCPC staff about applicable NCPC policies and guidelines, and arrange for early consultation with local governments and regional agencies. Many of these policies and guidelines are stated in the transportation chapter of the NCPC *Comprehensive Plan for the National Capital: Federal Elements*.
- Consult with local jurisdiction planning and transportation officials that would be impacted by the development to identify current plans and programs, available congestion mitigation/travel management techniques, and any required TMP-related implementation commitments.
- Each agency should prepare a Transportation Management Program related to its proposed action. (If GSA is undertaking a construction or other applicable program for an agency, GSA can

assist the agency in preparing this program).

- Submit the TMP as part of the agency's planning submission for NCPC review and regional referral to the appropriate local, regional and state agencies.
- Be prepared to make the necessary commitments to implement the TMP, including participation in the funding of construction of off-site improvements.

What are the "Necessary Commitments"?

The federal agencies' "necessary commitments" to TMP implementation (referred to above) may include some or all of the following:

- Develop a written policy statement to show consistency between the TMP and agency mission.
- Provide decision-making authority and agency support to the Employee Transportation Coordinator.
- Allocate funding in the budget to provide the ETC with the means to conduct employee surveys; hold informational meetings/fairs for employees; design and distribute marketing materials; and actively participate in local, regional and national continuing education and training efforts to foster professional development in Travel Demand Management efforts.

Adopt policies that:

- Encourage employees and visitors to use alternatives to driving alone when traveling to the work-site.
- Encourage and participate in joint public-private initiatives for managing traffic concerns, such as transportation management associations (TMAs) and regional or local trip reduction programs.
- Allow greater flexibility in using agency funding to permit investment in facilities and services related to "alternative" modes that offer the most cost-effective solutions. An example of this would be the reinvestment of parking revenues into traffic mitigation projects and programs.
- Explore incentives for cost-effective use of the agency's transportation assets, such as parking pricing differentials for carpools and vanpools.
- Encourage effective management and use of transportation assets by requiring the evaluation of alternative options and management techniques that enhance performance and capacity of parking and impacted roadways.

Taking the First Steps

The common element in all successful TMPs is a motivated, enthusiastic Employee Transportation Coordinator (ETC). The first step in the preparation and implementation of a successful TMP is to designate the best person to carry out the program and to provide them with adequate agency support.

The Roles and Responsibilities of The Employee Transportation Coordinator

The role of an Employee Transportation Coordinator is multi-faceted. An effective ETC must be one part insightful planner, one part effective communicator, one part consummate customer service representative, and one part proficient transportation analyst. The ETC will find that many of these skills will be called upon as the federal agency develops and implements their TMP.

Other highly desirable qualities sought in an effective ETC include the desire for variety in their work, the ability to adapt quickly to change, and an ability to think strategically in order to promote, market, and gain organizational support for a plan. In developing a new TMP or expanding an existing one, the role of an ETC will change with each stage of development. Fortunately, the federal agency and ETC have other sources of outside support that include GSA, NCPC, MWCOG, and local transit and ridesharing agencies. A sample job description for an ETC is included in the Appendix.

The ETC's specific responsibilities are defined by the needs of the community, agency, and employee. The needs of the community and agency require changing worksite-related travel behavior and as such, the ETC must first succeed in satisfying the needs of the individual employee.

Actions of a typical ETC could include:

- Investigate the existing transportation situation, develop a database, and determine the potential for change.
- Select reasonable goals and objectives, plan appropriate strategies and tasks for carrying them out, develop a timetable, and establish a budget.
- Actively solicit support from agency management, other departments, and key individuals within the federal agency.
- Advertise and market the program to employees and visitors in order to create awareness and interest in participating in alternative travel modes.
- Create conditions and incentives that will encourage employees and visitors to change their travel behavior.

- Personally facilitate the formation and utilization of travel options.
- Track and report changes in site-related travel behavior.

The Roles & Responsibilities of GSA, NCPC, & MWCOG

GSA, NCPC, and MWCOG continue to play integral roles in assisting ETCs and their federal agencies with developing and implementing effective Transportation Management Programs.

GSA

The General Service Administration's (GSA's) role in this process is to assist federal agencies in the development, implementation, and administration of TMPs. GSA will directly assist in developing a TMP if an agency's construction project is being managed, designed and/or funded through GSA. In addition to providing TMP support, GSA also performs the following functions:

- Coordinates ridesharing efforts with MWCOG on behalf of federal agencies. The coordination includes publishing a newsletter for federal ETCs; printing ridesharing promotional information for federal employees; providing standing displays for marketing materials; establishing links to MWCOG's Commuter Connections ride-matching system when required; and coordinating transportation fairs with MWCOG and local TMP personnel.
- GSA, in cooperation with MWCOG and NCPC, sponsors training sessions for federal ETCs. In addition to learning new marketing techniques and keeping abreast of changes, the sessions offer the opportunity to meet and exchange ideas with ETCs from other federal agencies.
- GSA has the authority to regulate and police parking facilities or may delegate the authority. GSA's current policy is to delegate the responsibility to the individual agencies.

GSA's parking space assignment policy is provided in the Federal Management Regulation (FMR). Agencies are directed to assign spaces in the following order of priority:

1. Official Needs
2. Handicapped
3. Executive personnel and persons who work unusual hours
4. Vanpools and carpools
5. Persons who use their private vehicle regularly for Government business
6. Other employees

In addition to the assignment of parking spaces, federal regulations address the issue of pricing. Title 40 U.S.C., Section 490(k) requires that parking revenues in excess of the actual operating and maintenance costs be returned to the Treasury as miscellaneous receipts. Unfortunately, this effectively prohibits the use of parking revenues to offset other TMP programs such as transit subsidies.

GSA is also charged with running and maintaining a Telework Center program, providing satellite work centers for federal employees.

National Capital Planning Commission

The responsibilities of the National Capital Planning Commission (NCPC) include:

- Reviewing all federal development in the National Capital Region;
- Reviewing District of Columbia public projects, proposed street and alley closings, and Zoning Commission actions, as well as private development in the Pennsylvania Avenue Historic District;
- Preparing a comprehensive plan for the National Capital and other long-term plans for the capital city and the region; and
- Reviewing and maintaining a six-year capital improvements program for the federal government, which helps set the federal government's development priorities.

For any project in the NCR that would increase the work-site population to 500 or more employees, the NCPC approval process requires the submission of a TMP.

MWCOG

The Metropolitan Washington Council of Governments (MWCOG) is the federally-designated regional metropolitan planning organization responsible for coordinating transportation planning and air quality planning within the NCR. MWCOG accomplishes this by compiling and synthesizing the transportation planning actions of each of the incorporated cities, counties, and states within the NCR into one comprehensive and cohesive regional strategy.

MWCOG operates a commute alternatives program called Commuter Connections. Key components of Commuter Connections are as follows:

Overall administration and employer outreach assistance through the Employer Outreach Program, which includes Employer Outreach for Bicycling.

Providing commuter assistance through the Commuter Operations Center.

Assistance for the establishment and expansion of employer telecommuting programs and Telework centers.

Enhanced transit, telework centers, park-and-ride information, bicycling and full-service travel information through the Commuter Connections state-of-the-art Ridematching software and website.

Overall implementation of the regional Guaranteed Ride Home (GRH) program.

Assistance on voluntary commuting actions that can be taken by employers and the general public to reduce mobile source emissions, particularly on Air Quality Action Days.

NCPC and GSA are committed to working with MWCOG to minimize traffic congestion in the region and to meet all applicable transportation management goals. This handbook was conceived as an initial step in assisting federal agencies in this regard and will serve as a guide in keeping agency transportation managers abreast of new requirements as they are promulgated. MWCOG's resources are significant and extensive. MWCOG should always be the first place an ETC checks in finding information and mining resources for the development and implementation of a TMP. MWCOG currently maintains a clearinghouse website for ETCs.

Federal Requirements & Resources

Clean Air Act Requirements

The Clean Air Act, first enacted in 1970 and amended in 1990, was developed to protect the health and general welfare of the public from air pollution. The Act requires that areas designated in non-attainment of the federal health standards, to attain clean air standards within certain deadlines. The Metropolitan Washington region is currently designated as a non-attainment area for ozone and for fine particle pollution. EPA's 1997 requirements for ozone and fine particles require the Metropolitan Washington region to meet the standards by 2009.

The Washington metropolitan region's most serious summertime air pollution problem is ozone. Ozone exists naturally in the earth's upper atmosphere, the stratosphere, where it shields the earth from the sun's ultraviolet rays. However, ozone found close to the earth's surface, called ground-level ozone, is considered to be an air pollutant. Ozone is a harmful gas that is formed when volatile organic compounds (VOCs) and nitrogen oxides (NOx) react with sunlight.

Fine particle pollution is a serious health concern and a year-round problem. Fine particulate matter may penetrate deep into the lungs and even into the bloodstream, causing asthma and other respiratory effects, and potentially serious cardiovascular problems. Sources of fine particle pollution include cars and trucks, industry, and power plant combustion.

In May 2007, The Metropolitan Washington Air Quality Committee (MWAQC) approved a new ozone plan to demonstrate the region's ability to meet the ozone standard by the deadline of 2005. In March 2008, MWAQC approved a plan to reduce fine particles in the region to acceptable levels by 2009.

The US Environmental Protection Agency (USEPA) reviews health standards for air pollutants every five years and as a result, the standards are revised continually. In 2007, the USEPA proposed a new ozone standard and a new fine particle standard. Air Quality plans to meet the new fine particle standards, which are revisions of the 1997 standards, will be due in 2010-2011. The new ozone standard has not yet been finalized.

Transportation Planning & the Clean Air Act

The CAA links transportation planning and clean air planning in several ways. Most critically, federal highway funding aid may be withheld as one of the sanctions imposed for failure to meet CAA requirements. Secondly, the region must show that its transportation plans and programs are in conformity with the region's clean air plans. Finally, the region's clean air plans include transportation emission reduction measures (TERMs), which are intended to reduce emissions from mobile sources and are given a special, priority status for federal-aid funding in the region's annual Transportation Improvement Program (TIP).

The regional air quality plan is the mechanism with which metropolitan areas strive to control their transportation-related emissions. The regional air quality plan establishes maximum emission levels for motor vehicles on a regional basis. As a result, local and regional roadway improvements must not result in projected emission levels that are greater than the regional limit. This limit is established by the Metropolitan Washington Council on Air Quality (MWAQC) for the Washington metropolitan area. All city, county, and state transportation plans (within the region) are reviewed by the National Capital Transportation Planning Board to ensure their conformity with the region's air quality plan.

The existing regional air quality plan recommends the preparation of TMPs and the implementation of TDM measures since motor vehicle use and their resulting emissions are expected to increase significantly in the future. Although vehicle emissions are declining as a result of cleaner cars and cleaner gasoline, emissions are predicted to increase as the number of vehicle miles traveled is projected to increase.

The 1997 Ozone Standard

The USEPA announced a new eight-hour National Ambient Air Quality Standard for ground-level ozone in July, 1997 in replacement of the one-hour standard. The more stringent, eight-hour standard was adopted to better protect the public from exposure to ozone pollutants. The Washington metropolitan region had initially been exempt from the eight-hour standard until the region was able to meet the initial one-hour standard.

Air Quality Action Days

The Air Quality Action Days program is a voluntary initiative that encourages employers and other organizations, including governments, to implement more aggressive travel demand measures on days when unusually high ozone levels are predicted. The purpose of the program is to minimize the anticipated high level of ozone on those days. Meteorologists are able to predict when these ozone “spikes” will likely occur since ground-level ozone forms under certain known weather conditions, which are typically hot sunny days, with little or no wind. On these “Air Quality Action Days”, individuals and organizations are encouraged to take additional measures to modify their travel-related activities. The current regional air quality forecast and ozone alerts may be accessed through the Clean Air Partners website.

Commuter Choice Program

“Commuter Choice” is the name given to tax-free benefits that employers are permitted to offer employees to encourage them to commute to work other than by driving alone. Under IRS rules, these benefits are also referred to as “qualified transportation fringes.”

The Transportation Equity Act for the 21st Century (TEA-21) amended the Internal Revenue Code to permit employees to receive tax-free, transit or vanpool benefits in lieu of compensation, as was done for parking under the Taxpayer Relief Act of 1997. TEA-21 also raised the monthly tax-free limit from \$65.00 to \$100.00 for transit and vanpool benefits in CY 2002. This amount was most recently increased to \$115.00 in CY 2008.

Federal agencies may provide these benefits in any of three ways:

Agencies are permitted to give their employees up to \$115.00 per month in benefits to commute to work by transit or eligible vanpools. The benefit may be paid by using existing appropriated funds, usually taken from administrative accounts such as salaries, benefits, travel, etc. Employees receive the benefit completely free of all payroll (Social Security and Medicare) taxes, federal income taxes, and Virginia, DC, and Maryland state income taxes.

Agencies may permit their employees to swap some of their pre-tax income for transit or eligible vanpool benefits, up to a maximum of \$115.00 per month. Employees benefit because they save on federal payroll and income taxes since the benefit amount is no longer considered to be taxable salary. Agencies benefit because their payroll costs are reduced and their payroll

taxes do not apply to the funds used for the benefit. The benefit is also exempt from Virginia, DC, and Maryland state income taxes.

Agencies are permitted to share the cost of commuting with their employees. Agencies may give their employees part of the commuting expense, tax-free, in addition to their salary, using appropriated funds. Employees can then exchange part of their gross income (in lieu of salary) to pay the remaining amount, up to the maximum total monthly limit of \$115.00. For example, an agency provides an employee with a transit pass worth \$35.00. The employee could then supplement this by acquiring an \$80.00 transit pass using pre-tax income to receive the maximum allowable monthly benefit of \$115.00. In this situation, the employee would save on Federal payroll and Federal, Virginia, DC, and Maryland income taxes, in the amount of \$80.00, and the agency would save on payroll taxes in the amount of \$35.00.

The Washington Metropolitan Area Transit Authority (WMATA) administers the SmartBenefits Program in the National Capital Region. SmartBenefits is a web-based program that allows employers to load the dollar value of an employee’s Metrochek benefit directly to a SmarTrip® card. SmarTrip® is accepted by Metrorail and Metrobus in addition to commuter and local bus services. WMATA’s future goal of operating in a “paperless” environment will result in a fully integrated regional transit system that accepts SmarTrip within the next few years.

Federal Teleworking Program

Congress appropriated \$5.0 million in September, 1992, to establish telecommuting centers in the greater Washington, D.C. area, and to promote and implement telecommuting within the federal government. Since then, Congress has provided additional funding to promote the measure. An additional \$1.0 million was appropriated in 1993 and an additional \$5.0 million was appropriated in 1995. In 1998, \$2.1 was appropriated and 11 federal agencies were required to allocate \$50,000 annually for Telework Center user fees.

This successful program has resulted in the establishment of several Telework Centers that offer employees the opportunity to work closer to home. The centers are typically leased office space, and are equipped with basic office needs including telecommunications equipment, copiers, and computers. Employees work at these centers instead of their normal work locations which eliminates their need to commute between home and work, one or more days a week. The program is administered by the General Services Administration.

In 2007, the GSA announced an aggressive teleworking initiative, calling for 50 percent of all employees to Telework at least one day per week by 2010. Figures show that about 10 percent of GSA employees Telework in 2008. The GSA plans to encourage employees to utilize Telework Centers (which could result in increased funding for the Telework sites) in addition to employees' homes in order to reach this goal.

Congestion Mitigation & Air Quality (CMAQ)

The Congestion Mitigation & Air Quality (CMAQ) Improvement program is part of the current federal transportation legislation, the Safe, Accountable, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). The total authorized funding is \$6.0 billion for the six years of the act. CMAQ provides a flexible funding source for state and local governments to use in funding certain various transportation projects and programs that help meet Clean Air Act requirements. CMAQ was reauthorized in 2005, providing \$8.6 billion over 5 years to reduce air pollutants caused by transportation-related sources. CMAQ funds are typically subject to a state or local funding matches, and states may acquire and distribute CMAQ funds in different ways, depending on their overall SAFETEA-LU funding allocation structure. CMAQ funds are only eligible for use in areas that do not meet the National Air Quality Standards (non-attainment areas) and former non-attainment areas that are now in compliance (maintenance areas).

Emergency Commute Preparedness Plan

An organization's ability to cope with a natural or man-made emergency is largely dependent on creating an Emergency Commute Plan for emergency situations. It is the responsibility of the ETC to help develop and implement an Emergency Commute Plan.

It is essential for all federal agencies to plan, develop and test Emergency Commute Preparedness Plans prior to when a disaster strikes. This future planning effort will enable the agency to continue functioning as well as possible during the disaster recovery time period.

Most agencies have a heavy reliance on technology and automated systems. A disruption, for even a couple of days, could cause major disruptions to the productivity of a federal agency.

The continued operations of an organization will depend on management's awareness of potential disasters, their ability to develop a plan to minimize disruptions of critical functions and the capability to recovery operations expediently and successfully.

A business continuity plan for emergency preparedness requires:

- Developing procedures and actions that enable an organization to continue critical business functions during a crisis or a disrupting event.
- Assisting employees in commuting in the event of a natural disaster or regional emergency.

The goals of an Emergency Commute Plan are to:

- maintain critical operations
- protect the image and reputation of the agency
- provide solutions that either eliminates trips to work, shift work hours, or use alternative transportation.

In order to develop such a plan, the ETC will need to work with other key staff members to oversee the planning process and to arrange for testing and implementation of the plan.

Specific TDM and TMP strategies that need to be considered by the business community in an Emergency Commute Preparedness Plan should include the following:

CARPOOL FORMATION

An employee commute survey can be used to help the business organization prepare in advance for emergency transportation needs. The survey should contain questions on employees' commute patterns to assist them in receiving a free commuter Matchlist of all alternative commute options available in the region. Commuter Matchlists contain the names of co-workers, as well as employees from other neighboring companies.

Perhaps the most effective way to promote ridesharing is through a personal approach, such as by actively matching employees with one another to facilitate carpool formations through the use of zip codes.

A geographic density plot report to identify emergency carpools and vanpools should be developed and analyzed. These could be groups of two (or more) employees who would commute together in an emergency situation. A key person who would be the primary contact for the other partner(s) should be

designated, as well as an alternate, in case the key contact is unavailable. These density plots are also very useful during emergencies in identifying which employees might be impacted by a local crisis such as a power outage, road construction, or even damages from an earthquake.

If the agency has fleet vehicles, they should consider allowing employees who carpool to use them. This is a great incentive to promote carpooling in the aftermath of a disaster since employees' cars may be disabled, and transit could be disrupted.

Agencies should designate an emergency carpool meeting point for employees near the worksite. For example, in the Washington metropolitan region, the Metropolitan Washington Council of Governments (MWCOG) has created an emergency plan for the region that recommends "super-carpooling" as an option; whereby motorists fill their cars to capacity to speed up emergency evacuation.

PUBLIC TRANSIT

Under emergency conditions, there may be barriers to travel such as road damage, gas shortages, and long lines at gas stations. Employees need to determine which transit routes to utilize to travel between work and home to avoid such obstacles, in advance. Agencies should keep current transit schedules on hand and posted on employee bulletin board(s) and/or the agency website.

To learn about bus and train service in advance, employees can request regional and local transit service information from their employer's Commuter Center, local public transit or TDM/rideshare office.

If agencies are already distributing transit passes or a transit benefit voucher on site, they should be ready to do so in an emergency as well. Agencies should obtain clearance and finance approval from management prior to a disaster in order to be ready in a crisis. Agencies may even consider providing free passes or passes at a discount to encourage transit ridership under emergency circumstances.

If there is no direct transit service to a company's worksite, an emergency shuttle service between transit stations and the worksite should be established. If the agency has access to fleet vehicles, they can be used as shuttles. It is strongly suggested that these operational arrangements are made in advance. Establishing routes, schedules, drivers, and back-up drivers, and determining any applicable costs and legal/risk issues should be done in advance of a disaster.

In many regions, during actual or potential transit strikes, many TMP strategies such as carpooling and teleworking have helped alleviate commuters' stress and the need to travel to work.

BICYCLING AND WALKING

Agencies should encourage employees to walk or bicycle to work if it is safe to do so. Those employees who live within walking or bicycling distance have the advantage of being able to avoid the highways and major arterials in the aftermath of a disaster.

Agencies should identify those who live within two miles of the worksite for walking, and those within 10 miles for bicycling. Agency management should also arrange a meeting to discuss the possibility of these options in the event of an emergency, as well as issues such as bike storage, clothing lockers, and shower facilities.

Agencies should also obtain advance approval for casual dress to make it easier for employees to bike or walk, especially if clothing storage is not available at the worksite.

If available, agencies should also arrange for cyclists and walkers to have access to showers and/or clothing storage.

EMERGENCY WORK SCHEDULES

Agencies should allow flexibility in allowing employees to select their own start/end times. Doing so increases an employee's chance of finding a carpool partner, riding transit, and avoiding peak congestion.

If flexible schedules are not an option, agencies may want to alter start times on an organization-wide basis, or by departments. Start times should be established that enable workers to avoid rush hour traffic (6:00–9:00 A.M.). Or, those employees who are able to arrive to work earlier or later than peak hours should be identified.

Another option is to schedule employees for longer hours and fewer days per week. In these compressed work schedules, employees work four ten-hour days (or three 12-hour days) instead of the typical five eight-hour day work schedule. Modified work schedules allow employees to avoid commuting altogether once or twice each week, and may help them avoid peak traffic hours.

TELECOMMUTING

Before disaster strikes, agencies should identify and list employees who have tasks that can be accomplished while working at home, or at alternative sites such as local Telework Centers. If the organization has multiple sites, the additional location(s) may serve as alternate worksites. If employees are to telecommute from home, it must be determined whether the necessary equipment (e.g., computer, high speed internet access, touch-tone phone for retrieving voicemail messages, etc.) is available at home. Although some jobs may not appear to be appropriate for teleworking initially, in an emergency, all employees may need to work from home or another worksite location.

Have employees keep other work accessible at home or in their car, so that they can continue to work and be productive in the event of a disaster. Examples include reading, writing, or editing.

The agency should gain support from all levels of management. Management's support, especially from immediate supervisors, is essential to ensure that "telework" is effective and how this will impact productivity. One way of gaining support for this strategy is to provide information and training about telecommuting since managers need to be comfortable with managing distributed work.

Alternative facilities where employees could work should be identified in case the organization's building became inaccessible. Remote offices can also support employees who work from home. For a period of time immediately after a catastrophe, employees working from home may need a place to gather for meetings and to coordinate efforts with their co-workers. Having up-to-date density maps readily available will help in designating alternate work locations and in identifying impacted employees. This information should be revised periodically to reflect staffing or address changes.

The agency will need to determine equipment needs and resources for each employee or work unit and at a minimum, the types of equipment necessary for employees to accomplish their work. An inventory of available equipment for telework should be compiled, with such items as laptop computers, modems, cellular telephones, and pagers and fax machines.

Agencies should develop a remote access capability to the office computer network. As more and more job functions become technology-based, accessibility requires interfacing via high speed internet. Many companies have back up files stored at off-site locations which can be accessed in the event of an emergency. Having a Virtual Private Network solution in place can

greatly increase employees' ability to remotely simulate the office while providing computer network security and firewalls.

Employees and managers should be trained on telecommuting procedures. Agencies with experience in implementing emergency response programs have found that employees with prior teleworking training and existing policies were able to respond quicker and more effectively to unexpected circumstances. Training employees and managers in telework methods will increase an agency's ability to successfully implement the emergency plan.

Agencies may also consider establishing a teleworking pilot program and monitor the results. A pilot program for a select number of employees will help to refine and polish emergency teleworking procedures.

2.2 Local Jurisdictional Requirements



Arlington County

Arlington County has a TMP ordinance that is used as a guide for new developments. It prescribes strategies that should be included in the TMP based on one of four land use categories. Which category is applicable will depend on the proposed project’s consistency with planned land uses and/or density levels as stated in the General Land Use Plan, as well as forecasted traffic congestion problems.

Performance measures include:

- Reduction of peak hour work travel by achieving a reduction in single occupant vehicle trips.
- Peak hour level of service at major intersections at or better than LOS D.

Transportation Management Associations, Commuter Stores, commuter information displays, telework, flexible work schedules, parking preferences for vanpools, carpools, car sharing vehicles, and bicycles, are identified as key elements of the workplace-related traffic demand management process.



City Of Alexandria

The City of Alexandria’s Transportation Demand Management (TDM) program is a component of the City’s Office of Transit Services and Programs. The program is geared toward encouraging residents, businesses, commuters, and visitors to use a non-drive-alone mode of transportation when possible. The

following is a list of transportation options, programs, and services available in the City.

TRANSPORTATION OPTIONS

Bus

DASH – local bus system; peak-period service to Pentagon

Fairfax Connector – Fairfax County bus system that serves some sections of Alexandria

Metrobus – regional bus service with many routes in Alexandria

Rail

Metrorail – Four Metrorail stations (yellow and blue lines) serve Alexandria

VRE (Virginia Railway Express) – Commuter rail line that stops at Union Station in Alexandria (adjacent to King Street Metrorail station)

Amtrak – stops at Union Station in Alexandria (adjacent to King Street Metrorail station)

Rideshare – carpool/vanpool HOV/HOT lanes

I-395

Washington Street

Patrick Street/Rt. 1

Henry Street/Rt. 1

Bicycle/pedestrian

The City offers numerous on-street and off-street bikeways designed specifically for bicycle travel or with key elements that support safe bicycle travel.

Support Programs and Services

Commuter Connections – The City of Alexandria is a member of the regional Commuter Connections network, which provides carpool and vanpool matching and a guaranteed ride home in cases of emergency and unexpected overtime.

Carshare Alexandria! – The City supports carsharing as a way to reduce vehicle ownership, which encourages the use of alternative modes of transportation and decreases parking demand. Through the Carshare Alexandria! program, City residents can receive

reimbursement of fees for a first-time membership in Zipcar or Flexcar.

www.alexride.org – Visit www.alexride.org, the City’s Transportation Demand Management (TDM) Web site, to link to maps and schedules; learn more about transportation options and programs; get real-time traffic information; and to sign up for eNews – Transportation Alternatives, the City’s e-mail service providing information on transportation initiatives, programs, and updates. Phone number: 703-838-3800.

Employer Services – The City supports the efforts of employers to encourage non-drive-alone commuting and telework by assisting with transportation benefits program development, implementation, marketing, and ongoing support.

Transportation Management Plans (TMPs) — Special Use Permit

The Transportation Management Plans (TMPs) are now part of the City of Alexandria Zoning Ordinance, Article XI, Division B, Development Approvals, Section 11-700 – Transportation Management Special Use Permits. This ordinance was enacted by City Council on May 16, 1987 to offset the traffic impact of new developments.

The ordinance requires that projects of the sizes indicated below, submit a special use permit application which must include a traffic impact analysis and a transportation management plan:

Office	50,000 or more square feet of usable space.
Retail	40,000 or more square feet of usable retail sales space.
Industrial	150,000 or more square feet of usable industrial space.
Residential	250 or more dwelling units.
Mixed-use	Any combination of space including one or more of the foregoing uses, at the threshold size applicable to that use. If the threshold is satisfied in any of the uses, the TMP must be prepared for all uses present in the project.

A TMP fund is established to finance the transportation strategies to induce people to use public transportation. Some of these strategies are: discounted fare media, shuttle bus service, registration fees for car sharing, bus shelter maintenance, bicycle lockers and parking facilities, and some administrative costs of the plan.

The fund stays in an account belonging to the TMP holder but the City can claim this money if no approved transportation activities are conducted.

As of July 2006, 54 transportation management plans have been prepared. Among these 45 are active; 3 were prepared but the projects developed in a manner that did not require a TMP or were not developed, and 6 have been prepared and are in the approval process.

In the Transportation and Environmental Services Department (T&ES), the Office of Transit Services & Projects (OTS&P) administers the TMPs. City staff verifies compliance with the conditions of TMPs through the following documents:

Semi-annual Fund Report — This form is used to record the TMP financial contributions made by a TMP holder to support the transportation activities. It also records the expenses incurred and gives a summary of the contribution, the expenses and the balance to carry over, if any. Deficits are shown as additional contributions by the TMP holder to avoid carrying negative balances.

Residential and Commercial Surveys — The objective of the surveys is to find out the modes of transportation used by residents and employees of developments holding a TMP. The survey measures the effectiveness of the transportation strategies carried out by TMP holders, as these strategies are intended to stimulate single occupant vehicle (SOV) drivers to switch to transit, join a carpool, ride a bike, and use any other means of transportation.

TMP Annual Report — This report is a narrative of the activities carried out during a year, gives a summary of the survey, and indicates what activities are planned for the coming year.

The TMPs are conveyed in perpetuity with the land.

Permanence of the TMP Ordinance — Prior to the signing of any lease/purchase agreements, the applicant/developer shall prepare appropriate language to inform tenants/owners of the transportation management plan special use permit and conditions therein. The City Attorney’s office reviews and approves such language.

The Director of T&ES may approve modifications to agreed TMP activities, if the changes are consistent with the goals of the TMP.

For additional information you can contact the TMP Coordinator in the Office of Transit Services & Programs (OTS&P), at 703-838-3800, or visit www.AlexRide.org.



Prince George's County

Princes George's County enacted a Transportation Demand Management District (TDMD) Ordinance in 1993 to provide the County and its communities with a formal and legally recognized procedure for orchestrating and monitoring trip reduction in areas of the county which cannot meet the General Plan level of service standards solely through roadway improvements.

TDMDs may be created by a petition to the County Council or formally instituted by the Council within the boundaries of a master plan, including Transit District Development Plans (TDDPs). In areas that have approved TDDPs, such as West Hyattsville, New Carrollton and Prince George's Plaza, TDMDs have been enabled in the Council's approval of the TDDPs.

A TDMD could be established by petition or through adoption of an Area Master Plan. A TDMD could be triggered when 20% of the intersections or interchanges in a given area begin to operate at LOS E or 10% at LOS F. The proposed thresholds that would trigger trip reduction requirements may differ in each TDMD.

Currently, the Prince George's County Council has enabled but not authorized any TDMDs. Trip reduction goals are determined in each area by existing capacity, comparable trip generation rates for proposed land use, and planned improvements.

Performance measures may include:

- Reduction of peak hour work travel from trip generation levels calculated using the Guidelines for the Analysis of the Traffic Impact of Development.
- Peak hour level of service at major intersections at or better than the General Plan LOS standard for the area.

Monitoring and compliance measures in the TDMD Ordinance include monitoring reports and annual reports by the Transportation Management Association or other responsible entity to the Planning Board. Violations for unsuccessful compliance, non-compliance resulting from deceitful actions, and non-compliance resulting from non-cooperation include varying levels of penalties.

Transportation Management Associations, parking policies, and bicycle programs are identified as key elements of the workplace-related traffic demand management process once the TDMD is authorized and the TMA is created.

Greater detail on the boundaries and status of TDMDs within the County can be obtained from Mr. Faramarz Mokhtari of the Transportation Planning Section of the Prince George's County Planning Department at 301-952-3867.



Montgomery County

Montgomery County, under its adequate public facility ordinance, requires proposed developments in traffic congested areas to offset the impact of new peak-hour trips generated by the new development. A traffic impact area is defined, and baseline traffic counts collected from this area prior to construction to establish the existing setting which must be maintained.

Activities to reduce trips are prescribed on a case-by-case basis through the development approval process. These requirements are made part of the conditions of approval of the development and culminate in negotiation of a Traffic Mitigation Agreement (TMA) with the developer.

Montgomery County's most urbanized areas have been designated as Transportation Management Districts (TMDs). Existing TMDs are located in Bethesda, Friendship Heights, North Bethesda and Silver Spring. A fifth TMD has been established, but not implemented, for Greater Shady Grove. All new developments generating more than a minimal number of peak hour trips which are located within the County's Transportation Management Districts are required to undertake some type of traffic mitigation measures. Those generating larger numbers of trips are required to have TMAs.

The performance measure used for Montgomery County's program is no increase in peak hour traffic volumes in the defined area as a result of the proposed development, or in some cases no increase beyond a defined level. Under the County's recently-adopted

Growth Policy, measures of impact are evaluated for both local intersections and on a broader “policy area” basis.

Monitoring and compliance measures for developments with TMAgs may include driveway counts, periodic progress reports, and annual reports by the developer or other responsible entity.

To assist in obtaining traffic mitigation objectives, public parking in TMDs and many other urbanized areas of the County is carefully managed. A policy of constrained supply applies to most of these areas. New developments within Parking Lot Districts (PLDs) may forgo provision of on-site parking if payments are made to the PLD. Office developments within TMDs and certain other areas of the County may opt to reduce traffic impacts by reducing parking provided on-site. Under the zoning ordinance, two sets of reductions, of 15 percent each may be obtained in return for certain actions, including annual payments in support of TMD activities. To implement these provisions, developers must enter into a Parking Reduction Agreement with the County.

In addition to development-based traffic mitigation, Montgomery County has an active program of employer-based traffic mitigation efforts. In November 2002, Montgomery County enacted County Council Bill 32-02, amending County law regarding the County’s four TMDs. Effective March 2003, the purpose of the law [Montgomery County Code, Part II, Chapter 42A Ridesharing and Transportation Management] was to implement uniform requirements for employers in all TMDs in order to increase progress toward reducing traffic congestion and reaching commuting mode share goals.

Under Chapter 42A, all employers with 25 or more employees in the TMDs must implement the following transportation demand management (TDM) strategies:

- File a traffic mitigation plan (TMP)
- Submit an annual report of the employer’s TDM activities
- Participate in the Annual Commuter Survey

Employers must file a traffic mitigation plan (TMP) within 90 days of notification. County guidelines require the employer’s TMP to include the following elements:

- Designate an Employee Transportation Coordinator (ETC) a/k/a Transportation Benefits Coordinator (TBC)

- Post and/or distribute transportation information to employees
- Facilitate TMD presentations to employees/HR staff
- Promote MWCOG’s Guaranteed Ride Home program
- Participate in the County’s Annual Commuter Survey
- Provide American with Disabilities Act (ADA) transit information
- Provide a permanent display for bus/rail schedules and other information about commuting alternatives and “better ways to work.”

Employers are encouraged and assisted by TMD staff to implement other TDM strategies, such as:

- Car/vanpool incentives
- Alternative work schedules
- Subsidized transit passes
- Pre-tax payroll deduction
- Enhanced Guaranteed Ride Home program
- Car sharing parking and/or incentive programs
- Air Quality Action Day participation
- Preferential parking for carpools/vanpools
- Formal telework (telecommuting) policy
- Bicycling/walking amenities (bicycle racks, changing rooms and showers)

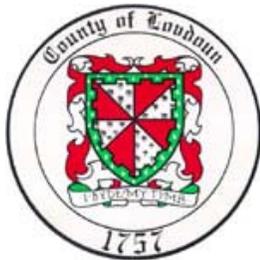
The above-mentioned TDM activities are implemented by employers with assistance from Montgomery County’s Commuter Services staff and their contractors. Activities are documented by employers with the submission of annual reports.

Commuter Services also operates a rideshare matching program in concert with the region-wide MWCOG Commuter Connections program. Prospective rideshare participants are matched with carpool, vanpool, or transit arrangements upon request. A program of personalized follow-up to ensure satisfaction with the commuting information and/or arrangements provided is an essential part of the County’s rideshare program. Carpool and vanpool vehicles are also eligible for parking discounts in the County’s public parking garages.

The Annual Commuter Survey developed by Commuter Services and administered through employers is used to create a database of employee commuting patterns in the TMDs and throughout the County. The survey helps monitor progress toward achieving mode share and other commuting goals. The survey also helps the Department of Public Works and Transportation determine what changes to programs and services are necessary.

Transportation Management Districts, developer Traffic Mitigation Agreements, parking management and reduction policies, personalized ride-matching assistance programs, and employer-based programs – including filing of Traffic Mitigation Plans, and undertaking strategies such as transit subsidies and telework programs – are key elements of the workplace-related TDM process in Montgomery County. Together these efforts are encapsulated in the slogan used by Montgomery County Commuter Services: “Better Ways to Work.”

Note: Montgomery County’s employer TMPs (Traffic Mitigation Plans) are not required for Federal government employers. However, Montgomery County will happily work with all Federal agencies within Montgomery County and endeavor to have them voluntarily undertake the same types of strategies we promote with private sector employers.



Loudoun County

1. Loudoun County will require Transportation Demand Management strategies for both residential and non-residential development. Staff will develop transportation demand management (TDM) standards that will be used by applicants to create TDM plans. These TDM standards will encourage new and existing development to implement strategies that will ultimately reduce vehicle trips and vehicle miles traveled. Examples of such strategies include providing employment opportunities suitable to local residents and housing suitable to local workers, and connectivity of neighborhoods and retail/commercial areas.

2. The County will encourage existing and new employment and business uses to support alternative travel modes by offering ridesharing and car/vanpooling, minimizing the availability of parking beyond current County requirements, and providing site amenities (e.g., transit shelters and bicycle lockers) as appropriate. Employers should also investigate other incentives (e.g., parking cash out programs and telework policies).



Prince William County

Prince William County uses a proffer system to encourage Transportation Demand Management measures with respect to new public and private sector developments within the County. It has a formal proffer policy that sets proffer amounts for housing units sized to explicitly account for unfunded road improvements, parkland, schools, etc., but the policy does not currently account for needed and unfunded transit improvements. The County is in the early stages of updating its comprehensive plan and considering the advisability of amending its proffer policy to incorporate an allowance for transit as this update is being written (2007).



Fairfax County

From the Fairfax County Comprehensive Plan, 2007 Edition. Policy Plan - Transportation, Amended through 7-10-2006

Objective 5: Promote Transportation Demand Management (TDM) to support efficient use of the County's transportation system.

Policy a. Promote and market public transit, ridesharing, use of HOV/HOT lanes, bicycling and walking with all potential users.

Policy b. Promote TDM strategies including teleworking, teleconferencing, tele-education, alternative work schedules, flexible work hours and/or variable pricing.

Policy c. Implement parking management programs and parking controls in activity centers to encourage use of mass transit, HOVs and non-motorized transportation.

Policy d. Encourage and support employers and landowners to establish transportation management associations (TMAs).

Policy e. Work with private and public employers by establishing alternative commute programs to reduce SOV use.

Policy f. Work with the County residents, developers, homeowner associations and property management companies through residential based programs to promote use of public transportation, HOVs, non-motorized travel, and other alternatives.

Policy g. Work with Fairfax County Public Schools, private schools, and area colleges to establish programs that encourage the use of bicycling, walking, carpooling and transit.

Policy h. Require that applicants for rezoning and special exceptions show evidence that they have analyzed and evaluated potential TDM strategies.

Encourage proffers of TDMs and develop enforcement mechanisms and proffers in support of the County's transit system.

Policy i. Develop TDM strategies and programs in cooperation with MWCOG and other local jurisdictions.

In 2008 the Fairfax County Department of Transportation will complete a study on integrating TDM into the land use and approval process. The results of this study may lead to changes in the existing policies.



District of Columbia

Though the District of Columbia has no TMP ordinance, MWCOG provides TMP services to the District.

3.1 Alternative Modes of Travel



This section of the handbook describes different Travel Demand Management (TDM) strategies that can be included in a Transportation Management Program (TMP). TDM strategies may be classified based on their characteristics and their ability to reduce SOV trips (as applied alone) as follows:

Alternative Modes of Travel (Reduce SOV trips)

- Carpool Programs
- Vanpool Programs
- Transit Service/Shuttle Service
- Bicycle/Pedestrian Facilities & Site Improvements

Incentives & Disincentives (Do not reduce SOV trips by themselves)

- Economic Incentives
- Subsidies
- Travel Allowance
- Parking Management
- Employer Complementary Support Measurements
- Guaranteed Ride Home
- Commuter Center

Alternative Work Arrangements (May or may not reduce SOV trips)

- Variable Work Hours
- Flex-time
- Compressed work week
- Staggered Work Hours
- Telecommuting

Each strategy is described in detail, including benefits, applicability, factors for success, complementary measures, effectiveness, and cautions. Strategies should be selected based on program objectives, work site analysis, and employee needs/preferences.

Studies show that TMPs are more effective when they include TDM strategies from each category. Section 4 presents a detailed process on how to select the appropriate TDM strategies for a specific worksite.

Carpool Programs

Carpool programs using personalized matching involves introducing and matching potential ridesharers. Most people are hesitant to rely solely on a matchlist and need help when approaching their potential rideshare matches. As in most social situations, someone has to “break the ice”, and in the case of ride-matching, it is an ETC who can bring the appropriate people together.

To increase ridesharing, the ETC can:

- Personalize the employee’s introduction to ride-matching by marketing the program and meeting the potential ridesharers in person;
- Personalize the matching formation process, and reduce the anxiety involved in meeting and finding people who are potential carpoolers; and
- Assist in the maintenance of existing and new arrangements through on-going follow-up on the status of carpools and vanpools.

Through personalized assistance to employees, the employer can develop a high profile transportation program, which will increase ridesharing at a worksite and serve as an excellent marketing tool for the program. Employees will feel more comfortable when approaching rideshare partners if someone has taken the first step to introduce them to one another. Personalized assistance takes the social reluctance out of ridesharing.

Personalized assistance is essential to a ridesharing program in medium to large size federal agencies where employees may not know their colleagues who appear

on the matchlist. In smaller agencies, the ETC may not have to dedicate as much time to personalized assistance because most of the employees may know each other and do not need the ETC for the initial introduction.

Complementary measures include: Commuter Connections rideshare matching program, preferential parking for carpools and vanpools, guaranteed ride home program, and marketing efforts. goDCgo.com, a clearing house for alternative travel modes including ridesharing in Washington, DC, is an invaluable resource when planning alternative commute options in Washington, DC.

The following factors should be considered when implementing a personalized assistance and ride-matching program:

- Commuters with less than 10 miles and/or 20 minutes commutes are less likely to carpool. The regional average distance traveled for carpoolers/vanpoolers is 20.9 miles one-way.
- Carpools require riders to commit to a regular, agreed upon schedule. This can cause difficulties for workers whose hours are not consistent from one day to the next. A staggered work hour program can make it more difficult to form carpools because employee work hours are not compatible throughout a worksite. However, the effect that flex-time has on ridesharing is less clear. Flex-time may create a similar effect as a staggered work hour program in some cases, or may allow employees to shift their arrival times to accommodate carpool schedules.
- Conditions which foster ridesharing include: not having an available car, a long commute, tight parking supply, availability of nearby (or in-route) HOV/HOT lanes, limited transit service, high concentrations of employees in a general work area and/or residential concentrations of employees.
- Cooperation with nearby employers, such as through a Transportation Management Association, will significantly increase the likelihood for successful placement of employees into carpools.
- Even though the ETC can play an active role in bringing potential ridesharers together, the ETC should communicate to the employees that they are responsible for making the final selection. Employees need to be prepared to screen potential matches for many issues such as a preference for smoking, type of music, flexibility of schedule, etc.

- It should be assumed that those who request and receive a list, will act on the list.
- Provision of follow-up assistance to start and maintain carpools is strongly recommended.

Vanpool Programs

Vanpooling is an arrangement where several people (7-15) share a ride between home and work in a van. For the purpose of employer subsidies, a vanpool should have a seating capacity of at least 6 adults (not including the driver). At least 80 percent of the van mileage should be for transporting employees between their residences and place of employment. It is also required that van use is with at least ½ of its passenger capacity (the van drive does not count towards this requirement).

Vanpooling is ideal for employees who live at least 15 miles from the work place. The regional average trip length of vanpools is 29 miles.

There are four basic types of vanpooling, as follows:

Third Party Vans: A group of employees lease a van from a vanpool vendor and fares are paid to the vendor by the employees.

Owner-Operated Vans: An individual employee independently buys a van and administers all aspects of the program.

Employer-Purchased or Leased Vans: An employer buys or leases a van and administers the program, recovering the cost through fares. However, this is not considered to be an option that is legally available to federal agencies.

A federal agency and its employees can benefit from vanpooling as follows:

- Employee productivity is enhanced as a result of reduced commuting stress;
- Tardiness is minimized because the driver and riders must maintain a reliable schedule to maintain a successful vanpool, which will in turn allow them to consistently meet an agency's start schedule;
- Morale and general satisfaction with work increases;
- Employer/federal agency savings are achieved because of reduced parking expenditures;
- Savings in commute time result when used with High Occupancy Vehicle (HOV) or High Occupancy Toll (HOT) lanes;
- Employees benefit from savings in commuting costs;
- Employees gain increased "down" time on the van/bus to read, sleep, or work;

- Congestion is reduced, since each van can remove as many as fourteen other vehicles from the road; and
- Air quality is improved, since one van pool reduces up to 275 pounds of pollution every day.

Vanpools can be formed only if an adequate number of employees with similar work schedules live near each other, and is only cost effective for long distance commuters who live at least 15 miles away from the office. An employee spatial distribution study that shows the location of where employees live in relation to the work place is one way to determine the vanpooling potential at a worksite.

Complementary measures to vanpools include preferential parking for carpools, the Guaranteed Ride Home Program (administered by the Metropolitan Washington Council of Governments), the regional rideshare-matching program (administered by the Metropolitan Washington Council of Governments and its network members), driver training programs, and flextime. goDCgo.com, a clearing house for alternative travel modes including ridesharing in Washington, DC, is an invaluable resource when planning alternative commute options in Washington, DC.

The following factors should be considered when implementing a vanpool strategy:

- The highest potential for successful implementation of a vanpool is among employees who live 20 or more miles from work and who have travel times of 30 minutes or greater.
- It is best to cluster 15 to 30 people for a 12 or 15 passenger vanpool. The cluster area should generally be no greater than two to three miles in size, but with commuting distances of greater than 30 miles, larger cluster areas may become viable. Clusters oriented to the vanpool route can be set up; these are composed of smaller groups picked up along the route to work.
- Caution should be utilized in driver selection. The driver is usually permitted to take the van home on weekends and overnight.
- Most vanpools start with less than a full complement of riders. Subsidies, including local government support, should be sought to subsidize the cost of empty seats for several months to increase ridership.
- “Erosion” of interest in vanpools should be expected - some potential riders will change their minds.
- Adequate insurance for the vanpool is necessary. Adding to a driver’s own automobile coverage is generally insufficient.
- Maintenance and upkeep of vehicles is an issue.

Access to an alternate van in the case of a breakdown is necessary.

Transit Service/Shuttle Improvements

Although transit usage varies greatly between metropolitan areas, only about 5.0% of American commuters use mass transit on average. However, when compared with other metropolitan areas in this country, the Washington area enjoys a relatively high rate of transit usage. Approximately 19% of commuters report that they utilize transit on a regular basis according to the most recent 2007 MWCOG “State of the Commute” Survey. Although traditional transit services may not be able to meet all transportation needs in a cost-effective manner, the ETC can help market transit along with other transportation alternatives. Regional transit service is available in many different forms including: Metrorail, Metrobus, commuter bus service, various express bus services, commuter train service, and soon-to-be water shuttle service along the Potomac River. Additionally, more local county and city transit service providers such as Ride-On (Montgomery County, MD), the CUE Bus (City of Fairfax, VA), the Fairfax Connector (Fairfax County, VA), DC Circulator (Washington, DC) and others help to extend regional transit service coverage. goDCgo.com, a clearing house for alternative travel modes including transit information for Washington, DC, is an invaluable resource when planning alternative commute options in Washington, DC.

Federal agencies benefit when their employees use mass transit because employee productivity may increase as a result of reduced commuting stress. Employees like to use mass transit because in many cases it reduces their commuting costs. It also may eliminate the need for an extra automobile for commuting purposes. Commuters perceive the cost of using transit in two contexts: first, how the transit fare compares with the cost of driving (mainly fuel and tolls) and parking; and second, ease of fare payment.

Mass transit is an excellent choice for commuting where services are readily available and accessible. The Metropolitan Washington Area has one of the best regional transit networks in the country, and organizations are increasingly discovering the importance of selecting worksite locations with good transit accessibility and nearby community amenities such as retail, restaurants, and other support activities (e.g., day care, banks, etc.). Though not all locations enjoy immediate transit access, organizations may be able to overcome this with short-distance, high-

frequency shuttle service between the worksite and closest transit station.

Transit service improvements provided by the agency might include:

- Shuttle buses from nearby transit stations or residential areas to the worksite.
- Express buses from park-and-ride lots to the worksite.
- Shuttle buses between multiple company sites or between the worksite and nearby retail areas (generally mid-day trips)

Complementary measures include transit subsidies, travel allowances, a guaranteed ride home program, transit system marketing efforts, convenient payment (Commuter Center), flextime, and parking management programs.

The following factors should be considered to encourage transit use by agency employees:

- Consider transit availability at the worksite and employee's residences.
- Look for concentrated residential locations of employees.
- Be aware of the current level of transit utilization at the site. It is important to remember that not all employees will be able to use transit due to limited availability. The level of transit usage at the site could be economically infeasible to attract more employees from SOV trips.
- Transit programs can be very expensive to operate; therefore, it is very important to identify the market potential for the service, and weigh the cost and trip reduction benefits of the new transit service against those for other TDM strategies.
- Employees should always be aware of transit crime both on the system, and while waiting for the service.
- Make transit route brochures available in convenient locations.
- Assist employees in determining the best transit route from home to work.

Bicycle/Pedestrian Facilities and Site Improvements

Bicycling and walking are often overlooked in modern day commuting. With growing interest in health and exercise, both bicycling and walking are becoming increasingly popular modes of commuting.

Benefits include:

- Reduced need for parking
- Improved employee health and well-being
- Reduced stress in the work place

- Overall attitude and morale improvement
- Low commuting cost

In many areas weather conditions, the unavailability of safe travel routes, work site showers and lockers, and the remoteness of the work site make conditions difficult for walking and bicycling. An ETC should use good judgment when promoting these options. The ETC should also realize that walking and bicycling might only provide seasonal alternatives to driving alone and might not be year round options.

Additionally, walking and bicycling are usually feasible alternatives only for employees who live relatively close to work. In Europe, the percentage of employees who bicycle and walk to work is from 20% to 25%. In comparison, less than 3% of American commuters travel to work by bicycling or walking.

There are three important ways in which bicycle and pedestrian facility improvements may be implemented by a TMP:

- As a primary mode of access to the worksite,
- As a feeder mode to connect with transit or ridesharing modes for longer trips, and
- For circulation within a worksite and/or to nearby facilities that provide access to local community amenities such as retail, restaurants and other support activities (e.g., day care, bank, etc.)

Bicycle and pedestrian facility improvements should not be disregarded even if worksite characteristics are not suitable for their implementation as a primary mode to access the site. Improvements to these facilities for use as a feeder mode and for circulation will provide an incentive to the employees to use transit.

The following factors should be considered when promoting bicycling and walking as a TDM strategy:

- Provide special attention to bicycle facilities when overnight storage is required or bicycles need to be left at transit stations.
- Currently, certain buses and Metrorail trains are equipped to transport bicycles. Collect and disseminate specific information on availability. Also, WMATA does not currently allow bicycles to be transported on trains during their rush periods from 6:00-9:00 AM and from 3:00-7:00 PM Monday-Friday (except holidays).
- goDCgo.com, a clearing house for alternative travel modes including bicycling information for Washington, DC, is an invaluable resource when planning alternative commute options in Washington, DC.
- Contact local Bike/Walking Clubs to help educate bicyclists and pedestrians on safety precautions such as: always riding with traffic,

wearing a helmet, watching out for car doors, wearing reflective clothing when it is dark outside, etc.

- On days of poor air quality, encourage employees who are bicyclists and walkers to use another commute alternative. The current regional air quality forecast and ozone alerts may be accessed through Clean Air Partners.
- If the work site is located in a remote or unsafe area, encourage walkers to walk in groups and during day light hours.
- Provide adequate bicycle storage and shower and locker facilities at the worksite.
- Provide adequate information regarding regional and local bicycle paths and travel routes on the agency website and/or through brochures and maps. There are bicycle-specific maps available at most map and book stores, and the Washington Area Bicyclist Association (WABA) provides facility information, maps, tips, and support. A list of bicycle maps and trails can be found in the Commuter Connections Resource Directory (Appendix A.5). Commuter Connections will offer a regional bicycling route-finding service. Encourage bicyclists to use this tool to help find a safe and dependable route to work.
- Participating in the Washington area's annual Bike-to-Work Day is a good way to introduce employees who are not regular bicyclists and/or do not usually bicycle to work, to this form of travel. Bike-to-Work Day is usually held each year in the spring.

3.2 Incentives & Disincentives

Economic Incentives

Subsidies

Transportation costs play an important role in determining how employees choose to travel to work. Financial incentives for ridesharing can cause a shift from solo commuting to ridesharing.

Most employers offer subsidies in one or more of the following:

- **Vanpool subsidy:** The Federal agency provides a financial incentive on a limited or continuing basis to ridesharers.
- **Empty seat subsidy:** Employers or Transportation Management Associations may subsidize the empty seats on a vanpool for a limited amount of time to keep the ridesharing arrangement in place without causing the remaining riders to pay extra.
- **Transit subsidy:** The Federal agency can pay part or the full cost of a transit pass or voucher to encourage use of public transportation. These subsidies are described in Section 2.1 – D.

The agency can offer these subsidies by either providing direct payment to the employees by check or voucher, or through a payroll deduction process in which the federal agency itself handles the administration of the program, including payments to transit operators.

Subsidies are beneficial in that they make driving in a single occupant vehicle less attractive and more costly than other transportation modes. Subsidies can significantly increase the APO and reduce trips especially in conjunction with increases in parking prices. Subsidies work best when solo drivers have to pay to park and ridesharers are allowed to pay a reduced fee, which results in an economic inducement for the ridesharers.

Complementary measures include parking management programs, a guaranteed ride home program, a regional rideshare matching program, and transit marketing efforts.

The ETC should be aware that employees may be resistant to the program at first since most subsidy programs are introduced along with a pay-for-parking scheme.

Travel Allowance

A travel allowance program is based on providing every employee with an equal amount of money to spend on

transportation. The program is considered to be a “cafeteria-style” benefit plan for transportation because employees can decide how to spend the benefit themselves; Employees can use the allowance to pay for parking or for carpool, vanpool, or transit expenses. The program rationale is that employees will try to generate and maximize a profit by spending only part of the allowance on transportation costs, which makes driving alone a poor economic choice. The Internal Revenue Service considers any travel allowance taxable; however, if an employee opts for a transit pass or voucher, the \$115.00 per month is considered non-taxable.

Selecting the appropriate amount for a travel allowance can be difficult. One way to determine an amount is to set an amount that it is equal to the cost of parking in the building. If the allowance is less than the parking cost, then employees would be responsible for providing the balance of the parking cost.

The most important benefit of a travel allowance is that it is equitable. Every employee receives the same amount of money irrespective of rank, tenure, or mode choice. Additionally, the program is a constant reminder to employees that parking is not free, and at the same time, compensates employees for losing their free parking. A travel allowance program also rewards bicyclists and walkers by allowing them to save the allowance. The solo driver will have to spend most of their allowance on commuting, while ridesharers should be able to at least partially save their money. Individual employer experiences with allowances have found an SOV reduction of 20% or more as a result of providing travel allowances.

A travel allowance program is applicable in all settings where employees are required to pay for parking and where parking may be scarce. If ample free parking is available, then a travel allowance program will not be as successful.

Complementary measures include preferential parking for carpools, a guaranteed ride home program, a regional rideshare matching program, and marketing efforts.

The ETC should be aware that, like a parking pricing program, some employees will likely contest the idea of covering a partial cost of parking or paying taxes on the allowance. Program marketing literature can mitigate these potential criticisms by highlighting ways that employees can reduce commuting costs and save the travel allowance for other needs.

Parking Management

Parking management is a set of strategies used to balance the supply and demand for parking. Parking management is one of the most powerful tools that can be used for modifying mode choice. The decision of commuters to drive alone, carpool, vanpool, or use mass transit depends a great deal on the cost, availability, and the location of parking.

Parking in most urban areas costs a minimum of \$5,000 per space to construct for a surface parking space, \$18,000 per space for an above ground parking deck, and up to \$25,000 per space for below ground parking. In addition, there are on-going costs for maintaining and operating parking lots. A parking management program can result in major cost savings for the federal agency.

There are three parking management strategies that are commonly used to reduce the number of solo commuters to a work site. These include:

- **The pricing of parking:** Most commuters (over 90% nationwide) park for free at work. Most employees consider parking to be a right rather than a privilege. Research on this issue has shown that employees who are charged for parking tend to alter their travel behavior. One option for implementing a parking pricing program is to offer differential rates for solo drivers versus ridesharers. It should be noted that the Federal government currently considers any transit subsidy above \$115.00 as taxable income to the employee, and that parking subsidies are tax free up to \$220.00 per month per employee.
- **Preferential parking:** By offering preferential parking to ridesharers, employees will be encouraged to drive together instead of driving alone. Usually, preferential parking is located close to parking lot elevators or main building entrances, and these spaces are usually marked, with a monitoring system put into place.
- **Parking supply reduction:** The best way to ensure trip reduction through parking management or any other TDM strategy is to limit the amount of parking available to employees. If employees are not all guaranteed parking spaces for their single occupant vehicles, then some employees will look for other commuting options.

Other strategies include: providing peripheral parking areas with shuttles, separating parking charges from the building lease, and sharing parking facilities with neighboring offices or worksites.

The benefit of a parking management program for an employer is that it can substantially reduce the need for parking and will modify employee travel behavior toward non-SOV travel. Some employees like parking management programs because non-solo drivers are rewarded for making the choice to use an “alternative” means of travel. Additionally, parking management programs can reduce overall congestion and fuel consumption while improving air quality.

From an application viewpoint, parking pricing and travel allowance strategies are ideal for a setting in which on street and/or off street parking supply is limited and expensive. Initially most pricing programs are faced with antagonism from employees.

Preferential parking can still be applied in areas where parking is cheap and abundant. Preferential parking is not appropriate where most parking is convenient and near entrances.

Complementary measures to a parking management program include a regional rideshare matching program, transit subsidies, travel allowances, and marketing efforts.

The following factors should be considered when implementing a parking management program:

- A pricing strategy may be controversial. Make sure the employees understand how the choice was made and what the impact will be.
- The Federal government currently considers free parking as a non-taxable benefit up to \$220.00 per month. A subsidy and travel program may impact employee income taxes. Let employees know which subsidies are considered taxable income.
- If the agency’s work force is organized into labor unions or other associations with bargaining power, check the agreements to circumvent potential problems.
- Do not allow a pricing strategy to result in parking spillover into neighborhoods or residential communities that are adjacent to the worksite. Spillover parking can result in strained relations with the community.
- Consider the availability of off-site, local parking facilities. The projected reduction of SOV trips may not be achieved if drivers are able to locate “inexpensive” parking within walking distance to a worksite.

Employer Complementary Support Measurements

Guaranteed Ride Home

A Guaranteed Ride Home (GRH) program is a very useful element in a successful TMP. Some commuters are reluctant to rideshare because of a fear that they will not be able to get home in case of an emergency or if they have to work overtime. A GRH program guarantees these commuters a ride home in an emergency situation (e.g., sick child at school). While this is not generally the primary motivating factor for traveling to work other than driving alone, the program does remove this one potential barrier to using alternative forms of commute travel.

A GRH program is based on offering the riders a convenient and reliable mode of transportation. The most common transportation options for GRH programs include:

- **Taxi service:** This is a subsidized service; most taxi companies bill the employer directly.
- **Short term auto rental:** This is most appropriate for employees who need to travel more than 40 miles from the work site.
- **Shuttle services:** Some airport shuttles serve the GRH market. Dial-a-Rides are also an option.
- **Back up vans:** If there is a back up van, the ETC may choose to make it available for the GRH program.
- **Public transit:** An accessible bus or rail service may also present a viable option.

MWCOG offers a comprehensive GRH service under the Commuter Connections Program. This program is used by many employers, and federal agencies can take utilize the program.

For employers, a GRH program can improve the ridesharing program and reduce the need for parking spaces. Additionally, this type of program encourages employees to rideshare without worrying about working overtime or attending to personal emergencies. Employees are generally receptive to GRH programs.

The existence of the program can increase interest in the other elements of the TMP by encouraging commuters with an initial interest in GRH program to explore various alternative commute options.

A GRH program is applicable at any agency. The federal agency will need to pick the combination of transportation options that works best for each location and employee needs.

The following factors should be considered when implementing a GRH program:

- Typically, about 7% of eligible employees use a GRH program in a year, thus the cost of operating the program is lower than generally expected.
- Establish procedures to prevent employees from abusing the program. One option is to limit usage of the program to a few times a year per employee.
- Address use of the program during snow emergencies by permitting employees to share rides with employees from neighboring agencies or companies that may have differing snow emergency or leave policies.

Commuter Centers

A Commuter Center at the federal agency provides personalized service to commuters from a prime location. The Commuter Center should not be defined as being in the ticket selling business — the Center is in the people business. In other words, the Center's focus should be customer service. Just as the GRH program eliminates the fear and anxiety of ridesharing, a well implemented Commuter Center should eliminate the inconvenience of finding accurate and timely information and services needed by the ridesharers.

This concept has the following benefits:

- Provides multi-modal marketing of regional transportation alternatives for commuters and employers;
- Centralizes transit information and fare purchase operation for employers, commuters, and visitors;
- Operates from a prominent location;
- May use a for-profit small business to manage the Center;
- Allows employees to purchase transit fare by check or credit card; and
- Provides a mechanism to distribute and exchange transit benefit vouchers.

Commuter Centers can serve large numbers of transit and ridesharing employees, perhaps for multiple agencies. The degree that Commuter Centers offer personal service and convenience is thought to increase frequency of use and increased awareness.

Complementary measures include transit subsidies, travel allowances, transit services, guaranteed ride home, regional rideshare matching program, and marketing efforts.

Factors to be considered when implementing this strategy are as follows:

- The employer-provided commute fringe benefit amount is currently set at \$115 per month for CY2008, and this benefit may be used for vanpools.
- Selling commuter-related retail products may meet with opposition from nearby businesses.
- Time-sensitive tickets or passes may require additional staffing to meet demand as the new time period approaches.

Sales Outlets

Sales outlets provide convenient, one-stop shopping for schedules, fares, and information about the many transportation options available in the National Capital Region. Sales Outlets are a valuable resource for smaller federal agencies in particular because the Sales Outlets are a cost-efficient way for federal agencies to provide commuter services. Sales Outlets are located in the District of Columbia, Montgomery County, the City of Alexandria, Arlington County and Fairfax County. A complete list of Sales Outlets throughout the region can be found at the Commuter Connections website.

3.3 Alternative Work Arrangements

Alternative Work Schedules/ Variable work Hours

These strategies allow the scheduling of work hours outside of the traditional 9:00 AM to 5:00 PM, 5-day a work-week pattern. Given that 40% of all families report scheduling conflicts with the traditional work day, variable work hour programs are an attractive alternative.

Several demographic and economic changes have made variable work hours programs more practical. These changes include: the influx of women into the labor force, the increase in multiple worker families with multiple demands, the growing number of single parents, and the need for flexibility on part of a large aging population.

The three most popular strategies include:

- **Flextime:** Employees can select their arrival and departure times and length of their lunch period. They work eight hours (not including lunch break) and have to be in the office during a core period.
- **Compressed Work Week:** Employees can complete the number of weekly hours in fewer days per week. Common deviations include a four-day work week, or working 80 hours in nine days and taking the tenth day off.
- **Staggered Work Hours:** The employer staggers the arrival and departure time of groups of employees so that employees do not all arrive and leave work at the same time.

For the federal agency and its employees, variable work hour programs provide the following benefits:

- Reduced traffic congestion during peak hours,
- Reduced peak hour bus overcrowding by spreading peak trips,
- Increased productivity,
- Reduced operating costs (for the day off),
- Reduced staff turnover and improved recruiting,
- Extended customer service hours,
- More flexibility for employee personal needs,
- Reduced commuting time by shifting trips to off-peak hours,
- Increased job satisfaction,
- Occasional three-day weekends,

- Improved air quality by eliminating some commute trips,
- Increased transit use as a result of permitted schedule changes for employees,
- Facilitated child care and ridesharing (flextime), and
- Better communication across time zones.

In addition to reducing peak period vehicle trips (i.e., shifting these trips to other off-peak times), flextime and compressed work week strategies may reduce the total number of vehicular trips. Flextime suits most government operations and is highly successful in the Washington metropolitan region. Flextime schedules are particularly useful for agencies that need to communicate with other time zones or need extended hours of operation.

Staggered hours, if well planned, are a good tool for decreasing traffic congestion in the vicinity of the work site by metering commute trips throughout the day, as well as reducing the number of total trips. Staggered hour schedules are appropriate in organizations where units can work independently of each other. This strategy may create some difficulty to people trying to participate on a ridesharing program.

Flexible work hours permit employees to adjust work schedules to accommodate transit or carpool arrangements and as a result, may result in a shift to HOV or HOT-lane facilities (for example, transit to carpool). Staggered and compressed schedules appear to decrease VMT and to increase travel time savings, though the extent varies widely.

The following factors should be considered when implementing these strategies:

- Make sure that these strategies are in line with the goals or requirements of each specific worksite and each specific job description. Give special attention to the relationship between the changes and the measures of effectiveness of a program.
- Try to be flexible; these programs may not suit the needs of all employees and may conflict with existing arrangements for ridesharing, child care, taking kids to school, or other personal programs.
- Do not force employees to be on a schedule if it does not fit their needs.
- Make sure that the agency's legal counsel reviews labor laws and that specific state and federal laws do not prohibit agency's employees from

participating in a specific program. Dedicate enough time to trouble-shooting once the program has started. The agency will need to monitor the program very closely.

- Compressed work weeks may be tiring for some employees, so it is important to watch for employee fatigue and/or decreases in productivity.
- Cross train employees so that they can provide adequate coverage if another employee is out of the office.

Telecommuting

Telecommuting is becoming increasingly popular in corporate America. According to the American Interactive Consumer Survey conducted by The Dieringer Research Group (2004) there are 44.4 million people teleworking at least 1 day per week. The American Interactive Consumer Survey estimates that there will be over 100 million teleworkers by 2010. Telecommuting refers to the option of working at home or at an office close to home on a full or part-time basis. Although computers and other telecommunications technologies facilitate telecommuting, the telephone is still the most basic tool for working at an alternative location.

There are currently three popular forms of telecommuting.

- **Work-from-home:** This is the most common and the least expensive form of telecommuting.
- **Satellite Work Center:** This form of telecommuting refers to an arrangement whereby an employer provides some of its employees with the option of working at an alternative office located closer to home. Satellite work centers are usually housed within the existing company infrastructure. Often, when an employee works at a satellite work center, their supervisor and co-workers are still reporting to the normal work site. A complete list of Telework Centers can be found at the Commuter Connections website.
- **Neighborhood Work Center:** The neighborhood work center leases or sells space to a number of different companies. The neighborhood work center provides an opportunity for employees to work closer to home. Tenants in a neighborhood work center usually share support services such as clerical help, telecommunications equipment, photocopying machines and office supplies.

Many experts believe that satellite and neighborhood work centers will replace the work-at-home option in the near future. Although work centers are more expensive to set up, they are easier to sell in concept to management because they more closely resemble the traditional office.

Telecommuting is very popular with employees. There are many factors accounting for the growth in telecommuting, with increasing technological support and decreasing computer prices being the two most important reasons. The following lists some of the benefits of telecommuting to employers, employees, and the community:

- Increased productivity as a result of fewer distractions, continuous work time;
- Improved morale and employee satisfaction;
- Decreased absenteeism based on the ability of employees to work in spite of emergencies, such as car trouble or weather conditions;
- Improved recruitment and ability to retain skilled workers;
- Opportunity to expand hiring to include the handicapped and others unable to meet traditional working hour requirements;
- Decreased overhead in times of office expansion;
- Reduced employee commuting time, stress and cost; and
- Reduced trips to the central work site resulting in reduced VMT (i.e., less traffic congestion, air pollution, and highway cost).
- Increased ability for business continuity in the event of a natural or man-made disaster

Telecommuting is applicable for jobs that can be performed at least part time, away from the office. Telecommuting requires jobs to be portable. It is being widely used in many sectors of the economy as an alternative work arrangement. Telecommuting is ideal for employees who have strong time management skills, who are above average performers, and who can work with little direction.

An updated and enhanced interagency telework website is available to federal employees at www.telework.gov. The website provides users with recent telework guidance and legislation, policies, reports, studies, and on-line telework training. Additionally, users may search an on-line database for answers to telework-related questions, and if the feature is unable to locate the answers on-site, questions are automatically routed to experts who will respond via email. The site is intended

for employees, managers, and telework coordinators, and was developed by the General Services Administration (GSA) and the Office of Personnel Management. (OPM)

The following factors should be considered when implementing telecommuting as a TMP strategy:

- Telecommuting is NOT a substitute for childcare or eldercare arrangements.
- Job performance has to be measured by results under clearly defined tasks and deliverables.
- Telecommuting may not work for all employees, so make sure it is a voluntary program. Employees can come back to the office if working at home does not work for them. Additionally, supervisors have the right to ask the employees to come back to the office if the employees' productivity is decreasing, or other problems arise.
- The agency's labor unions should be involved in designing the program. Some unions may initially have problems with decentralizing the work force or may not fully understand telecommuting.
- Spell out all arrangements in a Telecommuting Agreement. Any violation of the rules may result in termination of the telecommuting arrangement. Gain agreement between the employer and telecommuter on ownership and use of equipment.
- Do not expect the program to be perfect; adjustments will be necessary. Make sure that communication channels within an organization are open for discussing potential problems.
- This strategy may require the agency to address "cottage industry" inspection laws, liability for injuries occurring while working at home, and the application of OSHA regulations. The employer, with reasonable notice, may make on-site visit to determine the site is safe.
- Help employees understand tax implications relating to the home work space.

4.1 Initiating the Program



This section serves as a guidance tool for the ETC or the person in charge of creating a TMP for a worksite. The TMP process may have started because of the agency's need to respond to a trip reduction regulation, to solve a transportation-related problem, to expand employee benefits, or to reduce commuting-related expenses. Regardless of what initiated the program, there are four key steps to the TMP process: 1) Initiating the program; 2) Selecting the trip reduction strategies; 3) Implementing the program, and 4) Monitoring progress. Each of these is described in this section of the handbook.

There are four components to initiating the program: establish goals and objectives, select bases for measurement, evaluate the work setting, and evaluate employee behavior. Please note that these items are listed as components rather than steps since they should not be implemented in a linear sequential order (i.e., one after the other), and the components complement and influence each other. For example, goals and objectives could be redefined or made more specific as the work setting and employee behavior are evaluated. Similarly, if the goals and bases for measurement are established by a trip reduction regulation, the work setting and employee behavior evaluation should be focused to address the regulation.

Establish Goals and Objectives

Set Management Goals

Goals are broad statements derived from the mission of the program. They should include what a federal agency wants or needs to accomplish. Sample goal statements might include:

- “To reduce traffic congestion, conserve energy, and improve air quality by seeking to reduce the number of employee single occupancy vehicle trips in the workday commute.”
- “To make the best use of limited on-site parking facilities and travel ways.”
- “To comply with NCPC master planning requirements and other government mandates.”
- “To support mass transit as a resource for the agency, as well as other governmental bodies, businesses, and the community at large.”
- “To reduce the impact of trips generated by the agency on the local and regional road network.”

Set Program Objectives

Objectives differ from goals in that they describe problem-related outcomes of the TMP, not the tasks. Measurable program objectives are preferable. Program objectives that are measurable become the criteria by which the program's effectiveness can be assessed. Each objective should assign responsibilities with target completion dates. Objectives should also define criteria that may be used as a “roadmap” to successfully accomplishing each objective and that detail measurable outcomes.

The ETC could decide how to reach the stated objectives in several different ways. For example, an agency may determine an objective to be: To increase

the Average Passenger Occupancy (APO) employee ratio from 1.22 to 1.52 persons per vehicle, within a certain period of time. The agency could set several contributing objectives as stated in the following examples to reach this primary objective:

Increase the percentage of employees using transit to 28% by the end of the first year as measured by a pre-program/post employee survey.

Increase the percentage of employees in carpools from 12% of the workforce to 44% by end of the first year.

In all likelihood, the objectives will include a mix of strategies to achieve the desired end result based on employee needs and desires.

Select Bases for Measurement

There are currently several metrics that are commonly used for measuring the success of TDM strategies which include: Average Passenger Occupancy, Number of Vehicle Trips, Mode Split, Vehicle Miles of Travel, and Level of Service. Changes in these measures over time will provide indicators of a TMP's effectiveness. The advantages and disadvantages of each are discussed below. Three measures of effectiveness more widely used by regulating agencies are: the number of vehicle trips during the peak periods of the daily total, the level of service along adjacent roadways, and the average vehicle occupancy.

Average Vehicle Occupancy

Average Vehicle Occupancy (AVO) represents the ratio of employees to vehicles. Typical numbers can range from 1.05 to 1.50 persons per vehicle. Average Vehicle Occupancy (also referred to as Average Passenger Occupancy or Average Vehicle Ridership) is calculated as follows:

$$AVO = \frac{\text{\# of employees reporting to the worksite}}{\text{\# of vehicles in which employees report}}$$

AVO is increased by reducing the number of vehicles. Vehicles that count as "zero" include vanpools with seating for nine or more, buses, and bicycles. Employees who work from home all day or who work compressed work weeks have zero vehicles on days they do not report to the worksite. Vehicles left at transit terminals, park & ride lots, etc. more than two miles from the worksite are not counted. Carpools are counted as a fraction of a vehicle (i.e., 1/4 vehicle per person for a four-person carpool).

The inverse of AVO is the Vehicle per Employee Ratio (VER).

EXAMPLE: (assumes 200 employees)	Persons	Vehicles
Drive Alone	150	150
2 person carpool	24	12
3 person carpool	6	2
4 person carpool	0	0
Vanpool	2	0
Bus	10	0
Commuter Rail	4	0
Bike	2	0
Walk	2	0
	—	—
	200	164

In this example, the AVO equals 1.22 and the VER = 0.82.

This measure of effectiveness can be assessed through cordon counts or surveys. Cordon counts should allow for employees who walk, bike, park off-site, or ride transit.

The advantages of using AVO as a basis for measurement include:

- Reflects the number of vehicles per 100 employees and can be used to estimate impact of part-time ridesharers.
- Easy to understand by transportation community.

The disadvantages of using AVO as the measure of effectiveness include:

- Not easily understood by the public and non-transportation management personnel. Seemingly small increases (e.g., 25% increases in APO from 1.10 to 1.37) could require significant changes in behavior.
- Difficult to measure through multi-tenant site cordon counts as changes in usage may be the result of normal daily traffic fluctuations, weather, observer error, an unusually high number of visitors, or other employers.

A deviation of this measure (useful to assess your carpool program) will be calculated as:

$$AVO = \frac{\text{\# of employees traveling by/in private vehicles.}}{\text{\# of private vehicles in which employees travel}}$$

Vehicle Trip Reduction

Vehicle Trip (VT) reduction measures the number of trips rather than the number of persons per trip or miles reduced. VT reduction could be measured as a daily total, peak period or peak hour reduction depending on goals and objectives.

This measure of effectiveness can be assessed through surveys or vehicle counts.

An advantage of using VT is the close relation with most of the desired objectives (e.g., reduce vehicles on the road).

The disadvantages of using VT as the measure of effectiveness include:

- Increases of VT could be experienced if the vehicle left at home is used by other family members in the peak period though VMT may be reduced.
- Increases in VT can occur if the vehicle is driven to a site, such as a park and ride lot. Since much of the pollution occurs with the cold start condition, pollution may not be reduced at the same rate.
- It may account for part-time trip reductions (such as those produced by compressed work schedule or telecommuting).

Mode Split

Mode split is the percentage of people using each mode (i.e. transit, bicycling, walking, etc.) of travel. By analyzing the current travel modes and commuting characteristics of those using each mode, the appropriate target group of employees can be identified. The following is an example of a mode split table:

Drive Alone	75%
2 person carpool	12%
3 person carpool	3%
4 person carpool	0%
Vanpool	1%
Bus	5%
Commuter Rail	2%
Bike	1%
Walk	1%
	100%

Even if other measures of effectiveness are required; it would be useful to collect this information to assist you in selecting your TDM strategies. This measure of effectiveness can be assessed by drawing an imaginary line around the site (i.e., “cordon”) and counting in the field the traffic by type that crosses the cordon. Cordon counts should allow for employees who walk, bike, park offsite, or ride transit. Employee surveys can also be used to collect the information.

The advantages of determining mode split include:

- Reflects actual behavior, not simply commute trip lengths.
- Easy to understand by public and others.
- The disadvantages of using mode split as the measure of effectiveness include:
 - Benefits such as reduction in air pollutants, traffic congestion and parking needs are not readily quantifiable from mode split.
 - Changes in mode share in High Occupancy Vehicle (HOV) modes such as carpooling may come from other HOV modes (bus to carpool) that effectively may increase the number of trips.
 - Changes in mode split also may be due to a relocation of home or work location where transit service is different from the previous location.
 - Neglects the part-time use of other modes.

Vehicle Miles of Travel

Vehicle Miles of Travel (VMT) is a measure of the number of trips multiplied by the distance of those trips. For instance, five single occupant vehicles traveling 20 miles to work each day would equal 100 vehicle miles of travel. If two of those five people formed a carpool, VMT would decrease to 80.

This measure of effectiveness can be assessed through surveys.

The advantage of using VMT is that it relates closely with most of the desired objectives (e.g., to reduce traffic and air pollution).

The disadvantages of using VMT as the measure of effectiveness include:

- Benefits, such as the reduction in air pollutants, traffic congestion, and parking needs, are related to commute characteristics of workforce. One long distance commuter that reduces their VMT by 40 miles per day is equivalent to four employees reducing their VMT by 10 miles per day each. However, given the fact that much of pollution is related to the initial starting of an engine (i.e., “cold start”), the removing of four cold starts versus one is significantly better.
- VMT tends to yield better benefits for programs in remote sites that are best served by carpools and vanpools. Therefore, similar organizations in different settings could have significantly different VMT benefits for similar mode splits.

Level of Service

Level of Service (LOS) is a standard measure of traffic flow through average travel delay. LOS designations are determined for intersections and specific road segments. These intersections and roadway segments are usually selected based on: their proximity to the site, traffic access patterns and whether they are currently perceived as problem locations. A description of each LOS designation is provided in Appendix 2.

This measure of effectiveness requires computation of data collected during a traffic survey and counts at the specific location.

The advantages of using LOS includes:

- Relates closely with most of the desired objectives (improved traffic flow, expanded passenger capacity of roadways).
- This measurement is frequently used by area transportation and planning professionals.

The disadvantages of using LOS as the measure of effectiveness include:

- LOS is more applicable to broad, region-wide or corridor TMP programs because of the wide range of variables and environmental conditions affecting the LOS.
- Imprecise measurements of average travel speed, etc., can result in mislabeling LOS for a particular road segment or intersection.
- It is extremely difficult to discriminate between commuter and non-commuter traffic impacts.
- Requires some technical background to perform the computations.

Evaluate the Work Setting

Before a federal agency can select the TMP strategies that will be most effective, it must understand the existing situation. This includes analyzing the work site’s infrastructure and services, current levels of usage, and current management policies.

Conduct Work Site Analysis

This component provides a description of the work site’s transportation-related infrastructure, services, and amenities. The analysis should include:

The number, price, location, and assignment of parking by type;

- Identification and evaluation of existing mass transit services to the area;
- Transportation programs of nearby worksites;
- Bicycle and pedestrian facilities;
- Highway access (including HOV/HOT lanes);
- Traffic conditions in the nearby area (e.g., congested intersections);
- Approved improvements for transportation facilities.
- Availability of on-site nearby services; (e.g., restaurants, child care, banks, supermarkets, laundry services, etc.)

Identify Existing Transportation Programs

This section should describe the Federal agency's existing programs and policies for reducing travel by single-occupant vehicle. It would include the name of the ETC, current level of resources, services offered, alternative work hours policy, transit subsidy program and its participation level, parking assignment and pricing policies. MWCOG and other sources may be able to provide the agency with information about the existing levels of participation in the various TMP services offered in an area.

Evaluate Employee Behavior

As one of the initial steps, it is important to collect information on current commuting behavior, percentages of employees using each mode of travel, the number of vehicles being used to transport employees to the site, arrival and departure times, and employee perceptions and attitudes about their decision to use or not use a particular commute mode. There are four methods of collecting data about employee behavior: surveys, vehicle counts, focus groups, and internal personnel records. The method selected will depend on the program objectives and budget. Each of these methods is described below.

Surveys

Purpose of surveys:

- 1 Determine current travel behavior (mode split, average vehicle ridership, vehicles per employee).
- 2 Identify clusters of common employee intents (similar residential location and similar hours).
- 3 Find out employees' awareness of commute alternatives.
- 4 Discover attitudes about commuting; interest in ridesharing (why people do not currently rideshare).
- 5 Determine which incentives or disincentives would cause drive-alone commuters to change their mode of travel.

Tips on surveying:

- 1 Focus very precisely. Every item should directly address one specific issue or topic.
- 2 Keep each item brief. The longer the question, the greater the burden on the respondent, which leads to more error and bias.

- 3 Strive for clarity.
- 4 Use common words.
- 5 Use simple sentences. Two simple sentences are better than one compound sentence.
- 6 Avoid specific sources of bias. Do not ask leading questions.
- 7 Use structured questions.
- 8 Classify multiple-choice answers carefully by ensuring that the list of answers is all inclusive, mutually exclusive, and there is more variance in the meaning between categories than within them.
- 9 Choose appropriate categories.
- 10 Use scaling effectively to position the answer within some category or along some spectrum.
- 11 Select appropriate sample size.
- 12 Place sensitive questions at the end.
- 13 Supply complete information.
- 14 Make questions applicable to all respondents.
- 15 Ask additional questions if one will not result in complete information.
- 16 Test the survey on objective volunteers.
- 17 Try to repeat the same questions over time for comparison.
- 18 For a conservative approach, treat each non-respondent as a drive-alone for existing and future conditions.
- 19 Do not disregard the probability of conducting a two-part survey instead of one long survey.

Types of survey questions:

- 1 Open-ended or unstructured questions. Only the question is expressed and not alternative answers are listed for the respondent.
- 2 Multiple choice or structured questions. Ask a question and list the alternative answers for the respondent to choose.

Vehicle Counts

Purposes of vehicle counts:

- 1 Determine current travel demand (average daily traffic, peak hour/period traffic, level of service).
- 2 Identify traffic congestion "hot spots".
- 3 Determine baseline conditions from which to measure success in reducing trips including time of day.

Tips on vehicles counts:

- 1 Count vehicles entering and exiting all driveways to the site simultaneously.
- 2 Count during peak periods, from 6:30 to 9:30 AM and from 3:30 to 6:30 PM.
- 3 Autumn is the optimal time of year to conduct a count.
- 4 Count on Tuesdays, Wednesdays, or Thursdays, not around holidays; avoid counting between Thanksgiving through New Year's Day, between Memorial Day through Labor Day, around the Spring Break/Easter season, and during the Jewish High Holy Day season.
- 5 Count vehicle trips only (not person trips).
- 6 Count all traffic entering and exiting the facility.
- 7 Qualified transportation consultants should be contracted to do vehicle counts and/or to collect other data as needed.

Focus Groups

A focus group is a small group of persons (8 to 12) that is selected to represent a cross-section of a large group and assembled to discuss a particular problem, issue, or idea. While surveys focus more on determining quantitative measures of employee behavior, focus groups can better reveal qualitative factors in employee commuting decisions.

Focus groups are developed as a survey technique by companies testing new products before they are released to the market place. Be aware that you can expect to get a slightly higher approval/participation rate from the focus group testing than you will when the idea is actually implemented. The focus group is excellent for testing out new ideas (i.e. get employees reaction), such as a new shuttle bus program or guaranteed ride home program.

Focus group interviews are used as a way of facilitating an understanding of employee needs and feelings towards the commute to work and alternatives to the single occupant vehicle. Focus groups can reinforce the importance of talking with employees in a one-on-one or small group manner to aid project design. As a direct outcome of these sessions, the commute alternatives can be better delineated, the reasonableness of the values of each alternative's attributes confirmed, and the clarity of the survey instruments improved.

The purposes of the focus group sessions could include:

- 1 Identify employee perceptions of the future commute.
- 2 Identify important factors determining mode choice and mode captivity, describe ideal systems, and note tradeoffs.
- 3 Identify groups within target population with access to similar transportation resources.
- 4 Evaluate performance of components of current transportation systems and identify problems currently faced by employees.
- 5 Identify the range of policies the federal agency should consider implementing.
- 6 Test survey instruments or promotional ideas for clarity, length, and reasonableness.

Tips on focus groups:

- 1 Determine needed level of sophistication.
- 2 Make participants feel comfortable so you can get their true opinion (e.g., there are not right or wrong answers, their answers will not affect their jobs, do not lead them to an answer, etc.)
- 3 Prepare a Focus Group Plan.
- 4 Do not generalize based on focus group findings.
- 5 Make participants aware that the meeting is for planning purposes and some of the ideas may not be implemented, (i.e., do not create false expectations).

Internal Personnel Records

Personnel records offer an opportunity to roughly estimate the potential for various types of TDM strategies. Depending on the number of employees, home addresses or home zip codes could be plotted on a map and referenced. By clustering similar groups of employees by home location or route to work corridor, the potential demand for services, such as the extension of transit service or a new vanpool, can be assessed.

Access to position titles or grade levels could examine the need for different levels of service and marketing strategies.

Other Sources

Other possible secondary sources of data to evaluate trends and effectiveness of particular measures include the following:

- Management interviews.
- Data collected for other purposes (parking permits).
- Metropolitan Washington Council of Governments (MWCOG).
- Trade associations such as the Association for Commuter Transportation, American Public Transit Association, and Institute of Transportation Engineers (ITE).
- Local planning agencies.
- Local transit and ridesharing agencies.
- Transportation Management Associations.
- Washington Metropolitan Area Transit Authority (WMATA).

4.2 Selecting the TMP Strategies

Step 1: Identify Baseline Traffic Conditions

Division by Modes

Arrival time vs. # of trips
Departure time vs. # of trips
Calculate AVR day and AVR peak

Miles of Travel

Miles vs. # of trips
Total miles
Average miles per trip
Mean

Time of Travel

Minutes vs. # of trips
Total time
Average time per trip
Mean

Number of Parking Spaces

Parking Fees

Levels of Parking Usage; Supply vs. Demand

Calculate (if applicable) LOS of Adjacent Roadways

AVR – Average Vehicle Ridership (AVR)
AVO – Average Vehicle Occupancy (AVO)

Deviations -to include telecommuting
to include compressed work week
to focus improvements during peak hour

Step 2: Define Your Modal “Bias”

1 Transit Favorable

Means that most non-SOV employees arrive by transit.

2 Rideshare Favorable

Means that most non-SOV employees arrive by rideshare.

3 Neutral

Transit and rideshare use are more evenly split.

Step 3: Set TDM Goal

- **Set by Regulation**
- **Target to Satisfy an Internal Goal**
- **Converted to Simple Measures**

Step 4: Develop Modal Shift Reduction Factors

(11 factors of importance)

Least Important	More Important	Most Important
Employer Size	Legal Requirement	Support of Carpooling
Location Density	Support of Transit	Financial Incentives
General Marketing and Support	Support of Vanpooling	Restricted Parking
Alternative Work Arrangements		Parking Charges

Step 5: Develop Different Alternatives

Step 6: Compare Different TDM Strategies

Step 7: Select the TMP

4.3 Implementation Tasks

The Federal agency should have analyzed the work site, identified existing transportation programs, set goals and objectives, evaluated employee needs and concerns, and selected TMP strategies prior to proceeding with implementation. The next step of the process brings these items together in the form of an implementation plan. This section of the Handbook provides an overview of the implementation process and lists many of the tasks that could be considered for inclusion. The ETC is encouraged to contact GSA, Commuter Connections/MWCOG, or NCPC for assistance in implementing some of these tasks.

The sample work statements (provided in the appendix) can be selected as appropriate or edited by the Federal agency to direct the level of effort in preparing, implementing and monitoring a TMP. The listed statements are not inclusive of all possible applications, and the Federal agency may need to supplement this section as needed. Conversely, some sample work statements may not be appropriate for some projects, particularly if information is readily available from secondary sources.

The following provides an outline of the components for inclusion in the implementation plan. A brief summary of each service or product to be offered should be prepared. The plan summary should include:

- Task Description/Objective
- Identification of transportation mode(s) impacted by task
- Description of current and forecasted levels of participation
- Marketing Plan
- Performance measure and monitoring procedures
- Budget
- Timetable
- Responsibilities and staff time allocations

Beginning the Implementation

The following tasks are suggested as initial steps in implementing a TMP:

- Designate the agency's Employee Transportation Coordinator and obtain on-going training for them.
- Determine time and resources available for TMP preparation. Assess the need for outside expertise.
- Contact GSA regarding support for the ETC and preparation of the TMP.
- Contact MWCOG for information about available resources at the regional and local levels.
- Contact NCPC regarding TMP requirements for the agency's planning efforts.
- Contact the locality's Planning Department regarding TMP requirements at the local level.
- From management interviews, determine current policies and programs regarding parking, alternative work hours, and transit subsidies.
- From agency interviews, determine existing and projected parking needs and the official parking requirements. Develop a table that shows the number of spaces needed by type (handicapped, visitor, carpool/vanpool, etc.) and square footage, and the annualized cost per space to build and maintain.
- From zoning/code documents, determine the minimum and maximum amount of site parking space required or permitted.
- List all applicable agencies that provide transit, vanpooling, ridesharing, and other types of transportation services for employees as a resource. Through interviews with those agencies, verify the services provided, level of service (e.g., frequency and distance from transit stop to site), and costs.
- Identify the facilities available to support walking and/or biking to the work site (number of racks, bike lockers, clothes lockers, showers, lighting, and paths).
- Identify the type and quality of roadway, bicycle, and walking access to the worksite, including location of nearest freeways, operating conditions, and proximity to high occupancy vehicle facilities.
- Identify factors that make alternatives to driving alone particularly convenient and attractive (e.g., high occupancy vehicle lanes, tight parking supply, expensive parking)

- Identify the locations of the following local community amenities: cafeterias, restaurants, banks, ATM machines, day care facilities, post office and dry cleaners.
- Formulate program goals.
- Develop and administer the employee survey. The survey results should be compared to previous period results if available, in order to identify any trends or changes in the use of modes. From the survey, the following relevant factors should be identified which could influence existing employer commute patterns:
 - + How employees choose to commute by mode (drive alone, 2-person carpool, 3-person carpool, 4+ person carpool, vanpool, transit, commuter rail, walk, bike, telecommute) and how frequently they use each mode to commute each week;
 - + Where employees live;
 - + Employee frequency distribution by travel time and distance. Produce a histogram of each and calculate descriptive statistics;
 - + Interest and acceptability of various alternatives through surveys or focus groups;
 - + Arrival and departure time in 15 or 30 minute increments;
 - + Occupations of employees;
 - + Car availability to individuals (i.e., cars per household, and workers with drivers licenses per household);
 - + Employees' predisposition towards each of the modes;
 - + Advantages, disadvantages, and willingness to try each of the modes; and
 - + The potential for each mode as compared to the existing mode share.
- Determine the proportion of employees who are qualified to use each of the various alternatives (i.e., market potential) under current and proposed conditions.
- Determine the duration of use for each method of commuting (e.g., how long have they been a member of a carpool?)
- Identify the benefits, challenges, and features of options that compete with the agency's programs.
- Catalog the operating and regulatory constraints faced by those competitive options.
- Perform necessary field measurements of traffic levels.

- Calculate current effectiveness measures (e.g., mode split, APO, etc.).
- Establish program objectives.

Selection of TMP Strategies

The following tasks are involved in selecting the appropriate TDM strategies as commuting alternative components of the TMP:

- Prioritize the needs and challenges facing the agency.
- Summarize current strategies including the program, pricing level, promotional effort, and methods of reaching or providing the program to employees.
- Adopt general guidelines for selecting TDM strategies. For example: "Maximize participation in the programs to reduce cost per employee served and cost per employee placed into a commute alternative other than driving alone."
- Propose new strategies or changes to existing strategies.
- Determine whether the TDM strategies under consideration directly contribute to fulfilling the agency's TMP objectives.
- Determine whether selected TDM strategies match the needs of the target employee group.
- Estimate the costs of each TDM strategy selected.
- Evaluate the marketing effort necessary for each strategy and seek ways to improve acceptance or expand the strategy to new groups of employees.
- Determine internal and external channels of providing commuting information to employees on a periodic or continuous basis.
- Develop the program to incorporate commuter information dissemination as part of the new employee orientation program. Consider using the program as a marketing tool to attract potential candidates.
- Create a branding image for the program among employees that is preeminent, distinctive, and employee-oriented. It is advisable to include a program logo and slogan on all marketing materials.

Implementing Selected Strategies

Activities used to implement and market these strategies should be determined based on the strategies selected. A work plan including responsibilities, timeline, and budget should be developed as a guide for implementing the TMP. The following tasks are suggested as steps in this implementation process, depending on the specific strategies chosen:

Personalized Assistance and Ridematching

- Offer “Meet Your Match Parties” - Small gatherings are usually arranged by the ETC to bring together and introduce people from the same neighborhood or zip code. These meetings are informal and can be scheduled during breaks or as a “brown bag” lunch.
- Meet all the new employees and introduce them to the ridesharing program. New employees are usually more receptive to changing their mode of transportation.
- Introduce potential carpoolers to each other.
- Schedule presentations for different departments. Let the employees know who the ETC is and how the ETC can help them.
- Refer potential ridesharers to existing carpools. Track the existing carpools so that in case a carpool or vanpool needs a rider, the ETC can refer a potential carpooler.
- Be available. Let the employees know that the ETC is available to assist them and that they have an “open door” policy.

Vanpooling

- Decide on the vanpooling arrangement that will suit the needs of the federal agency.
- Identify potential vanpoolers based on a plot of employee residences (i.e., density map), an employee survey, or review of employee records.
- Develop employee interest by announcing potential routes.
- Determine potential demand by meeting with identified potential candidates. Combine with “Meet Your Match” parties/gatherings.
- Identify possible drivers among the potential vanpoolers.
- Arrange a gathering for potential vanpoolers if there is enough interest.

- Describe the program components such as cost, insurance, maintenance, etc.
- Select drivers and back-ups.
- Conduct a driving record check on the drivers and the back-ups. Obtain a medical certificate from them.
- Discuss and establish procedures for collecting fares for the first month.
- Order vans and set up a van delivery date in accordance with agency vehicle pool policies. Make arrangements for the bus by working with any of the following: a commuter company, an independent operator, or a charter company.
- Make sure the ETC keeps the vanpoolers interested if there is a delay period.
- Provide on-going assistance once the program is operational and track the ridership.

Transit

- Evaluate the potential for transit usage by assessing access and system availability between employee homes and the work site. Valuable questions include: What is the distance from the transit station to the worksite? Is the scheduling of service compatible with the federal agency needs? Are the areas where the employees live easily served by transit?
- Negotiate with local or regional operators for changes in routes or stops to improve service.
- Provide shuttles to and from transit stops/stations if needed.
- Provide transit information on routes, schedules, fares, both in hardcopy form and on the agency website. Try to customize this to the worksite by setting up a map showing appropriate routes and schedules.
- Provide SmartBenefits to all employees or set up a Commuter Center to sell transit and vanpool fare media.
- Assist in initial trip planning by identifying routes and schedules for employees.
- Promote the transit program by distributing marketing materials and by featuring articles on transit riders in the employee newspaper or other federal agency publications.
- Address employee safety concerns by improved patrols (especially in winter months), enhanced lighting and “buddy system” for transit riders who must walk any significant distance to a transit stop.

Bicycling/Walking

- Provide maps identifying bike routes and walking paths both in hardcopy form and on the agency website.
- Provide bicycle parking that will protect the bikes from the weather and from theft and vandalism. Bike racks, enclosed bicycle lockers, and provision of indoor parking are all popular options.
- Showers and lockers are a necessity for most bicyclists and some of the walkers. If you can not offer such facilities, you may choose to make arrangements with a local health club or with a nearby building.
- Offer your bicyclists and walkers an incentive for not driving to work. If you subsidize carpoolers and vanpoolers, you may choose to also give those who walk/bike a travel allowance.
- Make literature on bicycling safety available.

Subsidies

- Determine the feasibility of charging for parking and/or offering subsidies. Conduct a small survey by calling at least 5-10 other nearby employers and asking them about their parking operations.
- Charge market value for those who opt to drive alone.
- Select appropriate subsidy level (e.g., 25% for 2 person carpool, 50% for 3 person carpool, 100% for 4+ carpools and vans).

Travel Allowances

- Decide on the appropriate amount for a travel allowance. (This may already be determined through an existing agency or Federal government policy.)
- Obtain management support for the program. If the Federal agency currently pays for employee parking, the ETC may be able to demonstrate some cost savings.
- Introduce the program to employees.
- Ask employees who wish to participate to fill out a form on a monthly basis that identifies how they wish to spend their allowance. If employees opt for driving alone and reserving a parking space, the agency may purchase parking passes to maintain the employee tax benefit. If the employee gets cash, it is taxable. For transit passes or vouchers, the amount of the pass or voucher is taxed, unless it is subsidized for \$115.00 or less.

Parking Management

- Form an internal committee to evaluate existing parking conditions, to research and inventory parking in the surrounding area, and to develop an appropriate strategy.
- Develop scenarios based on different pricing strategies (if using pricing or travel allowance).
- Make a presentation to management on the different strategies.
- Check labor union agreement (if necessary).
- Introduce the strategy to the employees, while allowing them to offer feedback.
- Implement the strategy by making subsidies/travel allowance available or by adding appropriate signs for preferential parking. For preferential parking, one needs to identify conditions under which employees can participate. This includes: carpool size, how the spaces will be marked, and how the system will be enforced.

Guaranteed Ride Home

- Define program objectives and target market.
- Estimate the number of trips to and from the worksite over a period of time. The federal agency should survey the employees to develop some baseline estimates. Typically, 1% to 20% of eligible employees use GRH resources each year.
- Identify the transportation options that the federal agency will offer in the GRH program.
- Present the program to management to gain their support.
- Establish criteria for eligibility. This includes who may use the program and how often.
- Develop a budget based on the number of anticipated trips, administrative and marketing costs.
- Select vendors for the options that the agency intends to offer.
- Determine fees; GRH service should be free or offered at a nominal cost.
- Write the policies and procedures for the program.
- Determine marketing strategies (e.g., branding, website design, brochures, articles, flyers, etc).
- Tie-in MWCOG's Commuter Connections GRH program if possible.

Commuter Center

- Identify location, office space, and functional requirements for the Center.
- Identify staffing and contracting requirements, and start-up costs.
- Identify available services and any additional service needs for the site; the Center could provide information and sell fare media for local and regional transit agencies.
- Estimate agency demand for farecards, SmarTrip cards, tickets and tokens. Include estimate for number of senior and disabled users.
- Establish approved payment forms and related internal controls (cash, check or credit card on site, or by telephone or mail with check or credit card).
- Develop vendor consignment agreements with service providers.
- Assess need to collect a nominal transaction fee on some items to help cover costs.
- Connect the Commuter Center with the regional ridesharing program, Virginia Railway Express, MARC, Metrorail/Metrobus, and other potential transportation services and amenities for employees.
- Utilize MWCOC resources and displays if possible.

Variable Work Hours

- Determine employee interest by surveying employees or meeting with representatives from different departments.
- Select the appropriate program that has the most realistic chance of success within the Federal agency.
- Solicit management support for the program of choice.
- Appoint a project coordinator. This can be the ETC.
- Involve labor unions and legal counsel in the design of the program. Labor union response to these programs varies. Additionally, legal counsel needs to review labor laws that affect the worksite.
- Develop formal policies for the program through a proposal that describes the rules. Rules are necessary for all logistical issues such as: banking of hours, work day start and end period, core hours, core days, coverage, supervision, etc. Involve federal agency accountants in the policy definition. This will help the processing of payroll, holiday pay, vacation, overtime, etc.

- Review the operational needs of the agency's work units. This includes phone operations, inter-office mail, computer support, etc.
- Identify eligible employees. Some employees may be excluded because they perform vital functions that require their presence during regular business hours.
- Hold informational sessions for supervisors and employees to explain the policies and procedures.
- Address individual concerns and hardships for those who may not be able to participate.
- Start the program by posting employee schedules and by setting a kick-off date.

Telecommuting

- Gather support from key members of upper and middle management. Look for easy successes, and initially persuade managers who are most favorable towards alternative work arrangements.
- Select a telecommuting "champion." The ETC needs to identify someone within the federal agency who will coordinate the various components of the telecommuting program and who would serve as a good spokesperson for telecommuting.
- Form a steering committee from the main departments to be involved in the pilot program. This may include human resources, accounting, representatives from participating departments, information systems, legal counsel, etc. The steering committee is usually chaired by the telecommuting champion or coordinator.
- Develop policies regarding the objectives of the program, frequency of telecommuting, workman's compensation, resources, technology, selection criteria, scheduling, etc., with help from the steering committee.
- Hold sessions to inform the potential participants and their supervisors about the basics of the program, the policies, the selection criteria, and explain why the federal agency is experimenting with the concept of telecommuting.
- Select telecommuters either by surveying the potential telecommuters and telemanagers, or by letting employees participate who have their supervisor's approval and who are willing to work at home.
- Develop a training program to provide telecommuters and telemanagers with guidelines for completing and supervising remote work.

- Evaluate the program at interim periods to document benefits and issues. Conduct focus groups with the telecommuters and the telemanagers to troubleshoot.
- Provide information regarding telework sites.
- If the program is successful, develop plans for expansion to other departments.
- Use the program as part of the agency's COOP plan for business continuity in the event of a natural or man-made disaster

Marketing Strategies

After determining appropriate TMP strategies for the federal agency, an effective ETC will analyze the information collected to determine where efforts to modify employee commute patterns are most likely to be successful. A strategic marketing and branding approach is required to maximize the effectiveness of the program by providing services, pricing levels, promotional strategies at the right time and place to targeted segments of the workforce.

The American Marketing Association defines the process of strategic marketing as “The planning process that yields decisions in how a business unit can best compete in the markets it elects to serve. Strategic market decisions are based on assessments of product market and pertain to the basis for advantage in the market. The plan that is the output of the process serves as a blueprint for the development of the skills and resources of a business unit and specifies the results to be expected. In many companies these are called strategic business plans..” To grow or to adapt to changes in the marketplace, an organization can offer new services and/or enter new markets. Marketing strategies must reflect the federal agency's overall strategic direction.

Depending on attitudes or current commuting conditions, or both, some employees are predisposed to try ridesharing, while others may be more resistant to change. By knowing which employees to target, the ETC can focus their efforts in places that are more likely generate the desired results.

The target population may be viewed in two ways when preparing to market alternative commute modes. The first way concerns employee attitudes such as the willingness to rideshare. The second way concerns characteristics that shape the individual commute of each employee. These include parameters such as travel distance between home and work, work schedules, and

proximity of other nearby employees which taken together, may qualify prospective candidates for one form of ridesharing or another.

Commuter Decision-Making Process

Attitudes determine whether those who qualify to rideshare may be willing to actually participate in the program or not. When preparing to undertake the campaigning process, one must not only consider the commute characteristics that qualify individual employees for particular alternate modes and their attitudes about ridesharing, but also how these two aspects interrelate. It is equally important to understand the five-step dynamic nature of the employee's decision-making process and how the TMP needs to address each of the steps:

Awareness: Although employees may be aware of the agency's various commuter programs and services, they still may not possess detailed knowledge regarding their specific benefits and costs. These employees can be labeled as Inform Me. To move to the next step, these employees will require personalized information pertinent to their own specific needs.

Interest: Employees are provided with more information about the TMP's services and discover that it may meet their needs. To move to the next step of inquiry requires a means for facilitating an action by these employees. These employees are asking to Encourage Me. They are employees with a strong interest in ridesharing or other commute alternatives, but who need encouragement to actually change their commute behavior.

Inquiry: At this point, employees are actively seeking additional information and/or assistance. The ETC must be prepared to respond to questions about specific features and real and perceived impediments among these Convince Me employees.

Trial Use: The decision to try an alternative on a part-time or trial basis can allow employees to try new commuting options without committing to a long-term change in behavior. These employees are placing the option On Trial. Positive experiences can lead to the final step - regular use.

Regular Use of Mode: Employees are convinced that the program or service meets their needs. They may require ongoing attention however, to be sure that they

do not revert to their old habits. These individuals can serve as valuable testimonials for convincing co-workers to modify their travel behavior as well. These commuters are the program’s Champions. They perceive it to be in their self-interest.

Components of a Marketing Plan

To implement the various selected TDM strategies, the ETC must determine how to utilize one or more of the marketing components of Product, Price, Promotion, and Place. This is a brief overview of marketing. The ETC is encouraged to obtain additional information on the subject and seek specialized training in TMP marketing from MWCOG, GSA, internal agency Office of Public Affairs (OPA), and others. Several examples are provided simply to illustrate the various components of the marketing strategy.

PRODUCT

A federal agency’s TMP includes information on the various features of the different potential commute modes and usable transportation facilities, as well as the services provided. The ETC has several options to affect changes to the product including making improvements, opening new markets, backing away from other markets, or eliminating the product altogether.

Changes to the product include the following:

- Quality* Improvements in the quality of the information could include maintaining the accuracy of the ridematching database, keeping literature racks filled with the latest transit schedules, or making the information available on the agency website.
- Features* Locating providers of van conversions to add “captain chairs” in a vanpool could be an example of changing the product’s feature.
- Packaging* Matchlists could include “Helpful Hints for Forming Carpools” or “Sample Vanpool Driver/Rider Agreements”
- Support Services* Special arrangements for van repair and maintenance services could be made so that repairs could be done on site.

PRICE

Pricing decisions, like subsidizing a program, cross-

subsidizing one program from another, or changing market price, are an integral part of the TMP’s strategy. Pricing is readily adaptable and generally clear to employees.

Pricing strategies could come in several forms:

- Subsidies* SmartBenefits could be offered to employees
- Discounts* A Commuter Club could be formed using nearby merchants who provide extra discounts to ridesharers.
- Payment Period* Bi-weekly payments might be arranged to cover vanpool expenses.
- Payroll Deduction* SmartBenefits could be purchased either using agency-appropriated funds or on a pre-tax basis or through payroll deduction and delivered on a set schedule.

PROMOTION

The promotion or communication strategy is aimed at providing the right message through the right channels to influence employees to take one of the steps in the five-step decision process discussed above.

Promotional strategies include:

- Advertising* The agency website, posters, cafeteria table top displays, and rewards provided in exchange for taking some action such as completing a survey or visiting the Commuter Center are examples of advertising tools that could be used. Extolling the benefits to employees in terms of cost savings, etc., are the most effective. Check to see if there are limitations on size and frequency of materials for display. Examine the potential of jointly developing materials with another agency. Leave room for the ETC name and number for more information.
- Personal Selling* Carpool formation meetings are effective in addressing specific concerns and bridging the anxiety factor of people facing changes.
- Promotions* Transportation fairs and vanpool demonstrations in conjunction with

special events such as National Transportation Week (in May), Washington, DC area Bike to Work Day, Earth Day, Blood Drives, etc. can increase visibility of the program and the ETC. Public agencies often will lend a hand in planning the event.

Publicity

Internal newsletters highlighting people who ride the bus or carpool can foster word-of-mouth advertising (one of the leading sources of referrals for TMP's). An attractive webpage with multiple links to various service providers and relevant information is currently one of the best ways to publicize the different programs.

PLACE

“Being at the right place at the right time” is the fourth component of the marketing strategy.

Place considerations include:

Location

A central, highly visible location for the ETC will foster increased foot traffic, questions, and ultimately sales. A successful operation would have a “store” appearance to foster face-to-face assistance. Acceptance of payment in the form of checks and credit cards will supplement cash and debit card machines. Also, a highly visible location on the agency website will also make it more convenient for employees to use the available on-line services and locate pertinent information.

Inventory

Maintaining adequate consignments of transit passes, tokens, and farecards, as well as schedules, will facilitate increased use.

Coverage

Peak demand for services generally falls in three areas: early morning (before work begins), midday, and late afternoon. Scheduling meetings and breaks around these periods can maintain adequate coverage.

Retaining Commuters through Complaint Handling

Marketing TMP services differs from selling products, such as new cars, in the following ways:

- The end result is intangible - the commuter often cannot easily touch and feel the end result of their decision.
- The commute trip is inseparable from the provider; in other words, transit options are limited to the transit services available in the Washington metropolitan area.
- Lost opportunities are not recoverable:
 - + Studies have shown that a typical business hears from 25-30% of its dissatisfied customers. 40-60% of customers who did take the time to complain about their service experience reported being dissatisfied with the outcome of their complaint. 69-80% of customers who reported being completely satisfied with the outcome of their complaint planned to re-purchase the service.
 - + Studies have also shown that a typical dissatisfied customer will tell eight to ten people about the problem. One in five will tell twenty. It takes twelve positive service contacts to make up for one negative incident.
 - + The average business spends six times more money to attract new customers compared to the amount spent keeping current customers. Yet customer loyalty is in most cases is worth ten times the price of single purchase.

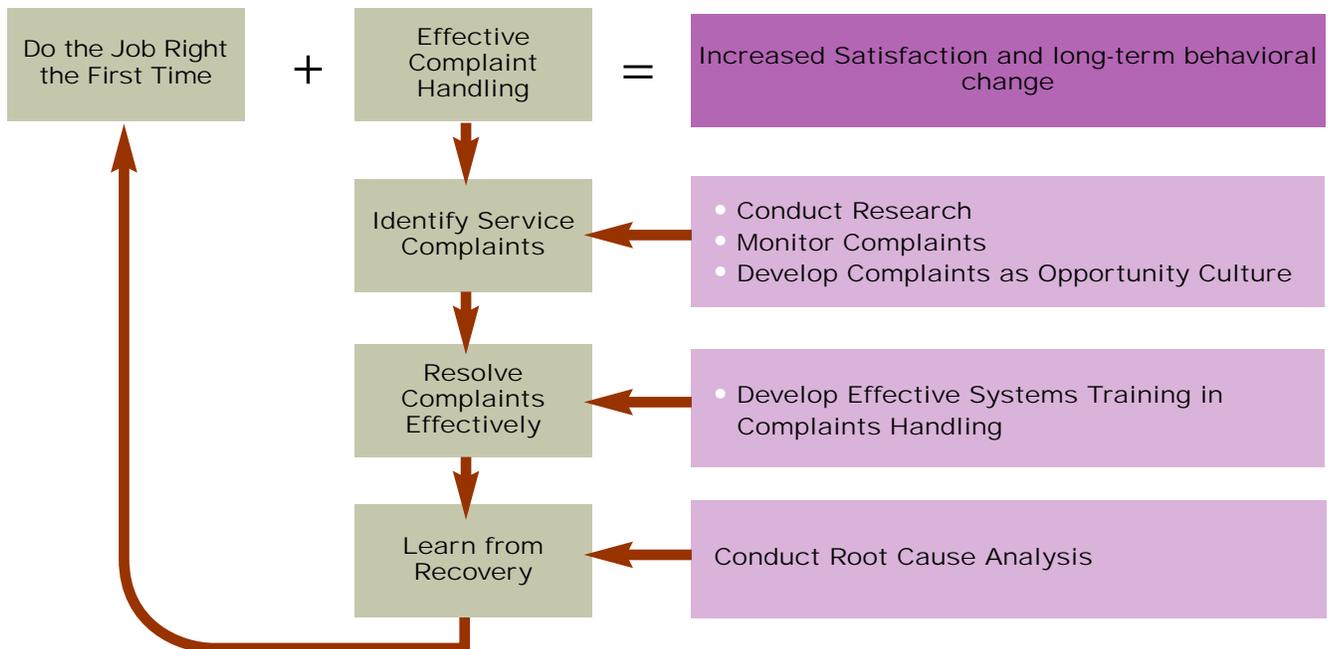
For the reasons listed above, it is essential that customers have a mechanism through which to complain so that any service failures may be corrected. Typical reasons why customers decide not to complain include the following: not worth the time and effort, no one would be concerned about the problem (or resolving it), did not know where to report complaints.

Below is a diagram of an effective complaint handling process:

It is recommended that TMP administrators maintain a service complaint log so that all service failures can be documented. A complaint log will allow administrators to see what, if any, problems are being reported repeatedly. With this knowledge, administrators are able to more easily identify the points of failure, and to more effectively find solutions to customer complaints.

Summary

The challenge is to select the most appropriate TMP services and then tailor the marketing strategy to the federal agency's situation. Under each TMP strategy, there are numerous packaging, pricing, promotion and place decisions to be made. The information collected and analyzed to this point will help the ETC implement the most appropriate strategies selected for their agency.



4.4 Monitoring & Evaluation

What Is Evaluation?

A successful evaluation methodology will use procedures that determine one or more of the following:

- The extent to which the program has achieved its stated objectives (e.g., increases in AVO).
- The extent to which the accomplishment of the objectives can be attributed to the program (direct and indirect effects).
- Degree of consistency between program implementation and the plan (relationship of planned activities to actual activities).
- The relationship of different tasks to the effectiveness of the program (productivity).

Why Evaluate?

There are many reasons for developing a monitoring system, including:

- Requires the federal agency to examine the clarity of its objectives, the ease with which the objectives are measurable, and the possibility of the goals being achieved.
- Helps determine the best way to redirect efforts when it is determined that elements of the program have or have not achieved their desired results.
- Provides staff with data to reinforce their efforts or to recommend new directions in which to move the program.
- Provides management with a tool to direct the organization's TMP into productive channels.
- Shows evidence to other agencies and the public of the diligence and sincerity of the agency.
- Supplies factual information for public relations campaigns.
- Helps other federal agencies anticipate problems in implementing similar programs and provides a measuring stick against which others may measure their success.

Methods of Evaluation

There are several different methods for collecting the data for evaluation purposes. Some of the most commonly used methods involve:

- Employee surveys.
- Program participation documentation (e.g., registrations for preferential parking, applications for subsidies).

- Vehicle counts.
- Time sheets/Activity logs.
- The evaluation method and data collection requirements will depend on the measures of effectiveness being used.

Measures of Performance

Measuring the extent to which the program has achieved its stated objectives (e.g., increases in APO) will include methods to determine:

- What was the change in Mode Split or Average Passenger Occupancy over the year?
- How many people were placed into a carpool per year or per 100 employees?
- How many new vanpools were formed?
- How many people were placed as riders into new and existing vanpools per year?
- How many customers were served?
- How many requests for assistance were filled?
- How many SmartBenefits were provided to employees? What was their sales value?
- Measuring the extent to which the accomplishment of the objectives are attributable to the program (direct and indirect effects) may require designing an evaluation along the lines of the effort used by MWCOG, as follows:
 - What is the estimated change in Vehicle Miles Traveled (VMT)?
 - What is the estimated change in Vehicle Trips?
 - How has demand for parking been affected?
 - What reduction in pollutants is estimated?
 - How much money did our employees save as a result of the program?
 - To what degree did employees try an alternate mode as a result of marketing efforts rather than through existing programs or services of the agency (e.g., employees who form a vanpool on their own)?

Some research indicates that the indirect effects of a program may equal or exceed the direct effects.

Evaluating the degree of consistency between program implementation and the plan (relationship of planned to actual activities) may determine whether for example, the number of matchlists produced were sufficient to form new carpools. Other evaluation techniques include:

- Which implementation tactics were the most effective?
- Were all planned activities carried out on-time and within budget?
- Was the number of carpool formation meetings adequate?
- Was customer response time within the pre-established performance goal (e.g., requests received by 10:00 a.m. will be filled the same day for 95% of the employees)?
- What level of staffing did it take to form and maintain a carpool?

The federal agency and taxpayers will want to see that the investment in the program is being used efficiently and effectively. Benefit/cost ratios or productivity matrices can be produced to provide this measure.

Evaluation Implementation Considerations

There are three basic methods of conducting an evaluation: by mail, phone, or e-mail. The following provides some guidance in achieving high response rates.

The key goal of any commuter survey plan should be to obtain the cooperation of the management of each division and to make them feel involved with the data collection, while retaining control of the survey administration. Inefficiencies due to communication problems, improper methods of distribution, and bad decisions will inevitably occur. The federal agency's ETC must find ways to develop constructive relationships with each division, while maintaining as much hands-on control as possible.

Survey methodologies generally seek to achieve the highest possible rate of response at a reasonable cost. Data derived from surveys with high response rates should be more accurate than data derived from low-response surveys for at least two reasons: 1) a higher response yields a larger data set, which reduces the sampling error for the data; and 2) more importantly, the chance for bias or non-coverage error to skew the survey results decreases as the response rate gets higher.

Independent of the distribution method, the ETC should give close attention to questionnaire design. A good questionnaire should be easily formatted to be distributed by mail, telephone or e-mail/internet. The "menu" below presents the basic elements of a survey. Each survey effort is unique; this list is just a guide.

Selecting the Sample

Respondents are usually selected from some kind of master list that either approximates or actually is the group under study. Typically, a systematic random sampling design is used: the master list is sorted on any of several characteristics that are assumed to be important to how respondents will answer the survey questions. Next, every Nth employee is selected for the survey. The sampling interval is determined by the ratio of total cases on the master list to the desired number of sample cases.

Sample Size

An estimate of the survey response rate can be used to determine what sample size is desired, given the number of completed responses the federal agency wants to obtain. For example, if the federal agency wants to obtain 300 completed surveys, and the Federal agency estimates a response rate of 60 percent, the Federal agency would need to start with a sample size of 500 cases.

After the records are selected, they need to be tagged with an identification number. This number allows for confidentiality (NOT anonymity) of response while also allowing the federal agency to mark off responses as completed, so that the follow-up calls are only made to non-respondents.

Pre-notification of Potential Respondents

Whatever the distribution method chosen, the ETC should take every opportunity to notify employees of the survey in advance. Survey goals should be explained, as well as the consequences of low response. The ETC should be designated as the contact for questions. This information should be circulated by newsletter or bulletin board.

Quality of Packet Materials

There are numerous books available on questionnaire design and formatting. The following points are suggested in questionnaire preparation:

- Generally, the questionnaire should have generous amounts of white space.
- The questionnaire should be as brief as possible while still allowing the federal agency to obtain the desired information. Questionnaires that are too long and/or contain repetitive questions will be met with low response rates.
- There should be no typographical or grammar errors.
- Each question should be clear and have a single purpose.
- Answer categories (if provided) should be unambiguous, exhaustive, and mutually exclusive.
- Questions should be numbered consecutively for ease of data entry; do not divide the questionnaire into numbered sections where question numbers begin at one again, for example.
- Pages should be numbered if the survey is distributed or summarized in more than one page.
- There should always be a question soliciting input, comments, etc.
- Instructions and definitions should be provided in the body of the questionnaire.
- Questionnaires should be reviewed by “fresh eyes” after every significant draft. Where budget and time allow, questionnaires should be pre-tested with actual potential respondents. They will almost always find problems that the person preparing the draft did not see.
- The packet should always have a cover letter or some sort of introduction, even if it is generic, and even if it is made to be a part of the questionnaire itself. The introduction should reinforce the importance and benefits of participation, highlight any instructions for completing the questionnaire, and explain any methodological techniques such as identification numbers for mailing control.
- Official letterhead recognizable to the respondent should be used, with a suitably impressive signature. Sometimes the best signature is that of a mid-level person, but often the highest-level signature is the best.

Degree of Personalization

Recent research shows that, given controlled follow-up attempts, the degree of personalization is the single most important predictor of response rate differences.

Generally, the highest effective level of personalization should be used. Personalization becomes ineffective or counter-productive when the information is inaccurate or the subject matter of the survey is extremely sensitive.

Degree of Follow-Up

This is very important to achieving high response rates.

To allow for effective follow-up, survey participants must be assigned identification numbers. Survey materials must be marked with this identification number to allow for tracking of response, to avoid unnecessary follow-up mailings and duplication of response.

OTHER SPECIFIC CONSIDERATIONS ARE:

Mail Surveys

Full contact information should be a part of the questionnaire, should the questionnaire be separated from the rest of the packet materials.

Questionnaires should be reproduced to quality standards.

Effective methods of distribution:

- Stamped, first-class U.S. mail to home address
- Metered, first-class U.S. mail to home address
- Bulk rate or other U.S. mail to home address
- Company or internal mail to work location
- Paycheck envelope insert
- Other self-delivered method

Methods that rely on the respondent to pick up the questionnaire will not be effective.

The survey may be personalized with elements such as actual ink signatures on cover letters, instead of copied or machine-generated signatures; actual stamps on envelopes; hand-addressed envelopes; etc.

This identification number should be applied with a stamping device, if possible, because this is a piece of information where personalization is to be avoided. One initial mailing, one post card reminder/thank you, and one follow-up mailing to all non-responders are recommended.

About eight to ten weeks after the first mailing, the project usually winds down, the dataset is considered to be final, and data analysis and reporting can begin.

Telephone Surveys

Telephone survey guides are used. Due the difficulty of reaching some individuals, several (up to four) calls should be made to each person in the sample. The decision to call at work or at home may be a function of the agency or the employee's position.

In cases of low response to interview requests, the federal agency may wish to conduct a brief mail follow-up survey of the non-respondents, in order to estimate whether the rate of non-response is a source of bias, and if so, to what degree.

The mail follow-up should confirm any basic demographic information, as well as collect answers to a few of the fundamental substantive questions on the phone survey. The answers of the non-respondents can be compared to those of the respondents; any large differences would allow the federal agency to estimate the potential effects on the mail survey data of non-response bias.

E-mail Surveys

E-mail surveys are simple and cost-effective. The formatting of an e-mail survey is critical to its success. One of the benefits of e-mail surveys is that employees of a worksite are typically on the same system, resulting in consistency of responses. Turnaround time for response is also good.

One of the pitfalls of e-mail surveys is that employees might perceive them as simply more "junk" e-mail and be less likely to respond. E-mail is also a less formal means of communication and therefore may not carry the weight or authority of actual mailings.

Record of Decision

for the

Implementation of 2005 Base Realignment and Closure (BRAC) Recommendations and Related Army Actions at Fort Belvoir, Virginia



August 7, 2007

RECORD OF DECISION

As the Deputy Assistant Chief of Staff for Installation Management, I have reviewed the Final Environmental Impact Statement (EIS) for *Implementation of 2005 Base Realignment and Closure Recommendations and Related Army Actions, at Fort Belvoir, Virginia*. The EIS, prepared in compliance with the Council on Environmental Quality's (CEQ) *Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act* (Title 40 of the *Code of Federal Regulations* [CFR] Parts 1500-1508) and *Environmental Analysis of Army Actions* (32 CFR Part 651), adequately assesses the impacts of implementing Base Closure and Realignment (BRAC) recommendations and related actions at Fort Belvoir, Virginia, on the biological, physical, and socioeconomic environment. The EIS is hereby incorporated by reference. The Army will proceed as indicated herein.

1.0 Background

On September 8, 2005, the Defense Base Closure and Realignment Commission (BRAC Commission) recommended that certain realignment actions occur at Fort Belvoir, Virginia. The recommendations were approved by the President on September 15, 2005, and forwarded to Congress. Upon expiration of the statutory period for Congress to enact a joint resolution of disapproval on November 9, 2005, the recommendations became law and must now be implemented as provided for in the Defense Base Closure and Realignment Act of 1990 (Public Law 101-510), as amended. The BRAC Commission recommendations affect Fort Belvoir by relocating specified organizations and activities to the post.

Relocation of units, agencies, and activities to Fort Belvoir will result in a net increase in the workforce of approximately 19,000 personnel.¹ Accommodating these additional personnel requires updating the post's land use plan and constructing and renovating facilities.

2.0 Proposed Action

The Army proposes to implement the BRAC Commission's recommendations to realign Fort Belvoir. The implementation has two actions:

- *Land use plan.* Fort Belvoir established its Real Property Master Plan (RPMP) in 1993 and amended it in 2002. In light of the substantial requirements posed by base realignment, the Army will revise the Fort Belvoir land use plan, a component of the RPMP.
- *Base realignment.* Consistent with the BRAC Commission's recommendations, the Army has proposed to realign units, agencies, and activities to Fort Belvoir. Construction and renovation of facilities is required to accommodate the larger workforce. As shown in Table 1, six major entities will relocate to Fort Belvoir.

¹ Earlier estimates of new personnel were higher. See Table 1 for information.

Table 1	
Entities relocating to Fort Belvoir	
Entity	Number of personnel
Washington Headquarters Services ("BRAC 133" ^a)	6,200
National Geospatial-Intelligence Agency	8,500
Army Lease b	3,943
U.S. Medical Command	2,069
Program Executive Office, Enterprise Information Systems	480
Missile Defense Agency, Headquarters Command Center	292
Total	21,484
Number Departing Fort Belvoir	2,500
Net Increase of Personnel	18,984
<p>Note: Realignments from Fort Belvoir include the relocation of Army Materiel Command Headquarters and U.S. Army Security Assistance Command to Redstone Arsenal, AL; Prime Power School to Fort Leonard Wood, MO; U.S. Army Criminal Investigation Division Headquarters to Marine Corps Base, Quantico, VA; Soldiers Magazine to Fort Meade, MD; Biomedical Science & Technology programs of the Defense Threat Reduction Agency to Aberdeen Proving Ground, MD; Defense Threat Reduction Agency conventional armaments research to Eglin AFB, FL; and Information Systems, Research, Development and Acquisition to Aberdeen Proving Ground, MD.</p> <p>a BRAC 133 refers to the BRAC Commission's recommendation in its report, and WHS is a component of BRAC 133.</p> <p>b This figure includes Army elements in leased space from BRAC recommendations 132 and 133.</p>	

Concurrent with the relocations directed by the BRAC Commission, the Army has proposed to implement five discretionary moves—relocations not necessitated by BRAC Commission recommendations—of units, agencies, and activities to Fort Belvoir. The 146 personnel involved in these discretionary moves would directly support units, agencies, or activities realigned to Fort Belvoir by the BRAC Commission or join similar activities already assigned to the post.

The figures in the chart above reflect new information that was not available when Table 2-2 of the EIS was prepared. The figure for WHS is significantly lower because 1) Navy and Air Force organizations in Pentagon Renovation space will find permanent space in accordance with the BRAC statute other than Fort Belvoir, and 2) Army Pentagon renovation leased space personnel will be going to Belvoir's Main Post. This results in an increase to 3943 for Army Lease personnel going to Belvoir's Main Post. At the same time, the number of personnel leaving Fort Belvoir due to BRAC decisions is

higher than originally thought. All of these departing personnel (2500) are currently at Main Post. This means that the net number of new employees at Main Post will be the same as analyzed in the EIS; the departure of the additional personnel from their current buildings means that the same amount of existing infrastructure is available for Main Post tenants. The impacts to main post analyzed in the EIS are still valid. Finally, the net number of new people coming to Belvoir under BRAC is approximately 19,000, rather than 22,000.

3.0 Purpose and Need for the Proposed Action

The purpose of the Proposed Action is to implement the BRAC Commission's recommendations pertaining to Fort Belvoir.

The need for the Proposed Action is to improve the ability of the nation to respond rapidly to the challenges of the 21st century. To carry out its tasks, the Army must adapt to changing world conditions and must improve its capabilities to respond to a variety of circumstances across the full spectrum of military operations. BRAC supports advancing the goals of transformation, improving military capabilities, and enhancing military value. The Army must carry out the BRAC recommendations at Fort Belvoir to achieve the objectives for which Congress established the BRAC process and to comply with the law.

4.0 Alternatives to the Proposed Action

The EIS evaluated four land use plan alternatives and the No Action Alternative in detail. For each land use plan, new administrative or medical facilities to accommodate the additional workforce were sited in areas proposed for Professional/Institutional use. Additional facilities necessary to enable Fort Belvoir to meet the needs of a larger workforce were also proposed for siting within appropriate land use classifications.

The implementation of base realignment at Fort Belvoir essentially centers on what facilities must be provided, where those facilities would be sited, and which personnel would be assigned to new or renovated facilities. The determinations on these matters are, in large part, guided by the post's updated land use plan, which principally identifies areas appropriate for Professional/Institutional purposes. The EIS examines the four land use plan alternatives that serve as the surrogate for alternative means of siting of facilities to accommodate the units, agencies, and activities being relocated. The land use plan alternatives are referred to as the Preferred, Town Center, City Center, and Satellite Campuses Alternatives. The EIS also evaluates a No Action Alternative. Each alternative is discussed below.

4.1 The Preferred Alternative

Land Use Plan Update. The EIS analyzes the initial step of the Real Property Master Plan (RPMP) update process—the revision of the land use plan, which must happen before the Army can begin siting facilities for BRAC implementation.

Fort Belvoir developed its current master plan in 1993 to reflect the post's transition from primarily a troop support and training mission to its role as an administrative center providing support to multiple organizations in the National Capital Region (NCR). The

1993 Long Range Component (LRC) identified Fort Belvoir's role as "the major administrative and logistics center for the Northern Virginia portion" of the Military District of Washington (MDW). The Engineer Proving Ground (EPG) was not included in the 1993 plan because it was being considered for public-private partnership development at that time. The Army has since determined its need to retain EPG and implement its own development plans for the site. The 1993 Real Property Master Plan was amended in 2002 upon the adoption of a Regional Community Support Center Subarea Development Plan. The plan amendment designated a portion of the Lower North Post area as the Regional Community Support Center.

The proposed land use plan includes EPG in planning for future development. It also uses fewer, but broader, land use designations that are more flexible than those used in the 1993 plan. The designations are Airfield, Community, Industrial, Professional/Institutional, Residential, Training, and Troop. Principal features and elements of the proposed land use plan include the following:

- *Professional/Institutional.* The Administration & Education and Research & Development land use categories used in the 1993 land use plan would change to Professional/Institutional.
- *Residential.* The proposed land use plan would increase the land area dedicated to family housing on both the North and South Posts.
- *Open Space.* Much of the area designated as Environmentally Sensitive in the 1993 land use plan would be redesignated as Community. This category also includes safety clearances, security areas, water areas, wetlands, conservation areas, resource protection areas (RPAs), forest stands, and former training areas. Environmentally constrained land areas would continue to have all regulatory protections in place.
- *South Post Golf Course.* The proposed land use plan would change the land use designation of most of the South Post golf course from Outdoor Recreation to Professional/Institutional.
- *Supply, Storage, and Maintenance.* The proposed land use plan would enable the Army to demolish outdated and inefficient warehouses; relocate most of the Supply, Storage, and Maintenance operations in the 1400 Area to the 700/1100 Areas; and redevelop the eastern portion of the 1400 Area east of Gunston Road for Professional/Institutional uses.
- *Unaccompanied Personnel Housing.* The proposed land use plan would convert North Post areas designated for Troop uses to Professional/Institutional. A new Troop land use area would be provided on South Post, west of Gunston Road.
- *Army Community Hospital.* The proposed land use plan would enable a new hospital to be sited on the South Post golf course in the southwest quadrant of the intersection of Route 1 and Belvoir Road. The present hospital site would be designated for Community uses.

The proposed land use plan has been developed to achieve compliance with force protection requirements for military facilities as set forth in Department of Defense (DoD) Unified Facilities Criteria 4-010-01, *DoD Minimum Antiterrorism Standards for*

Buildings (2007). A key effect of the standards is the requirement that buffer zones around buildings be reserved as force protection standoff areas. The buffer zones affect the amount of land needed for any one facility and may also dictate a facility's spatial relationship to other facilities.

Base Realignment. Accommodation of personnel being realigned to Fort Belvoir must take into account the needs of the six major entities shown in Table 1. The BRAC Commission also recommended realignments of certain organizations from Fort Belvoir (See Table 1). The net result of the BRAC actions is an increase of approximately 19,000 new personnel at Fort Belvoir.

Under the Preferred Alternative, accommodating BRAC requirements would involve siting of the incoming organizations as follows.

- National Geospatial-Intelligence Agency (NGA) and elements of BRAC Commission Recommendation 133 ('BRAC 133', primarily consisting of Washington Headquarters Services [WHS]) would be on the eastern portion of EPG.
- Army Lease units, agencies, and activities would be on South Post at sites on Gunston Road and Belvoir Road.
- U.S. Army Medical Command (MEDCOM) facilities and a new Army community hospital would be on the South Post golf course.
- Program Executive Office, Enterprise Information Systems (PEO EIS) and Missile Defense Agency (MDA) would be on South Post at sites on Gunston Road and Belvoir Road.
- The present Troop area on North Post would be relocated to an area west of Gunston Road on South Post.

Constructing and renovating facilities to support additional personnel at Fort Belvoir would entail 20 separate facilities projects totaling about 6.2 million square feet of built space and about 7 million square feet of parking structures. The 20 facilities projects would occur for any of the four base realignment alternatives. The following identifies the facilities projects by title and project number (PN).

- National Geospatial-Intelligence Agency Administrative Facility, PN 65416
- Washington Headquarters Services Administrative Facility (BRAC 133, (WHS)), PN 64234, 67846, 68521
- Missile Defense Agency Facility, PN MDA 580
- Hospital, PN 64238, 65676, 65677
- Dental Clinic, PN 64241
- North Atlantic Regional Medical Command Headquarters Building, PN 65871
- U.S. Army Corps of Engineers Temporary Project Integration Offices, N/A
- Infrastructure, PN 64097, 67487, 67959
- Emergency Services Center (EPG), PN 64076

- Network Operations Center (part of PEO EIS), PN 65448
- U.S. Army Nuclear Chemical Agency Support Facility, PN 65447
- Child Development Center (NGA), PN 55661
- Child Development Center, PN 55662
- Administrative Facility (Bldgs 211, 214, 215, 220), PN 65450
- Access Road/Control Point, PN 63571
- Army Materiel Command Relocatables, PN 66228
- PEO EIS Administrative Facility, PN 65592/67231
- Structured Parking Facility, 200 Area, PN 54347
- Modernize Barracks, PN 62892
- Morale, Welfare, and Recreation Family Travel Camp, PN 54898

4.2 Town Center Alternative

Land Use Plan Update. Under the Town Center Alternative, the majority of new facilities to accommodate base realignment would be sited between J.J. Kingman Road on North Post and 12th Street on South Post. Developed areas bounded by 16th and 21st Streets and Gunston Road and Belvoir Road would be available for future redevelopment. The EPG, Davison Army Airfield, and the North Post golf course would remain available for future development after 2011. For land use planning, several land parcels affected by the Town Center Alternative would be redesignated for Professional/Institutional or Community uses.

Base Realignment. Accommodation of BRAC realignments under the Town Center Alternative would result in the following major sitings:

- NGA and associated parking structures would be sited in the area bounded by Route 1, Belvoir Road, 9th Street, and Gunston Road.
- BRAC 133 (WHS) and associated parking structures would be sited in the area bounded by Route 1, Belvoir Road, 9th Street, and Gunston Road and in the adjacent area north of Route 1 that is bounded by Constitution Drive, Route 1, and Gunston, Abbott, and Beauregard Roads.
- Army Lease activities and associated parking structures would be sited on North Post, in the southern half of the area bounded by Woodlawn, Abbott, Gunston, and J.J. Kingman Roads.
- MEDCOM facilities, the Army community hospital, MDA, and associated parking structures would be sited in the area that is bounded by Constitution Drive, Route 1, and Gunston, Abbott, and Beauregard Roads.
- PEO EIS and associated parking structures would be sited on North Post, in the southern half of the area bounded by Woodlawn, Abbott, Gunston, and J.J. Kingman Roads.

- The present Troop area on North Post would be relocated to an area west of Gunston Road on South Post.

4.3 City Center Alternative

Land Use Plan Update. Under the City Center Alternative, all new facilities to accommodate base realignment would be sited on EPG and a nearby 70-acre parcel occupied by GSA, known as the GSA Parcel. These areas would be designated for Professional/Institutional uses. The North and South Posts at Fort Belvoir would remain available for future development.

Base Realignment. Accommodation of BRAC realignments under the City Center Alternative would result in the following major sitings:

- NGA, Army Lease, MEDCOM facilities, the Army community hospital, PEO EIS, and MDA and associated parking structures would be sited at EPG.
- Portions of Army Lease would be sited in existing facilities along the east side of Gunston Road between Route 1 and 9th Street, and in the northwest quadrant of the intersection of Belvoir Road and 21st Street. Units, agencies, and activities that could not be assigned to the existing facilities would occupy EPG.
- BRAC 133 (WHS) would be sited at the GSA Parcel on Loisdale Road.
- The present Troop area on North Post would be relocated to an area west of Gunston Road on South Post.

Army adoption of the City Center Alternative would require measures not inherent in other alternatives. Use of the GSA Parcel would require that GSA vacate its facilities, that demolition of all existing structures and any environmental corrective action required under environmental and facility siting laws be completed, and that transfer administrative control of the property to the Army be accomplished within a time frame that would provide the Army sufficient time to construct facilities for BRAC 133 (WHS) use before 15 September 2011. Congressional authorization for transfer of the GSA parcel would also be required. This is because BRAC required relocation to Fort Belvoir, and the GSA Site is not part of Fort Belvoir.

4.4 Satellite Campuses Alternative

Land Use Plan Update. Under the Satellite Campuses Alternative, new facilities to accommodate base realignment would be sited on Davison Army Airfield, North Post golf course, and North Post and South Post (from Kingman Road to 12th Street). Changes to land use designations would result in Professional/Institutional designations in these areas.

Base Realignment. Accommodation of BRAC realignments under this alternative would result in the following major sitings:

- NGA and associated parking structures would be sited at Davison Army Airfield.
- BRAC 133 (WHS) and MDA and associated parking structures would be sited in the North Post area that is bounded by Constitution Drive, Route 1, and Gunston, Abbott, and Beauregard Roads.

- Army Lease would be sited in existing facilities along the east side of Gunston Road between Route 1 and 9th Street, and in the southwest quadrant of the intersection of Belvoir Road and 21st Street in renovated facilities.
- MEDCOM facilities, the Army community hospital, and associated parking structures would be sited on the southern portion of the North Post golf course.
- PEO EIS and associated parking structures would be sited on North Post, in the southern half of the area bounded by Woodlawn, Abbott, Gunston, and J.J. Kingman Roads.
- The present Troop area on North Post would be relocated to an area west of Gunston Road on South Post.

4.5 No Action Alternative

As required by Council of Environmental Quality (CEQ) regulations, the No Action Alternative was also evaluated in the EIS. The No Action Alternative serves as a benchmark against which federal actions can be evaluated. No action assumes that the Army would continue its mission at Fort Belvoir as it existed in Fall 2005, with no units relocating from other locations, no new units established, and no new BRAC facilities constructed. Because the BRAC Commission's recommendations now have the force of law, continuation of the Fall 2005 Fort Belvoir mission is not possible without further Congressional action. The No Action Alternative is evaluated in detail in the EIS.

5.0 Environmental Consequences

Implementation of the Proposed Action will result in a variety of adverse and beneficial environmental effects at Fort Belvoir. The majority of effects will be direct impacts on affected resources, with many of them being long-term. The following paragraphs summarize the expected effects associated with the Proposed Action for each resource at Fort Belvoir, as determined by the EIS.

5.1 Land Use

The Preferred Alternative would be expected to have long-term minor beneficial effects by adopting an updated land use plan under all alternatives. Long-term minor beneficial and adverse effects would be expected from implementing BRAC under all the alternatives with the exception of the Satellite Campuses Alternative, under which long-term significant adverse effects would be expected due to conversion of Davison Army Airfield to administrative space. Under the No Action Alternative, no effects would result from either adopting a revised land use plan or implementing base realignment.

The Army issued a Coastal Zone Management Act (CZMA) consistency determination with the EIS that identified minor to moderate impacts to applicable enforceable policies under the CZMA. The Commonwealth of Virginia concurred that the proposed BRAC undertakings at Fort Belvoir are consistent with the Virginia Coastal Resources Management Program (VCP) provided that mitigations and best management practices (BMPs) to offset the adverse effects under the Air Pollution Control enforceable policy (see Sections 7.5 and 8.0) and other enforceable policies are implemented.

5.2 Transportation

The BRAC action would be expected to have significant adverse effects on the transportation system, regardless of the land use alternative selected. The effects of each alternative would vary because of the siting of each of the entities affected by the BRAC action. For example, the Preferred Alternative land use plan concentrates most of the new development onto EPG, with some increases to South Post. The Town Center Alternative's land use plan would place all development on the Main Post on either side of U.S. Route 1. Thus, the effects on the transportation system caused by the new developments would vary by location. For example, the Preferred Alternative would affect the Fairfax County Parkway adjacent to EPG greater than the Town Center Alternative because of the various entities proposed to be located on EPG. The Town Center Alternative has the greatest effect along U.S. Route 1 because more development is concentrated in that segment of the Main Post.

From a regional perspective, the alternatives are very similar. Overall, regional travel patterns would be expected to be identical, with any differences showing up only on a localized scale, depending on the specific siting of individual BRAC elements within the immediate Fort Belvoir area. For all the alternatives, the significant transportation effects would be limited to the entrance points and the immediately adjacent transportation facilities. While the alternatives differ somewhat in terms of the detailed extent and location of these effects, on a regional basis, beyond the 3- to 5-mile range, the effects become negligible for all alternatives. The alternatives placing all BRAC-related development within the Main Post area have greater effects than those that disperse the activities between the Main Post and the EPG site. The most significant of these larger effects relates to the added traffic on the segment of the Fairfax County Parkway between Interstate 95 (I-95) and U.S. Route 1. Mitigation to address this issue under the Town Center and Satellite Campuses Alternatives is likely to require a Fairfax County Parkway cross-section in this area of eight lanes including a two-lane, reversible, high-occupancy vehicle (HOV) facility.

The City Center Alternative would also require additional mitigation because of the significant effect on the Franconia-Springfield Parkway by including the GSA Parcel into the BRAC planning regime. That site is relatively landlocked and may require additional access beyond what currently exists off Loisdale Road. This mitigation would include the construction of new access from the Franconia-Springfield Parkway, which would have significant costs and adverse effects on existing traffic. The Satellite Campuses Alternative is most similar to that of the Town Center Alternative, because the development is centered on Main Post and Davison Army Airfield. Slight differences in localized effects exist because of the use of Davison Army Airfield.

An additional consideration for the Preferred Alternative is the fact that the needed transportation improvements can largely be constructed without interfering with existing traffic because the EPG site is largely undeveloped and the major access-related project would be constructing the new segment of the Fairfax County Parkway. Constructing this segment could be accomplished with minimal effect on existing traffic. Each of the other alternatives involves more highway projects that would need to be constructed within active traffic zones.

The region's transportation system is already strained under existing traffic volumes (2006 conditions), and it will continue to be constrained under the No Action Alternative (2011), even with the transportation improvements proposed by Federal Highway Administration (FHWA), Virginia Department of Transportation (VDOT), and Fairfax County in their transportation improvement programs. The 2011 conditions, which represent when most BRAC relocations would occur, were assessed and compared to the 2011 No Action Alternative to determine the level of effects caused by the development in each land use alternative. Through the analyses of the four alternative land use plans, a series of transportation improvements have been identified to mitigate the effects of each of the proposed alternatives. These improvements would be needed to maintain the transportation system's operational performance at an acceptable level of service and delay. Costs for the mitigation actions are estimated to be as follows:

- Preferred Alternative, \$458 million
- Town Center, \$732 million
- City Center, \$471 million
- Satellite Campuses, \$742 million

For the Preferred and City Center Alternatives, the ability of transit to contribute to the mitigation is greater than for the other alternatives because these alternatives use sites that are closer to the regional rail network. Their locations make it easier to achieve the Army's goal to have 5 to 10 percent of employees to use mass transit to get to work and another 15 to 20% rideshare..

5.3 Air Quality

Short-term and long-term minor adverse effects would be expected from implementing BRAC under any of the four alternatives. Minor increases in emissions would conform to the state implementation plan (SIP); would not be expected to contribute to a violation of any federal, state, or local air regulations; and, would not introduce localized carbon monoxide concentrations greater than the National Ambient Air Quality Standards (NAAQS).

Regionally, the alternatives have very similar effects on air quality. Each would constitute approximately the same amount of both construction and operating emissions within the region for all years. A General Conformity Determination was prepared and demonstrates that the emissions associated with each of the alternatives conform to the purpose and intent of the applicable SIP. Therefore, by definition, they do not

- Interfere with the region's ability to timely attain the NAAQS
- Cause or contribute to any new violations of an NAAQS
- Increase the frequency or severity of any existing violation of any NAAQS
- Delay timely attainment of any NAAQS or any required interim emission reductions or other milestones

For all the alternatives, both construction and operating permits for the new sources of air emissions would be required. EPG and the GSA Parcel are noncontiguous with respect to the Main Post; therefore, they meet the requirements of separate facilities.

Exceedence of the major source thresholds would be expected from implementing the City Center and Town Center Alternatives. For these alternatives, a Nonattainment New Source Review permit would be required, and emission offsets at a ratio of 1:1.15 would have to be located and obtained for all stationary sources that fell under this permit.²

For all the alternatives, implementing the BRAC action would decrease both the number of vehicles and the total vehicle miles traveled within the region. In turn, regional motor vehicle emissions would decrease. This decrease would be primarily from a net reduction of approximately 2,500³ personnel in the region. These are personnel leaving Fort Belvoir to areas outside the NCR. These BRAC-related reductions in emissions would constitute an ongoing net benefit to the region's air quality. Increases in localized traffic near the installation, however, would result in increases in traffic congestion and subsequent long-term minor increases in localized carbon monoxide concentrations at nearby intersections. For all the alternatives, these minor increases would not be expected to contribute to a violation of the carbon monoxide NAAQS. The traffic changes would not be expected to cause significant long-term increases of other criteria pollutants.

5.4 Noise

Short-term and long-term minor adverse effects would be expected for all development alternatives. Minor increases in noise would not be expected to contribute to a violation of any federal, state, or local regulations or introduce areas of incompatible land use due to noise.

Each development alternative would require construction activities at the Main Post, EPG, or the GSA Parcel. Individual pieces of construction equipment typically generate noise levels of 80 to 90 A-weighted decibels (dBA) at a distance of 50 feet. With multiple items of equipment operating concurrently, noise levels can be relatively high during daytime periods at locations within several hundred feet of active construction sites. The zone of relatively high construction noise typically extends to distances of 400 to 800 feet from the site of major equipment operations. Locations more than 1,000 feet from construction sites seldom experience noteworthy levels of construction noise. Given the temporary nature of proposed construction activities and the limited amount of noise that construction equipment would generate, this effect would be considered minor. Noise levels for noise-sensitive receptors (NSR) adjacent to the main traffic routes near the Main Post, EPG, and the GSA Parcel would not exceed the noise-abatement criterion (67 dBA) for residential land uses.

5.5 Topography, Geology, and Soils

Topography. Long-term minor adverse effects would be expected from implementing any of the four alternatives. While the degree of impact on topography would be greater under the Town Center and Satellite Campuses Alternatives, the overall effect would still be insignificant at the landscape level.

² The EIS states that, "Emission offsets are generally unavailable in this region and could be extremely expensive if they could be obtained at all."

³ This figure is higher than the net reduction of 1,700 personnel noted in Section 4.4.2.2.2 of the Final EIS.

Geology. Negligible effects would be expected from implementing any of the BRAC alternatives and other facilities projects within the Main Post and EPG. The geology of the area would remain unchanged, although small portions of the bedrock underlying the area could be affected by construction activities. Such effects would be minor and extremely localized on a geologic scale.

Soils. Short-term and long-term minor adverse effects on soils' productivity would be expected under all the BRAC alternatives resulting from construction activities and the installation of impervious surfaces. These effects would be minor when considered on the landscape level. Soils covering many areas within the Main Post and EPG that are amenable to construction have already been subject to previous construction and land-clearing activities; therefore, not all soils within the project areas are in their undisturbed state and at maximum productivity. With the acres of disturbance being the simplest measure to compare alternatives, the Preferred Alternative and City Center Alternative land use plans would affect 495 and 435 acres of soils, respectively, concentrated primarily in EPG. The Satellite Campuses Alternative would result in the disturbance of 457 acres, with disturbances occurring primarily in the North Post and Davison Army Airfield. The Town Center Alternative land use plan would affect 262 acres on the North Post and South Post.

Land use categories developed in consideration of environmental constraints would confine most construction activities to areas that are most conducive to development, thereby excluding or limiting effects on highly erodible or otherwise unsuitable soils, such as those with steep slopes (drainages) or high water tables.

5.6 Water Resources

Short-term and long-term minor adverse effects would be expected, regardless of the land use plan and BRAC implementation alternative selected. The effects would occur at the watershed scale, with localized effects that could be more pronounced during the implementation of proposed changes. Each alternative would have varying effects due to the siting of each of the agencies affected by the BRAC action. For example, the Preferred Alternative's land use plan concentrates most of the new development onto EPG with some increases to South Post. The Town Center Alternative's land use plan places all development on Main Post, on either side of Route 1. Thus, the effects on water resources caused by the new developments would vary to some degree by location.

Effects on water resources resulting from the BRAC action would relate to the potential for increases in storm water runoff, associated physical effects, and associated pollutants from land disturbance activities. These effects would be expected to occur during construction activities and their associated land disturbances, as well as for a longer term as a result of increased impervious surfaces from development. The number of acres of increased high- and medium-intensity development would be greatest under the Satellite Campuses Alternative (447 acres) as compared with increases of about 348 acres under the Preferred Alternative, about 202 acres under the Town Center Alternative, and about 259 acres under the City Center Alternative. Correspondingly, the amount of land area expected to be converted from pervious to impervious surface is greatest under the Satellite Campuses Alternative (207 acres), as

compared with increases of about 183 acres under the Preferred Alternative, about 142 acres under the Town Center Alternative, and about 131 acres under the City Center Alternative. Similarly, the Satellite Campuses Alternative would be expected to result in the greatest disturbance to Chesapeake Bay RPAs (47 acres) and floodplain (7 acres), as compared with 12 acres of disturbed RPAs and 8 acres disturbed floodplain under the Preferred and City Center Alternatives, and 14 acres of disturbed RPAs and 4 acres of disturbed floodplain under the Town Center Alternative.

The greatest potential expected increases in total nitrogen and total phosphorous pollutant loading to surface waters would be expected to occur under the Preferred Alternative and the City Center Alternative, with five subwatersheds expected to increase their loads by more than 10 percent. This compares with an expected increase of more than 10 percent in only one subwatershed under both the Town Center and the Satellite Campuses Alternatives.

5.7 Biological Resources

Long-term moderate and minor adverse effects would be expected by implementing any of the four land use plans and from implementing BRAC. These effects would be on vegetation; wildlife; and endangered, threatened, and sensitive species.

- *Main Post.* The primary areas of biological resources concentration on the Main Post are the Southwest Area, land bordering the shores of the South Post, and the Special Natural Areas (SNAs). All the alternatives would reduce vegetated areas on the post by a substantial amount and be expected to indirectly affect vegetative communities and wildlife through habitat fragmentation and isolation and increased occurrences of invasive species, which would result in a loss of ecological integrity. The Preferred Alternative and City Center Alternative would adversely affect natural habitat on the installation to the greatest degree, followed by the Satellite Campuses Alternative and the Town Center Alternative.
- *EPG.* Natural habitat on EPG has been reestablishing itself since the 1970s, when intensive training activities on EPG ceased. West of Accotink Creek, development has been minimal, and east of Accotink Creek, the developed areas have not been used intensively in recent years. Natural aspects of the area east of Accotink Creek—such as woody growth and the use of undisturbed open areas by breeding birds—have increased. The Preferred and City Center Alternatives have the greatest adverse effects on the biological resources on EPG because they have more project development in EPG, while the Town Center and Satellite Campuses Alternatives concentrate development on the Main Post rather than on EPG.

Overall, the City Center Alternative would have the greatest adverse effects on the biological resources of Fort Belvoir, followed by the Preferred Alternative. The Town Center and Satellite Campuses Alternatives would have the least impact on biological resources.

Following release of the FEIS, a Biological Assessment was submitted to the U.S. Fish and Wildlife Service, in accordance with Section 7 of the Endangered Species Act, analyzing potential BRAC impacts on the known location of a federally threatened small

whorled pogonia plant on EPG. The Service concurred that the Proposed Action was not likely to adversely affect the species. On the Main Post, a small whorled pogonia survey was conducted during the summer of 2007 and no occurrences of the plant were found. There is therefore no effect on the whorled pogonia on Main Post.

5.8 Cultural Resources

Long-term minor and beneficial effects would be expected from implementing any of the four alternative land use plans. Minor adverse effects, including direct and indirect physical effects and direct visual effects and noise, would occur to both archaeological sites and historic resources under each of the alternatives. The nature of the effects is the same from one alternative to the next. Mitigation measures common to all the alternatives would avoid or reduce the adverse effects.

Long-term minor adverse effects would be expected from implementing any of the four alternatives for implementing BRAC. These effects would be on archaeological sites and historic resources, with the nature of the effects being the same between alternatives and the same mitigation measures being applied to avoid or reduce the effects. Assessment of specific adverse effects on historic properties from the proposed BRAC projects depends on the exact location of the proposed projects and the specific design details of the projects. These details include such things as building materials, construction footprint, height of buildings, and building design.

Fort Belvoir is fully engaged in the National Historic Preservation Act Section 106 process with interested parties. The goal of consultation is to identify historic properties potentially affected by the undertaking, assess its effects and seek ways to avoid, minimize, or mitigate any adverse effects on historic properties. The installation is developing a Programmatic Agreement (PA) in consultation with the other parties specifically to address the proposed BRAC activities. The installation is working with the Virginia State Historic Preservation Officer (SHPO) and other parties to identify measures to avoid, minimize, or mitigate these effects (i.e. construction and medical helicopter noise) on historic resources and their aesthetic qualities adjacent to the installation as well as the historic golf course on post to the maximum extent practicable. No actions may be undertaken that could cause effects on historic property until the NHPA Section 106 process is complete.

5.9 Socioeconomics

The BRAC action would have short- and long-term minor beneficial economic effects, regardless of the land use alternative selected. The BRAC action, in general, would have the same economic effects under each alternative from construction expenditures and the increase of Fort Belvoir personnel. Estimated construction expenditures would be similar under each alternative, with variations among the alternatives for demolition and infrastructure. The construction and renovation expenditures would result in beneficial increases in region of influence (ROI) business sales volume, income, and employment. Although the Proposed Action's expenditures would be quite substantial, Fort Belvoir is in such an economically large and robust region that the magnitude of the expenditures relative to the regional demographic and economic forces would be considered minor. Because construction projects are, by nature, temporary, the

economic stimulus from construction of the proposed BRAC and associated facilities would diminish over time as the projects reach completion in 2011.

The social effects of the BRAC action would range from short-term minor adverse to long-term significant adverse and long-term minor beneficial effects, regardless of the land use alternative selected. The siting of the BRAC facilities on Fort Belvoir would vary with each land use alternative; however, the effects on sociological resources from BRAC implementation and the effect on population and demand for housing and public services would be similar. On-post facilities would be inadequate to accommodate the incoming BRAC workforce. Additional police; fire; medical; shopping; and morale, welfare, and recreation (MWR)-sponsored programs and facilities would be needed. If facilities were not improved, levels of service would decrease. The ability to provide proper service and meet customer demands would degrade because of continued use of inadequate facilities, continued fragmentation of services, and increased demand from the additional population. Long-term significant adverse effects would be expected on MWR-sponsored programs, such as Soldier and family support and recreational facilities and activities, because Fort Belvoir's MWR would not have sufficient funds, facilities, or staff to support required MWR programs. Additional Fort Belvoir Proposed Action projects plan for the construction and staffing of on-post facilities such as a new hospital, new emergency services center, child development centers, and Family Travel Camp area. These new or expanded facilities would be designed to adequately serve the incoming BRAC population, resulting in long-term beneficial effects. However, MWR's ability to build and operate these new recreational facilities depends on its available nonappropriated funds (NAF), which would be significantly reduced by BRAC actions such as loss of the South Post golf course to the proposed hospital.

From a regional perspective, the social effects of the BRAC action would have short- and long-term minor adverse effects on regional services. The BRAC Commission's recommendations would generate a net increase of 19,000 people in the workforce on Fort Belvoir. Most of these personnel already reside within a one-hour drive of Fort Belvoir. It is probable that some of the affected personnel would change their home residence within the ROI to improve their commute to Fort Belvoir, specifically moving to areas along the Northern Virginia I-95 corridor including Fairfax, Prince William, and Stafford Counties, and the city of Fredericksburg. This would increase the population in these jurisdictions and the demand for services such as police, fire, and medical care; schools; social services; and shopping facilities. In the short term, service levels would be expected to decrease as the local population increases. Expansion of services would be necessary to maintain levels of service. However, the population increases due to the BRAC action would be minor relative to projected regional population growth. In addition, population changes would occur over a number of years. The BRAC action would not be fully implemented until 2011. Over time, services (police, fire, medical, schools, social services) would adapt to the demands of the increased population base, funded by new tax revenues. The Army is conferring with the potentially affected school districts on potential student increases that could occur. Funding support for the school districts could come from the Federal Impact Aid Program. Section 4.10.2.2.2 of the EIS looks at the effects of the Preferred Alternative on schools. The Army received comments on the Final EIS from the Fairfax County Public Schools Superintendent, dated August 1, 2007. These comments were taken into account in this decision. The

effects of the Preferred Alternative on schools are addressed in Section 4.10.2.2.2 of the EIS. The Army received comments on the Final EIS from the Fairfax County Public Schools Superintendent, dated August 1, 2007. These comments were taken into account in this decision. The number and type of shopping and service businesses and community support MWR facilities and services would be expected to increase with demand as they would be market driven.

5.10 Aesthetics and Visual Resources

The BRAC actions would be expected to have short- and long-term minor to moderate adverse and beneficial effects on the aesthetic and visual resources of Fort Belvoir. The effects on aesthetics would differ across the four alternatives, with the City Center Alternative having the least impact, and the other three alternatives having similar, slightly larger impacts.

Throughout its history and development, Fort Belvoir has strived to take advantage of the natural topography and vegetation of the area. For this reason, it has been able to preserve a relatively high amount of aesthetic value. Potential effects on the installation's aesthetic value depend on how proposed actions affect those signature areas of the installation having high aesthetic integrity. These areas include the traditional buildings of Fort Belvoir, the landscaping that takes advantage of natural features, and mature hardwoods, which are found primarily on South Post and, to a lesser extent, on North Post; the undisturbed areas of Fort Belvoir found in the Southwest Area; the wildlife corridors on North Post and western EPG; the golf courses on North and South Post; and the many vistas of the Potomac River. The four alternatives differ slightly on how they affect these areas.

The City Center Alternative, which concentrates the majority of its actions on eastern EPG and the GSA Parcel, would have the fewest adverse effects on aesthetics because of the lack of major construction on either North or South Post. The eastern portion of EPG, especially the area inside of Heller Loop, has low aesthetic value because of training and testing activities that have occurred there over the years. This area also contains several abandoned structures that have progressed to an advanced state of dilapidation. Both the City Center Alternative and, to a lesser extent, the Preferred Alternative make use of this area. The Preferred, Town Center, and Satellite Campuses Alternatives all have a greater adverse effect because of having developments on or near aesthetically sensitive areas of Main Post. The Preferred and Town Center Alternatives would have more adverse effects as a result of the hospital campus being sited on the South Post golf course. The Town Center Alternative also would situate a large amount of development on North Post north of U.S. Route 1. Similarly, the Satellite Campuses Alternative places new structures in this area north of U.S. Route 1. Although it does not affect the South Post golf course, it would site buildings on the North Post golf course. Despite their slight differences, none of the proposed alternatives would have a significant adverse effect on aesthetics and visual resources of the installation.

5.11 Utilities

Long-term minor adverse and beneficial effects would be expected by adopting any of the four alternative land use plans and implementing BRAC.

Different alternatives for implementing the BRAC action would have varying effects on existing utility systems, extent of upgrades, additions required to utility infrastructure, associated cost investment to implement the additions, and time frame required to plan and implement them. In addition, the alternatives grade differently with respect to availability of additional capacity, on- and off-site improvements required, redundancy available for ensuring reliability of service and provision of centralized service.

Under the Preferred Alternative, most of the development would be centralized around EPG where existing utility services on EPG are close to nonexistent. However, the site is in close proximity to most utility systems. The BRAC action would require expansion to the publicly owned infrastructure and to some of the utility-owned infrastructure.

For potable water and sanitary sewer, existing on-site utilities on EPG are largely inadequate to support the level of proposed development. New infrastructure would be needed on EPG for all on-site utility systems. However, the proposed BRAC facilities at EPG would require little if any improvements to off-site utility infrastructure, except for electricity and natural gas. Providing the required level of electricity at EPG would require substantial improvements to the existing offsite infrastructure. In addition, extending natural gas to EPG would require off-site improvements to the existing infrastructure.

In addition to the necessity for off-post improvements to utility infrastructure stated above, consideration should also be given to the capacity constraints of the local utility network. Fort Belvoir purchases treatment capacity for potable water and sanitary sewer services from public utilities and is using only a portion of purchased capacity. Demands from the BRAC action would most likely consume all the remaining purchased treatment capacity for both systems. There is adequate local capacity to provide natural gas for the proposed development at EPG, but as mentioned above some on- and off-post infrastructure improvements would be required. Similarly, providing electricity to meet the needs of BRAC tenants moving to EPG would require substantial on- and off-site upgrades, time, and investment.

The City Center and Satellite Campuses Alternatives would be ranked the lowest in terms of providing centralized service. The centralized service provision ratings for the Preferred and the Town Center Alternatives are comparable because most facilities would be concentrated on either EPG or the South Post, respectively, under these two alternatives.

Municipal solid waste and construction and demolition debris collection and disposal are comparable for all the alternatives. The sites are in close proximity to one another. As such, their impact on available landfill capacity also would be similar for all considered alternatives.

5.12 Hazardous Substances and Hazardous Materials

Long-term minor adverse effects would be expected for each alternative with respect to the construction and operations activities associated with a development project of this size. The construction activities would involve managing, storing, and generating hazardous substances and hazardous materials. Also, long-term minor adverse effects

would be expected in that the addition of tenants and would result in additional managing, storing, and generating hazardous substances and hazardous materials.

Although not part of the Proposed Action, the predevelopment preparations requirements would have a long-term beneficial effect as the unexploded ordnance (UXO) and hazardous materials and solid waste management unit release sites are investigated and remediated, which would be beneficial to both human health and the environment. The most costly alternative for corrective action predevelopment activities would be the Satellite Campuses Alternative, largely because the project sites would be in former training ranges with costly UXO clearance and removal. The least expensive would be the Preferred Alternative. In addition, corrective action for the Preferred Alternative could be completed on a faster track than the other alternatives. The estimates for the Town Center and Satellite Campuses Alternatives do not include costs of finding and obtaining swing space in which current tenants would relocate while the program redevelops the Main Post. The costs and logistical requirement to execute these alternatives would also be substantial.

5.13 No Action Alternative

The No Action Alternative would be expected to result in short- and long-term minor adverse effects on topography and soils. The No Action Alternative would result in no effects on any of the other resources at Fort Belvoir. The No Action Alternative is the environmentally Preferred Alternative.

5.14 Unavoidable Adverse Environmental Impacts

Implementing the Preferred Alternative would result in a variety of adverse environmental effects, as detailed in Paragraphs 5.1 through 5.12. Some of the effects could be minimized, avoided, or compensated for through mitigation, but others would be unavoidable. The principal unavoidable adverse effects on the environment are the following:

- *Transportation.* Funding shortfalls might not allow all transportation mitigation recommendations in the EIS to be implemented, resulting in unavoidable adverse effects on traffic.
- *Biological Resources.* Unavoidable loss of approximately 310 acres of vegetated areas to accommodate incoming BRAC actions in a manner that would best serve the military mission at Fort Belvoir.
- *Water Resources.* Unavoidable loss of pervious surfaces due to development, resulting in increases in runoff and pollutant loads.
- *Utilities.* Unavoidable generation of about 10,176 tons of construction and demolition debris from the Proposed Action, which would be disposed of in various landfill sites in the area.

6.0 Cumulative Impacts

The EIS identifies 20 facilities projects to support BRAC implementation. In addition to these, the Army foresees there being another 32 projects at the installation that would occur during the BRAC implementation timeframe. These 32 non-BRAC projects range

from small scale projects involving only renovations of existing buildings to large projects involving the construction of new sizeable structures. Chief among this latter category would be proposals such as the National Museum of the U.S. Army (Army Museum) and associated Museum Support Center, the expansion of the Information Dominance Center, and a potential Army Reserve complex. Additionally, numerous smaller projects would occur on-post as new facilities or, in several instances, as renovations of existing facilities. Each of these projects will undergo or have already undergone their own NEPA compliance. Fairfax County has identified 187 off-post, non-Army projects planned within 3 miles of Fort Belvoir. While many of these are small in scale and would have only a negligible effect on the environment as a whole, 20 projects are at least 25 acres in size. The following summarizes principal conclusions with respect to potential cumulative effects.

Land Use. Negligible cumulative effects on land use would be expected from implementing non-BRAC projects at Fort Belvoir in combination with the Preferred Alternative. In general, the on-post cumulative projects would be compatible with the updated land use plan and those associated with the proposed alternatives for BRAC actions. Negligible adverse and beneficial long-term effects on land use would be expected with respect to off-post development. Cumulative effects on land use from implementing the Fairfax County Comprehensive Plan over the next 5 years would be negligible if all approved/programmed roadway improvements are realized.

Transportation. Future, on-post facilities projects, taken together, would be expected to have negligible effects on Fort Belvoir area traffic. Effects on the transportation network associated with off-post projects would be mitigated through roadway improvements by the developers of the off-post road projects. The largest contributor to future impacts would be the proposed Army Museum. This could be sited at either the North Post golf course or along Route 1, east of Pence Gate. At either location, additional road improvements may be required. To quantify the effects of the museum on the transportation system, trip generation and mode split would need to be developed for site traffic.

Air Quality. The Proposed Action would have long-term minimal adverse cumulative effects on the region's air quality. Other construction and development projects would occur within the NCR, and each of the projects would produce some measurable amounts of air pollutants. The effects of all past, present, and reasonably foreseeable projects in the region and associated emissions are taken into account during the development of the SIP. This includes all on- and off-post projects including the Army Museum. Estimated emissions generated by all the alternatives would conform to the SIP. Therefore, by definition, the net effects of the BRAC action at Fort Belvoir in addition to all other collectively identified cumulative projects would not contribute to significant adverse cumulative air quality effects.

Noise. No long-term cumulative effects on noise would be expected. Implementing any of the alternatives would have negligible ongoing or cumulative effects on the noise environment because of construction or changes in traffic in or around the site. The construction activities associated with the BRAC alternatives would be temporary in nature, and the current noise environment would return after the projects' completion.

Geology and Soils. Past, present, and reasonably foreseeable projects proposed for Fort Belvoir and the immediate vicinity could result in localized changes to topography and minimal effects on geology. Short- and long-term permanent effects would be expected on soils in the area depending on the nature of the disturbance. Overall, the topography of Fort Belvoir and the surrounding area would not change as a result of any of the BRAC-related projects in concert with previous or reasonably foreseeable actions. Short- and long-term adverse cumulative effects would be expected on soils throughout the EPG project area. Urban and Cut and Fill soils have already been affected by development, so in cases of redevelopment, the effects on these soil types have already occurred. With native soils, the effects related to construction would generally be expected to be minor and limited to the areas directly disturbed by those activities. The Army Museum, its Museum Support Center, and the Fairfax County Parkway extension would all result in the permanent loss of the soil resource directly under the impervious surfaces. Portions of these projects, however, would occur on soils previously affected (Urban soils) and effects on native soils would be localized. Off-post past, present and reasonably foreseeable projects would have similar types of impacts as those described for on-post projects, except over a broader scale. None of the projects considered in the cumulative effects analysis are likely to contribute to a significant cumulative effect in terms of topography or geology. Assuming that regulatory requirements are followed, the soil resource would experience localized adverse effects that would be both short and long term.

Water Resources. Long-term minor adverse effects on water resources would be expected from the cumulative actions. Various other on-post and off-post proposed development projects in the vicinity of Fort Belvoir would potentially increase storm water runoff from paved surfaces and nonpoint source pollutants (e.g., sediment, nutrients, petroleum hydrocarbons) in the area. Watershed modeling results indicate that increases in flow volume and nutrient loadings are not expected to be significant at the watershed scale. Appropriate required storm water management designs would be expected to minimize the adverse effects of increased storm water and nonpoint source pollutants, and additional measures that permit infiltration are recommended for implementation on a watershed basis to limit cumulative effects on waterbodies within these watersheds and receiving waters downstream.

Biological Resources. Long-term moderate adverse cumulative effects would be expected. Cumulative effects on natural resources from the proposed on-post, non-BRAC projects such as the Army Museum would generally affect the central area of the North Post, the North Post golf course, and the South Post similarly under all the alternatives. On other areas of the Main Post, cumulative projects would have a similar level of effect under the Preferred Alternative and all other alternatives. Proposed on-post, non-BRAC projects and off-post, non-Army projects would further diminish the availability of forest and field habitats on and off the installation and increase the possibility of occurrences of invasive species, edge effects on habitats, and habitat fragmentation under the Preferred Alternative and all other alternatives.

Cultural Resources. Long-term minor adverse and beneficial effects on cultural resources would be expected. Adverse visual effects on national-, state-, and county-registered historic properties both on- and off-post would occur under each of the

alternatives. These effects would be in addition to other modern developments that have already visually affected those properties. Increasing urbanization in the surrounding cities and counties, as exhibited by past and proposed future projects surrounding Fort Belvoir and proposed developments on Fort Belvoir, would likely contribute to more visual effects on these historic properties. The BRAC-related projects would have a minor adverse cumulative effect on the region's historic properties. When the effects on these properties and the effects that would likely occur from the expanding population and subsequent improvements to the local infrastructure are added to the effects that part development in the region has already had, the cumulative effects on cultural resources would be noticeable and moderate.

Socioeconomics (Economic Development). Short- and long-term beneficial and adverse cumulative effects would be expected. The past action of the establishment and continued operation of Fort Belvoir continues to have positive effects on the local economy. The proposed realignment action would add to these beneficial economic effects by generating employment, income, and business sales in the ROI from construction and operation of the proposed new facilities. There are numerous other projects (in progress or planned for the future) on Fort Belvoir and in the ROI that could have short- and long-term effects on the local economy. On-post proposed projects include, but are not limited to, the Army Museum, Museum Support Center, a physical fitness center in the Troop Cantonment Area and on EPG, a South Post fitness facility, modernization of the marina, expansion of the Main Post library, a shoppette on the South Post, a Soldier Support Center, an addition to the MP Station, and replacement of the South Post fire station. Projects in the ROI include, but are not limited to, ongoing development of the Lorton Town Center, housing developments in Laurel Hill and Lorton, reconstruction of the I-95/I-395/I-495 interchange, improvements to Route 1, plus numerous other residential and commercial developments and transportation projects. These proposed projects would have short- and long-term beneficial economic effects in terms of employment, income generation, and business sales. There would be short-term beneficial effects from the construction projects and long-term beneficial effects from the continued operation, maintenance, and use of the facilities, businesses, and houses. The backfilling of office space vacated by the agencies moving to Fort Belvoir could create a change in regional employment. Adverse cumulative effects would be expected because of the overlapping time frames for construction activities associated with the Preferred Alternative and ongoing and future projects, with the adverse effects resulting from possible construction labor and material shortages. Effects from projected changes under the proposed Fort Belvoir BRAC action would be diminished by other BRAC actions occurring at the same time in the NCR. This would reduce the population impacts from the proposed Fort Belvoir BRAC action on public infrastructure and social services. Note that even though there would be a loss of personnel in the ROI due to other BRAC actions, it is anticipated that the office space vacated by BRAC personnel would be backfilled with office workers.

Socioeconomics (Sociological Environment). Long-term beneficial and adverse effects on police, fire, and medical services, schools, housing, family support and social services, shops, services, and recreation would be expected. Long-term beneficial effects would occur on on-post police and fire services and medical services. Adverse effects could occur to off-post police, fire, and social services on the basis of population

projections that indicate continued population growth for the ROI. Long-term adverse effects on off-post schools would be expected. Other BRAC actions occurring in the ROI, however, would result in the transfer of 14,500 jobs out of the NCR. An estimated 12,700 school-age children would be associated with these employees and would be moving out of the region. The out-migration of these families would reduce the impact of the Fort Belvoir BRAC action on public schools. Long-term beneficial and significant adverse effects would be expected with respect to family support, shops, services, and recreation. Fort Belvoir's increased population would increase demand for shopping, service, and recreational facilities. Long-term significant adverse effects on Fort Belvoir's MWR recreation program would occur from the construction of the Army Museum and Museum Support Center. If the museum would be constructed on the North Post golf course site, Fort Belvoir would lose a portion of this golf course, in addition to the South Post golf course, because the hospital is sited there under the Preferred Alternative. Fort Belvoir could lose about 60 percent of its golf course fairways, which would result in significant losses to the MWR NAF from lost revenue. Overall, the loss of these MWR programs and facilities would reduce the quality of life for Soldiers, retirees, and their families.

Aesthetic and Visual Resources. Minor adverse and beneficial effects on aesthetic and visual resources would be expected. The proposed on-post project with the largest cumulative aesthetic effect, the Army Museum, has two possible sites: the North Post golf course and the Pence Gate site on the eastern side of South Post. Each site placement would have a moderate effect on aesthetics because of the size of the proposed structures, although the golf course siting would have more of an effect because of the high aesthetic integrity of the current land use. Other major changes would occur along Abbott Road on the North Post, the northeast portion of North Post, and in the Southwest Area. The building of the Operations Training Facility on the Southwest Area would have a moderate effect on the area because of the current forested conditions of the area, although it would be relatively secluded. The proposed Woodlawn Road replacement would have a moderate effect because of the high aesthetic integrity of the land it would pass through. Short-term adverse effects resulting from construction activities from cumulative projects would be expected to be similar to that of the Preferred Alternative. In general, the smaller buildings and additions would have a negligible adverse aesthetic change once construction is complete. The larger structures would have a more noticeable effect because of their size. Despite the large number of proposed, off-post, cumulative projects, a significant amount of aesthetic effects would not be expected. The off-post portion of Fairfax County in the vicinity of Fort Belvoir, as a whole, has a large amount of development, which includes large areas of residential and commercial development along I-95 and Route 1. The existing development makes the addition of these cumulative projects result in a minor effect on the aesthetic integrity of this portion of Fairfax County.

Utilities. Short- and long-term minor adverse cumulative effects would be expected. Overall, there is generally sufficient capacity to accommodate the Proposed Action in the region, although upgrades would be required in some areas. Implementing the Preferred Alternative would result in short-term disconnections and reconnections of all buried and aboveground utility systems during the construction phase on- and off-post as required. Activities resulting from the BRAC action and other on- and off-post

development projects such as office buildings, shops, and housing complexes would result in additional building space requiring utility services, thus resulting in a cumulative increase in demand on the existing utility infrastructure. This would require existing private and public providers of utility services in the area to increase the quantity of utility services provided to meet the demand from users directly and indirectly associated with Fort Belvoir and its surroundings. These entities must review and revise the existing short- and long-term projections for providing adequate and reliable utility services for the area in the future. The Energy Policy Act of 2005 (Public Law 109-58—August 8, 2005) stipulates that energy consumption per gross square foot of the federal buildings in fiscal years 2006 through 2015 be reduced in comparison to the base year of 2003. The percent reduction required in 2006 is 2 percent from the baseline consumption and 20 percent in 2015. Because the facilities being constructed would be more efficient, these requirements would likely be met. This required reduction will mitigate some of the cumulative effects of the above on- and off-post construction. The Preferred Alternative, together with on-post construction and renovation projects planned in the near term at Fort Belvoir and off-post projects would generate additional quantities of construction and demolition debris and result in cumulative reduction of the lifespans of local area landfill sites.

Hazardous Substances and Hazardous Materials. Short- and long-term minor adverse cumulative effects would be expected. Short-term cumulative effects would be expected from the increased use of petroleum during construction. Construction would adhere to federal guidelines to minimize the risk of spills. Minor long-term adverse effects would be expected from the increase in generation of hazardous and solid waste as more people would work at Fort Belvoir and the surrounding area.

7.0 Mitigation

The EIS predicts that implementing the Preferred Alternative will result in significant adverse effects on several resources. Other resources will incur minor to moderate adverse effects. The EIS identifies mitigation measures to minimize, avoid, or compensate for such effects. All practicable means to avoid or minimize environmental harm from the selected alternative have been adopted, except as otherwise indicated below.

7.1 Road Improvements

The EIS identified and evaluated 13 road improvements, listed below, that could mitigate the effects of the Preferred Alternative.

1. Reconstruct (with direct connections to the HOV lanes) the I-95/Fairfax County Parkway interchange
2. Add or improve ramps to and from I-95 for EPG
3. Widen EPG Segment of Fairfax County Parkway (beyond what is already funded)
4. Improve Fairfax County Parkway between I-95 and John J. Kingman Road
5. Create a rideshare facility (slugs)

6. Build transit center/facilities
7. Create additional EPG access
8. Improve intersections at key locations (e.g., U.S. Route 1 at Backlick Road/ Pohick Road (Tulley Gate))
9. Build additional U.S. Route 1 crossing for the Main Post
10. Improve the Fairfax County Parkway/John J. Kingman Road intersection
11. Improve the Franconia Springfield Parkway/Neuman Street interchange
12. Create access to EPG via Neuman Street
13. Improve Beulah, Telegraph, and Backlick Roads

These above projects are not being adopted. They are not practicable because of high cost and a lack of funding. They do not meet the Defense Access Roads (DAR) Program criteria for federal funding, except as noted below.

The Army will pursue implementation of the following five projects that have been certified by the Surface Deployment and Distribution Command under the Defense Access Roads (DAR) Program as important to national defense:

- An access road beginning at the existing flyover ramp on southbound I-95 just south of its interchange with Franconia-Springfield Parkway, then proceeding along the flyover over Backlick Road to southbound Backlick Road and toward the west on a new alignment to the EPG loop road—a distance of approximately 0.3 mile. This project is a part of project 2, listed above.
- An access road beginning at the existing flyover ramp connecting the northbound I-95 HOV lanes to the northbound I-95 mainline just north of its interchange with Fairfax County Parkway, then proceeding west on a new alignment over southbound I-95 and Backlick Road to the EPG loop road—a distance of approximately 0.3 mile. This project is a part of project 2, listed above.
- An access road beginning at the existing exit ramp connecting southbound I-95 to westbound Fairfax County Parkway, then proceeding toward the northwest on a new alignment to the EPG loop road—a distance of approximately 1.0 mile. This project is a part of project 2, listed above.
- An access road beginning at the intersection of Backlick Road and Barta Road at the existing entrance to the EPG, then proceeding west on a new alignment to the EPG loop road, a distance of approximately 0.1 mile; this project includes appropriate intersection work. This project is a part of project 7, listed above.
- The EIS also identifies an access road beginning at the intersection of the Franconia-Springfield Parkway and Neuman Street, then proceeding south along Neuman Street and then on a new alignment across the EPG to the EPG loop road, a distance of approximately 0.6 mile; this project includes appropriate intersection work. Implementation of this DAR-certified project is deferred pending final decision on location of BRAC 133 (WHS). This project is a part of project 12, listed above.

The remaining projects are not eligible for the DAR Program and defense funding cannot be made available for them under current DOD programs. The Army will pursue additional federal funding sources and cooperate with other concerned parties for these projects.

7.2 *Transit System*

The EIS identified three transportation-related mitigation projects: rideshare facility, transit center/facilities, and additional U.S. Route 1 crossing for Main Post. The rideshare facility is adopted and will be provided at EPG. The remaining two projects are not adopted at this time. Establishing a transit center/facilities will be addressed in discussions with Fairfax County and other appropriate entities (see below concerning development of bus transit services). A second crossing over Route 1 is subject to further analysis by the Fort Belvoir Installation Commander. It is expected that the Long-Range Component and Transportation Management Plan of the Real Property Master Plan will provide further analysis and justification concerning the additional crossing. After reviewing the updated Real Property Master Plan, the Fort Belvoir Installation Commander may take appropriate action to finally adopt, defer, or disapprove the additional crossing.

The Fort Belvoir Installation Commander is directed to initiate coordination with Fairfax County and other appropriate entities to develop bus transit services to support the installation.

7.3 *Transportation Management Plan*

The EIS identified the development and implementation of a Transportation Management Plan (TMP) at Fort Belvoir to reduce single-occupancy vehicle (SOV) trips. During the implementation phase of the TMP, the specific TMP strategies that are adopted would be applied as appropriate to each individual tenant at Fort Belvoir, while considering the requirements of their employees. A Transportation Demand Management Coordinator (TDMC) would assist each tenant in developing and implementing the TMP. Such elements of a TMP include, but are not limited to, alternative work schedules, rideshare and carpool programs, bicyclists and pedestrian accommodations, parking policy, and supporting transit services, as discussed further below. A comprehensive TMP will be developed as the design and Real Property Master Plan are carried forth.

7.4 *Transportation Demand Management Coordinator*

The TDMC position will oversee a program aimed at reducing the number of SOVs. The coordinator would be knowledgeable of principles, practices, and methods of transportation demand management. These would include, but not be limited to, employee rideshare and commuter programs; current regional programs regarding air quality and transportation; employer trip reduction requirements; marketing, promotion, and event planning practices; parking management practices; opportunities for walking and biking as alternative means of travel; and development of transportation feasibility studies. Appointing a TDMC before fiscal year 2009 will allow development of transportation program initiatives before BRAC relocation of personnel. The following is

a list of some of the potential transportation demand management programs that a TDMC could help implement and manage.

- ***Commuter information programs.*** Establishing a centralized point of information on available commuter options and a means of disseminating information to employees and employers.
- ***Alternative work schedules.*** Using various strategies to reduce peak hour traffic including flex-time (variable work schedules so that not all employees arrive and depart at the same time) and compressed work schedules (such as working four 10-hour days rather than five 8-hour days to reduce the total number of vehicle trips).
- ***Rideshare matching services.*** Helping establish carpools by matching up employees with similar residential locations and schedules.
- ***Ad hoc carpooling (slugging).*** Establishing and managing an informal carpool area where ad hoc carpools can be assembled each day so that the drivers can take advantage of the regional HOV lanes.
- ***Encouragement and promotion of commuting by bicycle.*** Providing appropriate amenities to encourage bicycle commuting, such as secure bike lockers and showers.
- ***Guaranteed ride home.*** Providing information and assistance to commuters wishing to take part in the region's guaranteed ride home program in which carpools and transit riders have an alternative means of getting home in case of emergency or unexpected schedule change.
- ***HOV priority.*** Providing preferred parking or site access to carpool vehicles.
- ***Transit service interface.*** Providing a centralized point of contact with the regional transit service providers to help get transit information into the hands of employees and to provide feedback to the transit providers about schedules, bus stop locations, or operating problems.
- ***Pedestrian accommodation.*** Promoting efforts to ensure that on-post pedestrian paths are available where needed and that transit riders and others arriving on foot are appropriately accommodated.
- ***Telecommuting.*** Promoting programs that allow and encourage certain employees to work away from the office on occasion, thus reducing the amount of daily travel to Fort Belvoir.
- ***Shuttle services.*** Providing various shuttles, including on-site shuttle services, so that people can travel from one building or campus to another without needing to drive their own vehicles; shuttles connecting Fort Belvoir to the regional rail transit system; and shuttles between Fort Belvoir and other major installations such as the Pentagon.
- ***Transit and ridesharing incentives.*** Working with employees and employers to encourage participation in the MetroChek program, which provides tax-free fare transit and vanpool subsidies. The MetroChek program is authorized under

federal legislation that allows employers to provide employees with a tax-free or pre-tax transit benefit. The maximum amount allowable each month under this program is adjusted every few years. Such incentives encourage additional transit and vanpool usage and can help in meeting the transit mode share goals and help mitigate the traffic effects from SOV trips.

- *Air Quality Action Days.* In the event of air quality action days (code orange and red ozone days) in the metropolitan region, the TDM coordinator would use the TMP program as described above to encourage non-SOV trips. Such programs would include transit, HOV/rideshare, and telecommuting. Bus services are free during these air quality action days, including such services as WMATA Metrobus, Fairfax Connector, and OmniRide. A parking policy could be considered to further discourage SOV trips.

The Fort Belvoir Installation Commander is directed to take all necessary steps to create the position of Fort Belvoir Transportation Demand Management Coordinator. The position and all supporting personnel and resources should be in place no later than January 1, 2009. Duties and scope of the position will be essentially as described in the EIS. Fort Belvoir will continue to develop the Transportation Management Plan as part of its RPMP. The Transportation Demand Management Coordinator will consider the full range of demand management programs identified in the EIS.

7.5 Air Quality

Mitigation with respect to air quality for the Preferred Alternative is as follows.

- Tenant organizations, in consultation with Fort Belvoir Directorate of Public Works, will prepare and implement construction performance specifications with emission control measures to minimize the impact of the construction activities related to BRAC projects to include the following:
 - Limit construction on Code Orange, Red, and Purple ozone days.
 - Require all non-road diesel equipment not meeting Tier 2 or better standards to be retrofitted with emission control devices.
 - Implement anti-idling restrictions for both on-road and non-road vehicles and equipment.
 - Use Ultra-Low Sulfur Diesel fuel.
 - Limit use of off-road trucks.
 - Develop a construction performance plan (CPP) to ensure compliance with these emissions control measures (see Attachment 1).
- The EIS identified as mitigation the standard for new boilers (greater than 10 million British Thermal Units (BTU) heat input/hr) that they would emit no more than 9 ppm NO_x. This measure is not adopted; it is not practicable because of high cost and lack of funding.
- Emergency generator testing will not be conducted on Code Orange, Red, and Purple ozone days during the acceptance phase of construction. Exceptions would be assessed for emergency testing requirements.

7.6 Water Resources

Mitigation measures include development of a storm water drainage system master plan study and participation in Fairfax County's Watershed Planning Process and in Total Maximum Daily Load studies with the Virginia Department of Environmental Quality (VDEQ). These studies will identify current deficiencies (e.g. capacity problems, outfall problems, stream bank erosion) and determine infrastructure needs to meet BRAC requirements and long-term growth.

Once design studies are mature enough to quantify additional impervious cover resulting from BRAC construction at the facility level, candidate locations for removal of existing impervious cover to offset the increase would be identified.

Removal of a closed section of Woodlawn Road from Kingman to Beulah Roads and revegetation of the former roadbed in conjunction with the installation's tree replacement program is not adopted; it is not practicable because of high cost and lack of funding.

Designation of at least one new BRAC building project with a green roof component is adopted.

7.7 Biological Resources

The following mitigations address a range of BRAC-related effects to Fort Belvoir's natural resources. Specific mitigation measures include:

- Protect mature and significant trees during construction by limiting grading in wooded areas. This mitigation measure is adopted.
- Replace trees that are 4 inches or greater in diameter with two new trees. The Army will conduct tree surveys and develop a Tree Protection and Mitigation Plan for each BRAC construction project. Construction contractors will follow the installation's tree protection policies as specified in requirements in the 2001 Fort Belvoir Integrated Natural Resources Management Plan (INRMP). This mitigation measure is adopted.
- Implement an invasive/exotic vegetation control plan. The Army would develop and implement such a plan that would focus on controlling invasives in ecologically sensitive areas such as the kudzu in bald eagle habitats and *Phragmites* in wetlands. The Army would annually treat 100 acres of area impacted by invasive vegetation. The Army would remove invasive vegetation from approximately 450 acres on-post in the following areas: the forest and wildlife corridor, EPG Environmental Quality Corridor (EQC), and the installation wildlife refuges. These measures are not adopted; they are not practicable because of high cost and lack of funding. Compensate for habitat loss by repairing and restoring habitat conditions in about 2.5 miles of degraded/impacted streams on EPG and the Main Post to correct existing stormwater management problems, stabilize eroded and undercut stream channels, remove unnecessary impervious surfaces within riparian areas,

revegetate disturbed and cleared portions of riparian areas, and remove invasive and exotic vegetation from riparian areas and adjoining uplands. This measure is not adopted; it is not practicable because of high cost and lack of funding.

- Expand the boundary of the Accotink Bay Wildlife Refuge (ABWR) in the Southwest Area of the installation to the 125-foot contour to include bald eagle habitat, steep slopes, wetlands, sensitive watershed and rare species habitats. This expansion would add approximately 520 acres to the ABWR. This mitigation measure is adopted. It will be considered by the Fort Belvoir Installation Commander as part of the pending revision to the post's Real Property Master Plan (RPMP).
- Expand the boundary of the Jackson Miles Abbott Wetland Refuge (JMAWR) westward to the proposed connector road corridor to include additional watershed area and rare species habitat. This expansion adds approximately 45 acres to the JMAWR. This mitigation measure is adopted. It will be considered by the Fort Belvoir Installation Commander as part of the pending revision to the post's RPMP.
- Designate steep slopes within the T-17 training area as an additional refuge area to protect the candidate species *Stygobromus phreaticus* as recommended by the VDCR-NHP and as addressed in the 2001 Fort Belvoir INRMP. This mitigation measure is adopted. It will be considered by the Fort Belvoir Installation Commander as part of the pending revision to the post's RPMP.
- Designate area below 100-ft contour of T-17 as a new refuge area to protect bald eagle and *Stygobromus phreaticus* habitat. This designation would add about 60 acres. This mitigation measure is adopted. It will be considered by the Fort Belvoir Installation Commander as part of the pending revision to the post's RPMP.
- Formally establish and dedicate the EQC at EPG as a Special Natural Area. This mitigation measure is adopted to the extent it can be done in a manner consistent with NGA's physical security requirements.
- Establish and maintain habitat for Partners in Flight (PIF) priority species on Fort Belvoir. Compensate for approximately 300 acres of PIF priority grassland species habitat and 250 acres of PIF priority forest species habitat that would be lost to BRAC development. Maintain a 100 to 200 acre parcel in the Southwest Area (to include the Cullum Woods landfill and T-6 site) as grassland habitat. This mitigation measure is not adopted. It is impracticable due to high cost and lack of funding.
- Remove Cissna Road roadbed throughout EPG and the bridge across Accotink Creek. Revegetate the old roadbed. This mitigation measure is not adopted. It is impracticable due to high cost and lack of funding.
- Incorporate wildlife crossing structure on all road crossings of RPAs. Twelve crossings on EPG and eight culvert crossings on the Main Post are estimated. Wildlife crossing structures would include construction and installation techniques to facilitate wildlife crossing. Where feasible, include bridges instead of culverts,

and daylighting on long culverts. This mitigation measure is not adopted. It is impracticable due to high cost and lack of funding.

7.8 Cultural Resources

The following specific mitigation measures would compensate for the impacts to the historic and cultural resources at Fort Belvoir lost through BRAC development.

- Fort Belvoir would update the existing conditions survey of all of the National Register-eligible buildings on Fort Belvoir, excluding family housing. Based on survey results, Fort Belvoir would rehabilitate the exterior of all historic buildings that would be affected by BRAC in accordance with the Secretary of the Interior's Standards and Guidelines for the Rehabilitation of Historic Properties. This mitigation measure is not adopted; it is not practicable because of high cost and lack of funding.
- Fort Belvoir would update the Fort Belvoir Historic District National Register eligibility form to capture changes to the district that have occurred since it was first identified in 1986. This mitigation measure is not adopted; it is not practicable because of high cost and lack of funding.
- The proposed mitigation for the National Register-eligible South Post golf course is photo-documentation prior to its demolition for development as the site for the hospital. This will be the subject of National Historic Preservation Act (NHPA) Section 106 consultation. This mitigation measure is adopted.
- Fort Belvoir will continue to negotiate a NHPA Section 106 Programmatic Agreement. No actions will be undertaken that could cause effects on historic property until the NHPA Section 106 process is complete.

7.9 Socioeconomic Resources

The EIS identifies completion of the National Scenic Trail on Fort Belvoir to offset loss of recreational opportunities due to BRAC realignment. This measure is not adopted; it is not practicable because of high cost and lack of funding.

7.10 Aesthetics and Visual Resources

Vegetated buffers at least 200 feet in width where possible would be retained along the northern boundary of EPG, to be supplemented with additional landscaping as needed, to provide an effective transition to off-post residential areas and other development. This mitigation measure is not adopted; it is not practicable because of high cost and lack of funding. In addition, ambient lighting due to BRAC projects would be maintained at or below requirements similar to those outlined in the Fairfax County Public Facilities Manual as it pertains to residential units. Design of facilities would account for these requirements. This mitigation measure is adopted, with the exception of lighting needed for security and personal safety.

7.11 Utilities

Mitigation measures for utilities include the following:

- The Army would require that at least two of the three major projects institute rainwater catchment systems for use in landscape irrigation. This mitigation measure is adopted.
- All BRAC construction would be designed to meet Executive Order 13423 total operational reduction goals for energy and water conservation. Compliance with the Executive Order will be treated as a best management practice.
- At least one building project would be designed for gray water reuse, one with a Leadership in Energy and Environmental Design (LEED) Gold standard building, and one with a LEED Platinum standard building. These mitigation measures are not adopted; they are not practicable because of high cost and lack of funding.
- Army policy is to build new construction to the LEED Silver standard. Fort Belvoir would assess the long-term cost effectiveness of this program by constructing one major LEED Gold building on-post. This mitigation measure is not adopted; it is not practicable because of high cost and lack of funding.
- The Installation Recycling Program, loading docks, and compost facility would be expanded by fifty percent by 2012. This mitigation measure is not adopted; it is not practicable because of high cost and lack of funding.

7.12 Other Resources

No specific mitigation measures for the BRAC action are identified for other affected resources. In general, actions with respect to affected resources are protected by a variety of BMPs that preserve and conserve those resources. For example, a permit would be required under the Virginia Pollutant Discharge Elimination System program for a construction project disturbing at least 2,500 square feet; as part of the permit process, the Army would have to prepare a soil erosion and sediment control plan and storm water pollution prevention plan to guide sedimentation reduction during the construction process. BMPs typically are an inherent part of project design and implementation, and their funding is included in general project costs.

The Army will minimize effects on all environmental and socioeconomic resources by implementing best management practices, including those listed in Table ES-1 of the EIS, as appropriate for the affected resource.

8.0 Decision

On behalf of the Department of the Army, I have decided to proceed with the Preferred Alternative. Specifically deferred from the present decision, however, is that portion of the Preferred Alternative that would locate and construct facilities for BRAC 133 (WHS) units, agencies, and activities at EPG and approval of the MWR Family Travel Camp. A decision on these portions of the Proposed Action will be announced through additional NEPA documentation.

I have considered the results of the analyses presented in the EIS, supporting studies, and comments provided during formal comment and review periods. These factors as well as the description of the purpose and need for the Proposed Action guided my decision on whether to approve the Preferred Alternative. I gave special consideration

to the effect of the Proposed Action on traffic, air quality, natural resources, and cultural resources. I also took into account the fact that the No Action Alternative would not meet the Army's purpose and need for the Proposed Action. This was critical because the BRAC realignment is required by Congress and needed for Army transformation to be effective. On the basis of this review, I have determined that implementing the Preferred Alternative reflects a proper balance between initiatives for protection of the environment, appropriate mitigation, and actions to achieve the Army's requirements (e.g., force protection). Consistent with this decision and the Proposed Action and analyses described in the EIS, the Army will:

- Incorporate into its Fort Belvoir RPMP the preferred land use plan identified in the EIS.
- Subject to the availability of funding,⁴ implement the facilities projects listed in Section 4.1 above, except for BRAC 133 (WHS) and the MWR Family Travel Camp. As described in Section 4.1 above, structured parking will be provided in support of major facilities projects.
- Realign Fort Belvoir by relocating approximately 19,000 additional personnel to the post as indicated by the 2005 BRAC Commission.
- Implement the five discretionary move relocations identified in Section 2.0 above.

My decision to adopt the preferred land use plan alternative, and deferring the construction location for BRAC 133 (WHS) from the Preferred Alternative for BRAC realignment is based on my view that these alternatives are, on balance, the environmentally preferable course compared to other action alternatives. The No Action Alternative is the most environmentally preferable, but does not meet the purpose and need of the Proposed Action. Consideration of the effects on traffic and attendant costs to relieve congestion are substantial components of my decision. With respect to these, the preferred land use plan and Preferred Alternative for BRAC implementation provide the best solutions to the influx of approximately 19,000 additional personnel to the post. I find substantial potential for the Town Center Alternative to concentrate development in the central portion of Main Post and, thereby, concentrate traffic congestion. The City Center Alternative would place nearly all BRAC units, agencies, and activities at EPG and the GSA Parcel. Utilization of the GSA parcel, or other suitable locations for the implementation of the BRAC 133 (WHS) requires additional evaluation and a supplement to this decision. The Satellite Campuses Alternative, like the Town Center Alternative, would concentrate development on Main Post. This alternative fails to use the EPG, a reasonably available resource. Like the Town Center Alternative, the Satellite Campuses Alternative is estimated to require more than \$700 million to mitigate traffic impacts.

The Army did not perform specific additional analysis of the change in impacts due to the elimination of the BRAC 133 (WHS) element and the Travel Camp from the Preferred Alternative. For purposes of my decision, however, I assumed that all

⁴ The Anti-Deficiency Act (31 U.S.C. 1341 (a)(1)), provides that an officer or employee of the United States government may not (a) make or authorize an expenditure or obligation exceeding an amount available in an appropriation or fund for the expenditure or obligation or (b) involve the government in a contract or obligation for the payment of money before an appropriation is made unless authorized by law.

impacts across the board would be lesser, not greater. Therefore, the analysis in the EIS is adequate to support the decision I have made.

Road improvements identified with respect to the Preferred Alternative for BRAC implementation, which are not addressed above are not now being adopted as part of the Army's action because of a lack of certification under the Defense Access Road program to enable their funding. The Army will continue to work with the FHWA, VDOT, and Fairfax County and the DAR program to accomplish construction of road improvements in support of activities at Fort Belvoir. During the period of construction, Fort Belvoir will work with local transportation authorities to avoid, to the greatest extent practicable, traffic issues related to construction activities.

I note that the Proposed Action complies with the requirements of the General Conformity Rule (40 CFR Part 93) (see next paragraph). Mitigations for air quality are presented in Section 7.5.

I note that the Proposed Action complies with Coastal Zone Management Act of 1972 (16 U.S.C. Section 1451, et seq., as amended). The Commonwealth of Virginia concurred that the proposed BRAC undertakings at Fort Belvoir are consistent with the Virginia Coastal Resources Management Program, provided that:

- The Construction Performance Plan/Air Quality Mitigation Plan dated June 28, 2007 and approved by VDEQ, be included in this Record of Decision (see Attachment 1) and be fully implemented.
- Any substantial changes in the Proposed Action contemplated by the Army must undergo a new analysis and General Conformity Determination.
- The Army provides periodic status reports on implementation of the Construction Performance Plan/Air Quality Mitigation Plan to VDEQ on a semi-annual basis.

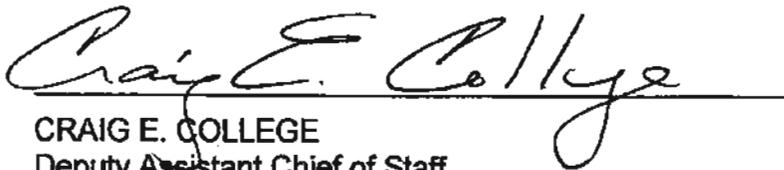
The Proposed Action complies with the requirements of the Endangered Species Act. The U.S. Fish and Wildlife Service concurred that the Proposed Action was not likely to adversely affect known threatened and endangered species.

Although certain potential effects to cultural resources might not become known until later in the project design process, the Army is committed to continuing consultation with appropriate parties to develop measures to mitigate adverse effects to historic properties/resources by avoidance, reduction of or compensation for such adverse effects as they are identified. Analysis in the EIS found no significant adverse impacts with respect to cultural resources due to the ongoing consultations with the other parties, which are anticipated to result in measures to avoid, reduce, or mitigate adverse effects on historic properties. These measures would be identified as the design process progresses and the exact location of proposed projects and specific design details (e.g., building materials, construction footprint, height of buildings, and building design). The measures would be included in the programmatic agreement, currently under negotiation. The Fort Belvoir Installation Commander is directed to continue consultation with appropriate parties through the National Historic Preservation Act Section 106 process and to take appropriate steps to conduct additional assessments of effects on historic properties as circumstances warrant and if adverse, develop the measures to avoid, reduce, or mitigate adverse effects. No actions will be undertaken

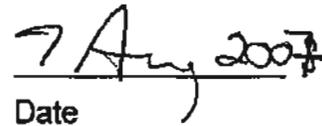
that could cause effects on historic properties until the NHPA Section 106 process is complete.

The Army will minimize effects on all environmental resources and socioeconomic resources by implementing BMPs as appropriate to the affected resources as identified in the EIS.

The mitigation measures involving the rideshare facilities, development of bus transit services, and establishment of a Transportation Demand Management Coordinator do not require enforcement or effectiveness monitoring as described in Appendix C of 32 CFR Part 651. Other mitigation measures will be subject to enforcement monitoring by the Fort Belvoir Installation Commander. Implementing the actions affected by my decision will be subject to the availability of funds, which the Army will seek in good faith.



CRAIG E. COLLEGE
Deputy Assistant Chief of Staff
for Installation Management



Date

Appendix E

ICC-B Historic Preservation

HONOR

“LIVE UP TO ARMY VALUES.”

U. S. Army Core Value #5



Martin O'Malley
Governor

Anthony G. Brown
Lt. Governor

Maryland Department of Planning
Maryland Historical Trust

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.

100 Community Place - Crownsville, Maryland 21032-2023
Telephone: 410.514.7600 Fax: 410.987.4071 Toll Free: 1.800.756.0119 TTY Users: Maryland Relay
Internet: www.marylandhistoricaltrust.net

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:

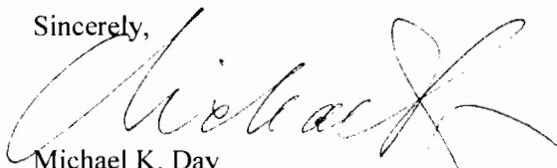
- More detailed plans of the proposed facility, with particular emphasis on any changes and alterations proposed for the contributing historic resources. As well as the location of improvements to the site, parking areas and access, and any associated ancillary actions such as storm water management.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

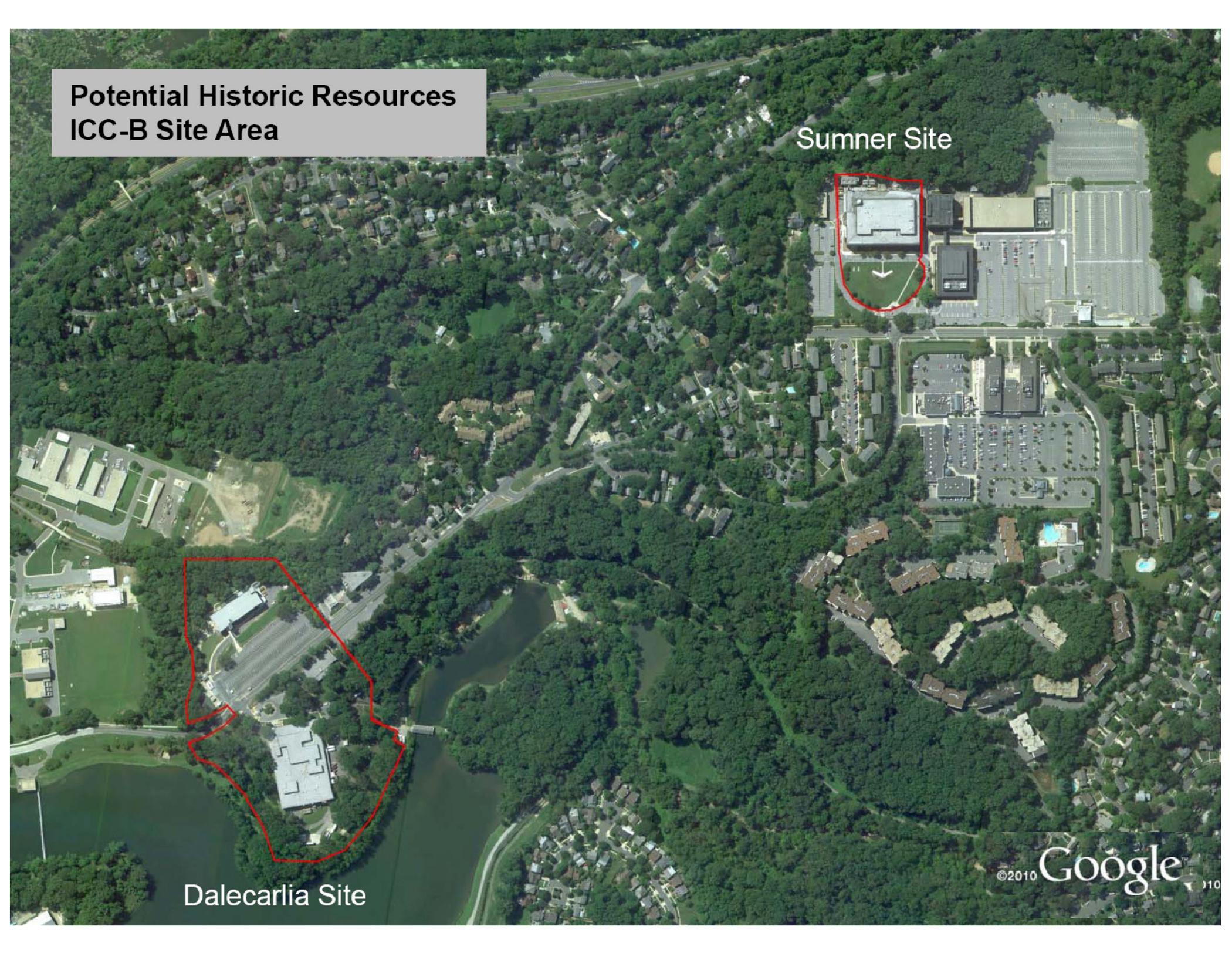
MKD/EJC/ARA/201004944

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

Potential Historic Resources
ICC-B Site Area

Sumner Site

Dalecarlia Site





Main Historic Elements - Flag Memorial
and Guardhouse ICC-B Site

Tom Fitzgerald

From: B Cole [BCole@mdp.state.md.us]
Sent: Thursday, May 12, 2011 2:33 PM
To: Tom Fitzgerald
Subject: RE: Preliminary Inquiry on Historic Properties - 4600 Sangamore Road, Bethesda, MD
Attachments: SumnerSite11-22-2010.pdf

Tom,

Attached please find a PDF copy of the Maryland Historical Trust's comment letter to the Corps of Engineers, dated 11/22/2010. In order to research the available information we have regarding historic and archeological resources on this property, you'll need to make an appointment to come in and use our Library. Please follow the website link for details on how to make an appt.: <http://mht.maryland.gov/MHTlibrary.html>

Let me know if you have further questions.

Beth Cole

Beth Cole
Administrator, Project Review & Compliance Maryland Historical Trust 100 Community Place Crownsville, MD 21032
410-514-7631
410-987-4071 (fax)
bcole@mdp.state.md.us
<http://mht.maryland.gov>

Please consider the environment before printing.

-----Original Message-----

From: Tom Fitzgerald [<mailto:tfitzgerald@wileywilson.com>]
Sent: Thursday, May 12, 2011 12:20 PM
To: B Cole
Subject: RE: Preliminary Inquiry on Historic Properties - 4600 Sangamore Road, Bethesda, MD

Thanks Beth -

Appreciate your help, we are just trying to get it all in one box for the Corps at this point.

All the Best,
Tom

Thomas L. Fitzgerald, P.E.
Vice President
Wiley|Wilson
127 Nationwide Drive
Lynchburg, VA 24502-4272
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434.665.2187 Mobile
tfitzgerald@wileywilson.com
www.wileywilson.com

-----Original Message-----

From: B Cole [<mailto:BCole@mdp.state.md.us>]
Sent: Thursday, May 12, 2011 10:23 AM
To: Tom Fitzgerald
Cc: A Apple; Watson, Scott C NAB02
Subject: RE: Preliminary Inquiry on Historic Properties - 4600 Sangamore Road, Bethesda, MD

Tom,

I left you a voicemail message. We are familiar with this project and met with the Corps of Engineers and other user agencies in January to begin consultation under Section 106 of the National Historic Preservation Act. The property is eligible for inclusion in the National Register of Historic Places as part of the Army map Service Historic District (M:35-133 and 134). There will need to be coordination between the lead federal agency, our office, and other involved consulting parties as planning proceeds for the master plan and specific undertakings at the facility in order to consider effects on historic properties and complete the Section 106 review. Let us know if you have further questions.

Beth Cole

Beth Cole
Administrator, Project Review & Compliance Maryland Historical Trust 100 Community Place Crownsville, MD 21032
410-514-7631
410-987-4071 (fax)
bcole@mdp.state.md.us
<http://mht.maryland.gov>
Please consider the environment before printing.

-----Original Message-----

From: Tom Fitzgerald [<mailto:tfitzgerald@wileywilson.com>]
Sent: Wednesday, May 11, 2011 10:02 AM
To: B Cole
Subject: Preliminary Inquiry on Historic Properties - 4600 Sangamore Road, Bethesda, MD

Hi Beth,

Following up on my earlier voicemail, these are the properties showing on the website that we are working on for the Corps of Engineers.

Given the sensitivity of this site there is no information available on the web, but we would like to discuss preliminary historic coordination needs for this property as we are in the initial stages of master planning for this property, (draft plat attached).

From the Maryland Inventory of Historic Properties Listing on the website -

M: 35-134 Sumner Site, National Imagery & Mapping Agency (No Documentation on File) 4600 Sangamore Road

M: 35-135 Emory Building, National Imagery & Mapping Agency (No Documentation on File) Sangamore Road

M: 35-136 Abert Hall, National Imagery & Mapping Agency, (No Documentation on File) Sangamore Road

M: 35-137 Roberdeau Hall, National Imagery & Mapping Agency (No Documentation on File) Sangamore Road

M: 35-138 Maury Hall, National Imagery & Mapping Agency (No Documentation on File) Sangamore Road

M: 35-139 Guard Houses, National Imagery & Mapping Agency (No Documentation on File) Sangamore Road

If you would please give me a ring back so we can discuss at your earliest convenience it would be most appreciated.

Best Regards,
Tom

Thomas L. Fitzgerald, P.E.
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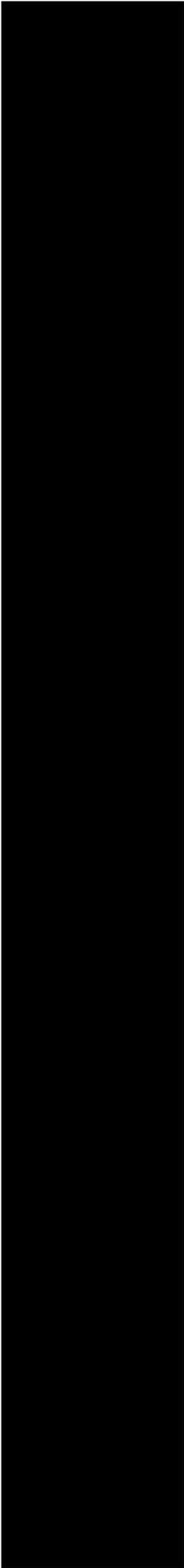
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Standards and Guidelines for Architectural and Historical Investigations in Maryland



MARYLAND HISTORICAL TRUST
Maryland Department of Planning



Standards and Guidelines for Architectural and Historical Investigations in Maryland

Maryland Historical Trust
Maryland Department of Planning



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Maryland Historical Trust
Department of Planning
100 Community Place
Crownsville, Maryland 21032-2023

Cover photo The Beatty-Cramer House, Frederick County, photographed by David L. Ames,
Center for Historic Architecture & Engineering, University of Delaware

Preface

The Maryland Historical Trust was created in 1961 to assist the people of Maryland in identifying, evaluating, protecting and interpreting the state's significant historic, architectural, and cultural resources. The Trust's field survey program has operated continuously since that date, placing some 45,000 entries on the Maryland Inventory of Historic Properties. Over the years, documentation standards have evolved considerably. Early reconnaissance surveys produced brief architectural descriptions and minimal photographic coverage; subsequent efforts often expanded upon this basic information with historical research and measured drawings. Following the creation of the federal historic preservation program and the Trust's designation as the State Historic Preservation Office for Maryland, a more exhaustive inventory form was developed, based on the National Register format; this brought the state's field survey standards into close alignment with National Park Service requirements. Documentation produced in recent decades is rich in content, and has established the Maryland inventory's national reputation for thoroughness and professionalism. Among the Trust's key goals for the immediate future is to make the Maryland Inventory of Historic Properties readily available in electronic form; this underscores the need to promulgate and maintain uniform documentation standards. To that end, the present publication has been developed. It contains comprehensive standards for conducting architectural investigations in Maryland, and provides guidelines for completing documentation for all types of survey projects.



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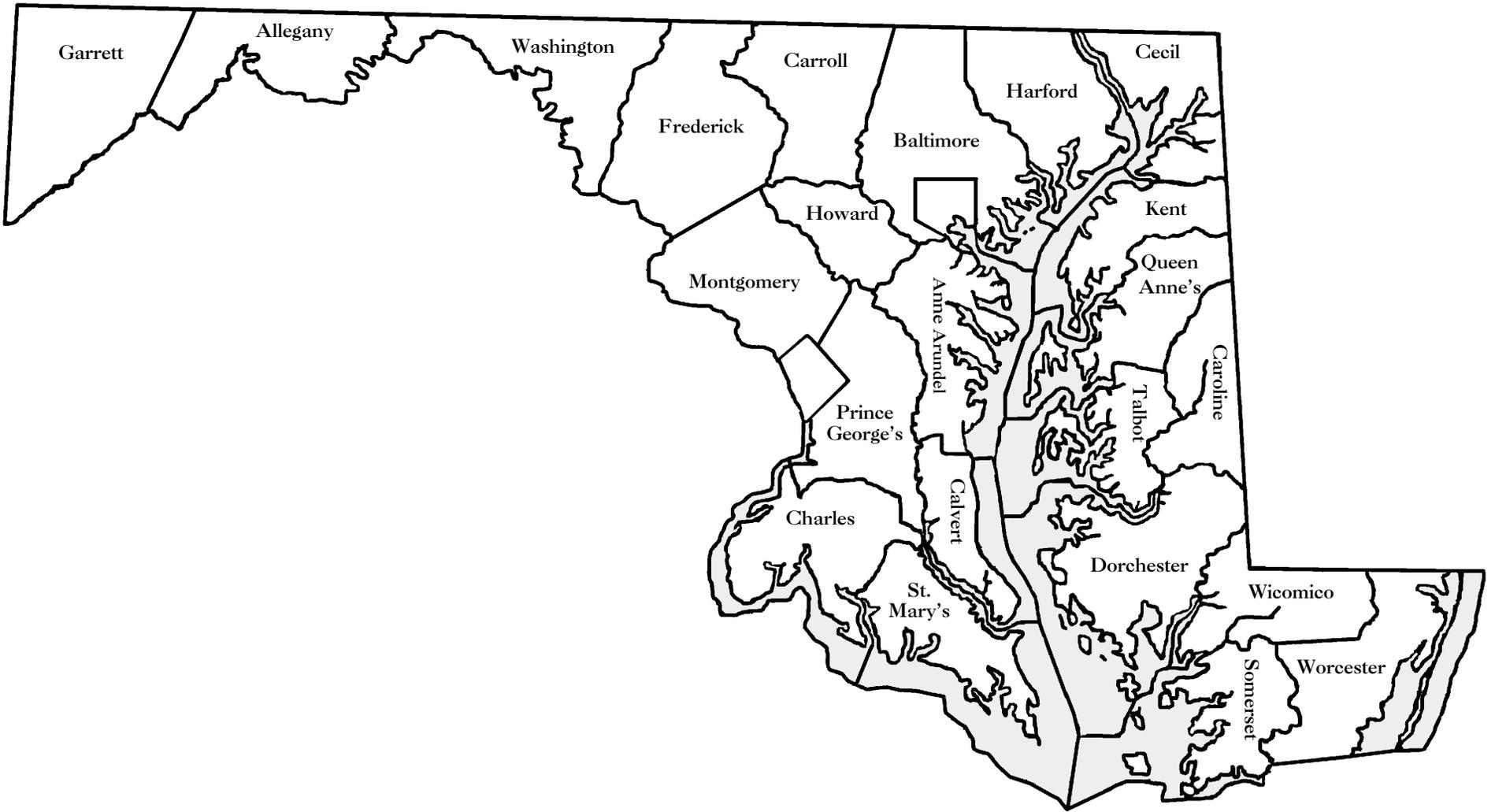
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**This list is current as of August 2000. Please refer to the MHT website for the most up-to-date listing.*

Commonly Used Abbreviations

Area of Potential Effect	APE
Advisory Council on Historic Preservation	ACHP
Certified Local Government	CLG
Cultural Resources Management	CRM
Code of Federal Regulations	CFR
Historic American Buildings Survey	HABS
Historic American Engineering Record	HAER
Historic Preservation Fund	HPF
Historic Structure Report	HSR
Maryland Historical Trust	MHT, Trust
National Historic Preservation Act	NHPA
National Park Service	NPS
State Historic Preservation Office	SHPO



I Introduction



A Comprehensive Reference

Standards and Guidelines for Architectural and Historical Investigations in Maryland is a comprehensive reference for professionals in their survey and research of architectural and historical properties in the state. Previously, researchers conducting architectural surveys or compliance projects in Maryland had to refer to materials published by a wide range of sources, including the National Park Service (NPS) and the Advisory Council on Historic Preservation (ACHP), as well as the Maryland Historical Trust (MHT). They reviewed a variety of publications, from the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation to the many technical, planning, and policy publications of the NPS and the Trust. The following is a compilation of information from these and other sources that will serve as a useful guide for identifying and documenting historic buildings, sites, structures, and objects in Maryland.

Members of preservation organizations and commissions; local, state, and federal government officials and administrators; preservation planners; developers; and others will find this a practical reference in cultural resource surveys and compliance reviews. The manual contains instructions in fieldwork and documentation that will help to develop professional standards and efficient procedures for recognizing and documenting historic properties. Its purpose is to foster a better understanding of the importance of high quality research and to assist the Trust in speedier project review.

Grant-Funded and Compliance Survey Projects

As Maryland's State Historic Preservation Office (SHPO), the Trust is involved in the identification, evaluation, registration, preservation, and protection of historic properties. It derives its authority from State Finance and Procurement Article 5A, §§ 5A-325 and 5A-326 of the Annotated Code of Maryland and the National Historic Preservation Act of 1966 (NHPA), as amended in 1980.

To administer the federal historic preservation regulatory process detailed in the "Protection of Historic Properties" section of the U.S. Code of Federal Regulations, 36 CFR Part 800, Section 106 of the NHPA created the Advisory Council on Historic Preservation. The Council is an independent agency within the executive branch of the federal government. Its mandate is to inform, educate, encourage, and advise the President, Congress, and federal agencies on matters relating to historic preservation.

Under the authority and mechanisms established by Section 106, the Trust personnel, acting as the SHPO, review projects funded, licensed, or permitted by federal and state agencies for their compliance with existing laws related to historic preservation.¹ To further ensure the protection of historic properties, the SHPO is required to maintain an environmental review and compliance program. In short, the Trust assists federal and state agencies in determining the effects their actions will have on historic properties. This regulatory review process is often called a Section 106 review.

1. NHPA as amended in 1980; Section 106 (U.S.C. § 470f) and Section 110 (U.S.C. § 470h-2), as well as state preservation laws, (State Finance and Procurement Article 5A, §§ 5A-325 and 5A-326 of the Annotated Code of Maryland)

In accordance with the NHPA review process, the Trust is eligible for Historic Preservation Fund (HPF) grants for survey and documentation. This is covered by Section 110 of the NHPA, which requires federal agencies to be responsible for documenting and preserving historic properties that they own or control. Section 110 also includes inventorying and nominating eligible historic properties to the National Register as well as ensuring that such properties are not “inadvertently transferred, sold, demolished, substantially altered, or allowed to deteriorate significantly.”

Assisted by HPF funds, the Trust maintains a statewide inventory of historic properties and other survey information. It also nominates significant resources to the Maryland Register of Historic Properties and the National Register of Historic Places. It works with federal agencies to determine the eligibility of properties under their jurisdiction or control. In addition, local governments often turn to the Trust for its cooperation and guidance in their development of local historic preservation programs. These include the Certified Local Government (CLG) program as well as many other eligible grant-funded activities requiring architectural investigations.

At the state level, Maryland law also requires a review of state funded capital projects affecting historic properties. It spells out certain steps that state bodies or agencies must take



before submitting a request for a capital project.² They are required to consult with the Trust “to determine if the proposed capital project or projects will adversely affect any property listed in, or eligible for, the Maryland Register of Historic Properties.” Like their federal counterparts, state agencies are responsible for identifying, documenting, and nominating all properties they own or control that appear to qualify for the Maryland Register of Historic Properties. They must also ensure that any property listed or determined eligible for the Maryland Register is “not inadvertently transferred, sold, demolished, destroyed, substantially altered, or allowed to deteriorate significantly.” If a proposed capital project requires substantial alteration or demolition

of a historic property, the agency must negotiate with the Trust to determine the appropriate mitigating measures, such as survey and other documentation.

Professional Qualifications

The Trust’s requirements for personnel involved in architectural investigations by the Trust conform to the national standards detailed in the Secretary of the Interior’s *Standards for Archeology and Historic Preservation* (Federal Register, 36 CFR Part 61). These professional qualifications, reprinted below, are used by the National Park Service to define the minimum education and experience necessary to perform identification, evaluation, registration, and treatment activities.

A professional’s expertise must be relevant to the preservation task at hand. For example, an architect would not be considered qualified to conduct a survey and perform documentation tasks unless he or she also met the standards required for a historian or architectural historian. Similarly, unless an architectural historian or historian also possesses a professional degree in

2. Art. 83B, §§ 5-617 and 5-618.

architecture or is a state-licensed architect, he or she would not be qualified to conduct the stabilization, rehabilitation, or restoration of a historic property.

Depending on a project's complexity or the nature of the resources involved, the Trust may require multiple areas or levels of expertise. This requirement is usually fulfilled by a team approach. In all cases, however, architectural investigators in Maryland will be required to meet at least one of the following professional qualification standards.

Architectural Historian

The applicant, employee, consultant, or advisor will have a graduate degree in Architectural History or a closely related field of study, such as Art History; *plus* a minimum of two (2) years of full-time professional experience applying the theories, methods, and practices of architectural history to the identification, evaluation, registration, documentation, or treatment of historic properties in the United States and its territories; *and* products and activities that demonstrate the successful application of acquired proficiencies in the discipline to the practice of historic preservation; *or*



An undergraduate degree in Architectural History or a closely related field, such as Art History, *plus* a minimum of four (4) years of full-time professional experience applying the theories, methods, and practices of architectural history to the identification, evaluation, registration, documentation, or treatment of historic properties in the United States and its territories; *and* products and activities that demonstrate the successful application of acquired proficiencies in the discipline to the practice of historic preservation.

Historic Preservationist

The applicant, employee, consultant, or advisor will have a graduate degree in Historic Preservation or a closely related field of study, such as Environmental Studies; *plus* a minimum of two (2) years of full-time professional experience applying the theories, methods, and practices of historic preservation to the identification, evaluation, registration, documentation, or treatment of historic properties in the United States and its territories; *and* products and activities that demonstrate the successful application of acquired proficiencies in the discipline to the practice of historic preservation; *or*

An undergraduate degree in Historic Preservation or a closely related field, such as Environmental Studies; *plus* a minimum of four (4) years of full-time professional experience applying the theories, methods, and practices of historic preservation to the identification, evaluation, registration, documentation, or treatment of historic properties in the United States and its territories; *and* products and activities that demonstrate the successful application of acquired proficiencies in the discipline to the practice of historic preservation.

Historian

The applicant, employee, consultant, or advisor will have a graduate degree in American History or a closely related field of study, such as American Studies; *plus* a minimum of two (2) years of full-time professional experience applying the theories, methods, and practices of American history to the identification, evaluation, registration, documentation, or treatment of historic properties in the United States and its territories; *and* products and activities that

demonstrate the successful application of acquired proficiencies in the discipline to the practice of historic preservation; *or*

An undergraduate degree in American History or a closely related field, such as American Studies; *plus* a minimum of four (4) years of full-time professional experience applying the theories, methods, and practices of American history to the identification, evaluation, registration, documentation, or treatment of historic properties in the United States and its territories; *and* products and activities that demonstrate the successful application of acquired proficiencies in the discipline to the practice of historic preservation.

Other Cultural Resource Investigations

Cultural resource investigations in Maryland encompass a wide range of preservation initiatives beyond the scope and purpose of this document. Other major types of studies include the preservation components of comprehensive master plans, Cultural Resource Management plans, National Register nominations, and Historic Structure Reports. The focus of this document is the identification and documentation of historic cultural resources in Maryland that will initiate and support evaluation and registration program activities, such as the National Register of Historic Places.

The National Register of Historic Places is the official federal list of districts, sites, buildings, structures, and objects significant in American history, architecture, archeology, engineering, and culture. This national repository of information on historic properties that have been evaluated and documented according to uniform standards is a remarkable resource for preservation planning and the study of America's built environment. All Maryland properties included in, or determined eligible for, the National Register are also given a parallel designation in the Maryland Register of Historic Properties. The Maryland Register, established by the Maryland legislature in 1985, provides eligibility for certain state regulatory protections as well as the availability of grant and loan programs. Inclusion in the Maryland Register requires that the resource be listed in or determined eligible by the Director of the Maryland Historical Trust for listing in the National Register of Historic Places. The National Park Service has published extensive technical information and specialized bulletins related to the survey and registration of historic properties.³



A Historic Structure Report (HSR), which records the documentary and physical research concerning a structure's evolution, is used in the management of historic resources. When used in conjunction with existing research, a HSR minimizes the loss of significant material or design elements when decisions are being made that affect a historic structure. As outlined in the National Park Service's *Cultural Resources Management Guideline* (NPS-28, October 1980), a HSR usually contains three major elements: an administrative data section, a physical history, and an analysis section and appendix. Normally, a HSR is prepared whenever a proposed major alteration of a historic site or structure will affect the qualities or characteristics that qualify the property for inclusion on the National Register.

Additional Information

Chapter VIII of this guide provides an extensive list of recommended readings applicable to architectural investigations in Maryland.

3. See *Bulletin 15: How To Apply the National Register Criteria for Evaluation*; *Bulletin 16A: How to Complete the National Register Form*; *Bulletin 16B: How to Complete the National Register Multiple Property Documentation Form*; and the *Maryland Supplement to Bulletin 16* (see Chapter VIII for a complete list of NPS technical information publications).

II *Architectural and Historical Investigations in Maryland*



Introduction

Identifying and evaluating an area’s architectural and historical resources is basic to the preservation of its cultural heritage and distinctive built environmental character. Effective preservation planning depends on a survey of an area’s above-ground cultural resources, such as old and new buildings, street furniture, landscaping, open spaces, views, and vistas. This comprehensive description of an area’s physical characteristics helps to establish its historical character and to trace its development.

Preservation surveys define an area’s distinctive character and identify the historic and cultural resources that meet the criteria for national, state, or local registers and merit whatever legal protection is available. Surveys also create the groundwork for preservation plans.

Local designation created by city and county ordinances can go beyond the provisions and requirements stipulated by national and state registers. A local ordinance may prohibit demolition of recognized properties and may include design restrictions in a historic area.

COUNTY	STANDING STRUCTURES BUILT PRIOR TO 1950	% OF PRE-1950 STANDING STRUCTURES SURVEYED	# OF STANDING STRUCTURES LISTED ON MHT INVENTORY*	#OF STANDING STRUCTURES LISTED ON NATIONAL REGISTER**	PUBLISHED COUNTY WIDE SURVEY?
Allegany	16,603	15%	2,496	1,135	No
Anne Arundel	23,528	12%	2,860	1,317	Yes
Baltimore City	174,385	3%	5,360	27,211	No
Baltimore	60,121	5%	3,022	2,953	No
Calvert	2,720	48%	1,300	19	No
Caroline	3,538	11%	402	230	No
Carroll	9,072	25%	2,267	2,480	No
Cecil	6,849	23%	1,580	468	Yes
Charles	3,608	13%	479	118	No
Dorchester	5,277	17%	903	725	Yes
Frederick	12,911	42%	5,411	3,710	No
Garrett	3,497	68%	2,373	403	No
Harford	8,942	24%	2,147	1,736	Yes
Howard	3,619	22%	785	358	No
Kent	2,963	24%	709	710	Yes
Montgomery	36,314	18%	6,531	1,444	No
Prince George’s	36,666	8%	2,955	3,278	No
Queen Anne’s	2,948	17%	509	130	No
St. Mary’s	4,126	29%	1,188	112	No
Somerset	3,152	31%	970	618	Yes
Talbot	4,404	24%	1,075	1,270	Yes
Washington	16,685	30%	5,011	2,765	No
Wicomico	7,842	15%	1,201	53	No
Worcester	5,252	19%	993	83	Yes

* includes contributing resources within Survey Districts

** includes contributing resources within National Register Historic Districts

Grant-Funded Investigations

Because architectural and historical investigations are critical in the preservation planning process and the rehabilitation of historic buildings, funding for specific survey projects is considered a good investment by both federal and state governments. Architectural and historical surveys in Maryland are supported by federal and state historic preservation funding. The Trust is the channel through which federal grant money is passed on to local governments and other entities through a subgrant program.

The 1980 amendments to the NHPA are the authority for transfers of funds to local governments and other entities. As amended, the NHPA established a Certified Local Government (CLG) Program that expanded the federal-state preservation partnership to include local governments, non-profit organizations, civic groups, and citizens. The state of Maryland ensures that at least 10 percent of the congressionally appropriated Historic Preservation Fund is passed on to “Certified Local Governments” that qualify under the federal regulations.⁴ The

grant funding is available for a wide variety of projects, including but not limited to the development of preservation plans and architectural, archeological, or cultural surveys; educational outreach programs; and National Register nominations. Most often, CLG subgrants support some type of identification and evaluation of historic cultural resources.

The Trust also administers a state Historic Preservation Grant Fund established by the General Assembly in 1976 to encourage the preservation of historic properties. This grant fund supports both capital and non-capital Historic Preservation Grant Programs. Non-profit organizations, local jurisdictions, and business entities are eligible to apply for non-

capital grant funding. (For information concerning the eligibility of business entities see the Non-Capital Grant Application.) State entities are not eligible to apply for funding.

Among the broad array of survey and identification projects funded by Maryland Non-Capital Grants are projects designed to locate and identify architectural and historical resources. These most commonly are countywide in scope. Collaborative regional heritage studies and thematic surveys are becoming more commonplace. These comprehensive surveys provide a basis for evaluating a county’s resources within their local historic context and aid in developing broader regional and thematic contexts. They also identify highly significant or endangered properties that should receive extensive documentation completed to *Historic American Buildings Survey* (HABS) standards including measured drawings, large-format photographs, and/or detailed building analyses by preservation professionals.

Evaluation and registration projects build on comprehensive surveys and determine if the subject properties meet specified criteria to be formally recognized in a register of historic properties. Such registration programs offer a number of benefits at community, county, state, and national levels. These can range from honorific recognition to financial incentives, including property and income tax deductions.



4. “Procedures for Approved State and Local Government Historic Preservation Programs,” *Code of Federal Regulations*, 36 CFR Part 61.

Listing in the National Register of Historic Places is the most common form of registration of historic properties in the state. Listing in the National Register follows a process established by the *Code of Federal Regulations*, 36 CFR Part 60. Properties listed in the National Register are listed concurrently in the Maryland Register. Under state and federal preservation laws, properties listed in the Maryland and National registers must be given due consideration in the planning of federal and state projects or actions and thus are given limited protection.

The evaluation and registration of historic properties in Maryland are parts of the larger process of preservation planning; a process that organizes activities, such as identification, evaluation, registration, and treatment of historic properties, into a logical sequence. Surveys—the identification and evaluation steps—are the basic building blocks of this process. For the purposes of effective preservation planning, a survey must consider the historic context in which a particular property or resource exists.

A historic context is a format or method of organizing information about related historic properties into manageable units based on a theme, geographical limits, or chronological period. Establishing a historic context increases the reliability of decisions made concerning the identification, evaluation, registration, and treatment of historic properties. In many cases not all significant historic properties will have been identified at the beginning of the preservation planning process. Therefore, investigators should not only use all available existing data, but should also continually develop and broaden historic contexts to form a framework upon which preservation planning can build.

A historic context might encompass the development of an area, taking into account its history, architecture, archeology, engineering, and culture. It also might identify the significant patterns that individual properties represent within that context. One example is *Scientific Farming in Montgomery County between 1790 and 1860*. The study offers one theoretical construct of the effect of a particular movement or advance upon the history of agriculture. It establishes a time frame and geographical area from which discernible patterns in the county's historical and architectural development emerge. A set of such historic contexts can create a truly comprehensive view of an area's history, thus providing a broad definition that is useful to preservation planners and surveyors. As a result, researchers are able to anticipate, identify, and evaluate specific property types. The investigator should develop several levels of information that can be used in local, state, and regional planning. This ensures that the survey includes a range of properties representing all aspects of an area's history rather than a small, biased sample. One or more well-developed historic contexts for a geographical area can guide identification activities and assist in estimating the level of effort and methodology required by large-scale surveys.

Comprehensive Survey Components

All grant funded comprehensive surveys include three major components: a research design, fieldwork and preparation of MHT inventory forms, and the final report.

The *research design* provides a framework that guides investigators in identification procedures. It includes an outline of the survey's objectives; a description of the research and field-



work methods necessary to obtain data; and a discussion of expected results based on background research, experience, and a general knowledge of the survey area or of areas with a similar environment or history (See Chapter III for detailed instructions and guidelines for preparation of the Research Design).

Fieldwork must be in keeping with the preservation goals or management needs that direct the survey, which should have as its overriding objective the greatest possible protection of the properties and historical context under study. Fieldwork techniques are usually related to the level of effort required by the significance of the resources. Architectural investigations are loosely organized into two levels: “reconnaissance” and “intensive” surveys.

The reconnaissance survey should document the kinds of properties identified; the boundaries of the area surveyed; the method of survey, including the extent of the survey coverage; the kinds of historic properties present in the surveyed area; specific properties that were identified; and the categories of information collected. It should also list places examined that did not contain historic properties.

The intensive survey should document the kinds of properties identified; the boundaries of the area surveyed; the method of survey, including an estimate of the extent of the survey coverage; a record of the precise location of all properties identified; and enough specific data

on the appearance, significance, integrity, and boundaries of each property to permit an evaluation of its significance.

Architectural investigators may find it necessary to use both reconnaissance and intensive field survey techniques to accomplish the project goals. In developing their research design and methodology, investigators should use existing information as the basis for further research and ongoing fieldwork. As work progresses, they must continue to develop historic contexts as the underlying framework for identification and evaluation of the properties.

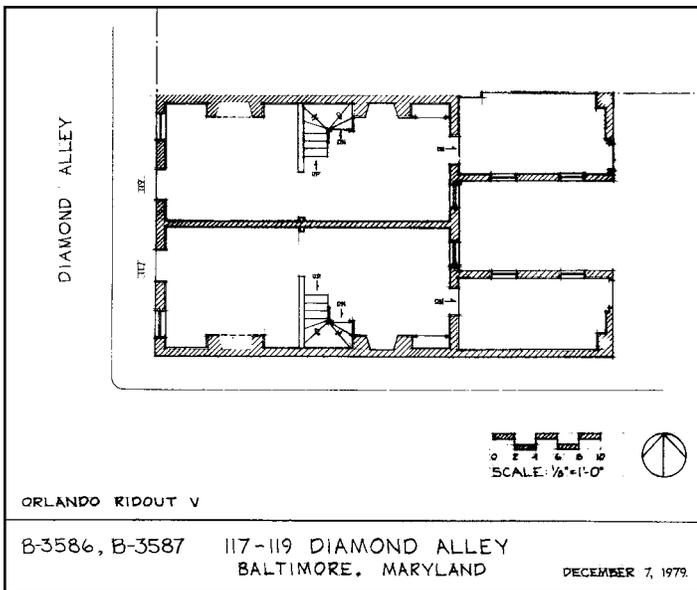
The assembled data is evaluated as the basis for determining eligibility for registration and for making treatment decisions. To ensure uniformity of information on properties surveyed in the state, the Trust has developed a standard inventory form, the *Maryland Inventory of Historic Properties Form*. Data recorded on a particular site includes a description of the property,

a statement that justifies its significance in relation to its context(s), analysis of the integrity of the property, and a record of when the property was surveyed and by whom. (See Chapter IV for instructions and guidelines for the preparation of these forms.)

Grant-funded surveys conclude with the submission of a *final report* that includes a statement of the survey’s objectives, definition of the survey’s geographical area, a discussion of the methodology and intensity of coverage, a description and the location of the results of survey, and recommendations for further work. (See Chapter V for detailed instructions and guidelines for preparation of the Final Survey Report.)

Compliance Investigations

An important goal of this guide is to facilitate the review of projects requiring compliance with federal and state historic preservation laws and regulations. Specific types of information are required by the governmental agencies responsible for identifying and treating historic properties, as well as by those who review activities affecting historic properties. On occasion, a project’s cultural resources may also require archeological investigation, which is beyond the scope of this guide. For materials and sources of information on terrestrial and underwater archeology, preservation professionals should contact Trust staff.



The Trust's Office of Preservation Services reviews projects for their effects on historic properties under the federal and state laws discussed in the previous chapter. As noted, the most common review is conducted pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended, or State Finance and Procurement Article 5A, §§ 5A-325 and 5A-326, of the Annotated Code of Maryland. These laws require agencies to consider the effects of their undertakings on properties included in or eligible for the National Register of Historic Places and the Maryland Register of Historic Properties respectively. It is important to emphasize that any governmental agency initiating a project is responsible for compliance with the relevant historic preservation laws. The Trust's role is a consultative one in which it provides information, advice, recommendations, and determinations of register eligibility, as well as suggestions on how to avoid or minimize a project's adverse effects on historic properties.

The SHPO reviews more than 4,000 projects annually, on a first-come-first-served basis. Its response may take up to thirty days from the receipt of complete documentation from the requesting agency. Failure to submit the completed documentation, including the MIHP form and accompanying materials, could delay the process. Therefore, to provide adequate time to address all historic preservation concerns and to prevent avoidable delays, agency officials should consult the SHPO as early in the project planning process as possible—when alternative project locations, configurations, and methods are still available; or when program discussions begin.

Normally, coordination begins when an agency official submits a written request to the SHPO for assistance in identifying historic properties. A request should include:

- a description of the proposed project and the nature of federal or state agency involvement;
- a brief written justification of the Area of Potential Effect (APE) with a clear delineation of the project's area of potential effect on an appropriate section of a labeled U.S. Geological Survey 7.5-minute quadrangle (or other 1 inch = 2000 feet scale map);
- a summary of the agency's review of existing information on known and potential historic properties that may be affected by the undertaking; photographs;
- and a detailed description of current and past land use of the subject property.

Upon receipt of this information from the sponsoring governmental agency (or its applicant), Trust staff architectural historians and archaeologists will review the Maryland Inventory of Historic Properties for recorded standing structures and archeological sites. They will also review other available records, surveys, historic maps, and descriptions of present and past land use, among others, to determine if known or not yet identified historic properties exist in the project's Area of Potential Effect. Based on this review, the SHPO staff will submit their recommendations to the inquiring agency, with comments on the possible need for further survey or other historic preservation activities.

Agencies, organizations, and individuals involved in other historic preservation activities that may also require compliance should consult the SHPO. These activities may involve: federal or state agencies interested in locating, inventorying, and nominating to the National Register of Historic Places any property or properties they own or control;⁵ individuals or organizations applying for financial assistance through the Trust's historic preservation loan or grant programs;⁶ or individuals and organizations participating in the Trust's easement program.



5. Section 110 of the NHPA (16 U.S.C. 470h) and State Finance and Procurement Article 5A, §§ 5A-325 and 5A-326 [a][1], of the Annotated Code of Maryland.

6. Established by State Finance and Procurement Article 5A, §§ 5A-327 and 5A-328 of the Annotated Code of Maryland

Government agencies, professional historic preservation consultants, and others involved with compliance reviews are reminded that the Trust's insistence upon adherence to specific standards and guidelines stems, in part, from its legal responsibility to meet National Park Service requirements.

An aid to agencies responsible for managing large installations or land tracts or administering historic properties is the Cultural Resource Management Plan (CRMP), also referred to as a Historic Preservation Plan (HPP). Such plans provide an overview of the project area's historic contexts, describe inventoried historic properties and predicted resources, and recommend the appropriate treatment and management of the area's historic properties, both known and predicted. Generally, CRMPs are developed to address all historic property types on a particular site, including architectural and archeological resources.

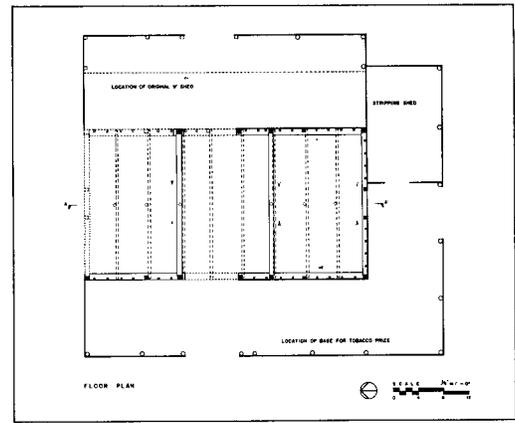
To develop an effective plan, investigators should have a working knowledge and understanding not only of the area's historic properties, but also of the agency's mission, programs, and processes. Prior identification and evaluation greatly enhances a plan's usefulness in future compliance-related decisions. Also, the degree of prior investigation will influence the focus and research strategy for a given plan. For sites that encompass considerable acreage, for instance, agencies may find it more practical to complete phased investigations before developing their plans.

As with other cultural resource investigations, agencies should consult the Trust and the Federal Advisory Council on Historic Preservation, as appropriate, when deciding to develop an HPP/CRMP and determining the appropriate level of effort required. The content and form of an HPP will vary depending upon the nature of the agency, project area, and historic properties involved. To determine the most appropriate methods and analysis, investigators should be clear on the precise objectives of a particular HPP before initiating a study.

HPPs can be the basis of a formal Programmatic Agreement that covers an agency's compliance responsibilities under state or federal law. For Section 106 projects, the parties to the agreement are the agency, the Trust, and the Federal Advisory Council on Historic Preservation. These agreements may help streamline the agency's compliance responsibilities and eliminate the need for extensive project-specific reviews.



III *Research Designs*



Working with the Administrator of Architectural Research of the Maryland Historical Trust, preservation planners and consultants for all grant-funded architectural investigations must prepare a research design incorporating the historic context framework established by the Trust. The design is a guide for efficient, goal-directed background research that occurs before field surveys are conducted. A chief component of the design is development of localized historic contexts format, suitable in scale for the project area. An effective research design ensures that objectives are clear and that the products of the research and survey efforts are systematically collected and recorded and made available to those responsible for preservation planning. In compliance projects, the research design should be prepared in conjunction with a formal bid/proposal or statement of the scope of work.

Standards for Identification

As used in the Secretary of the Interior's *Standards and Guidelines for Archeology and Historic Preservation*, identification describes those activities undertaken to gather information about historic properties. When these activities relate to historic and architectural resources, they usually take the form of archival and background research, informant interviews, and surveys of standing structures.

The scope and nature of architectural investigations always depend on the existing knowledge of the survey or project area's properties and the planning goals or current management needs. Identification activities generally have multiple objectives, reflecting complex goals and needs. As a result, combinations of these activities may be selected and assigned appropriate levels of effort to produce a flexible series of planning options.

The objectives, methodology, identification of the survey area, and expected results of a survey or compliance project are specified in the research design. These statements are required in all grant-funded and compliance projects for architectural and historical investigations in Maryland before the fieldwork is performed. They must be reviewed and approved by the Administrator of Architectural Research or the appropriate preservation officer for compliance projects. This requirement, as defined by the Secretary of the Interior's *Standards and Guidelines*, "provides a vehicle for integrating the various activities performed during the identification process and for linking those activities directly to the goals and the historic context(s) for which the goals were defined."

In practice, the research design also provides investigator(s) with the framework for developing a work program that defines planning goals for determining historic contexts and the scale and intensity of the survey work. It also specifies the proposed use of the survey data and can provide important interpretive information to generate local interest and participation in a survey project.

Mandatory Components

As the vehicle for the integration of activities performed during the identification process, the well-crafted research design will, to the greatest extent possible, create linkages among the tasks in a survey project. These tasks include archival and background research, development of historic context(s), and fieldwork. Survey leaders will be responsible for ensuring the effective integration of all facets of the survey, which normally are conducted concurrently. The research design should include the following major sections:

Project Goals and Objectives

This first section should include a statement of the survey or compliance investigation's goals and objectives. Ideally, the survey's goals should be based on historic contexts even though planning needs may determine the project's scope and priorities. Preservation planners should develop preliminary survey goals and objectives based upon current knowledge of a specific area's historic contexts or property types established through background research and assessments of previous research.

For example, suppose that future plans for highway improvements give high survey priority to a community within the highway's path. Background research reveals that the community was a tobacco port during the eighteenth century; experienced growth as an agricultural village in the nineteenth century after the construction of a turnpike; and developed into an ethnic suburban community in the twentieth century with the booming growth of regional urban centers and the construction of hard-surface roads.

Goals for a first stage survey effort might include determination of the boundaries of the eighteenth-century port; identification of any buildings still standing from the period; location of buildings requiring further study to determine whether they represent modernized eighteenth-century buildings; determination of likely archeological sites; identification of any surviving nineteenth-century agricultural or commercial properties; and identification of any ethnic neighborhoods or buildings that retain their architectural or cultural integrity.

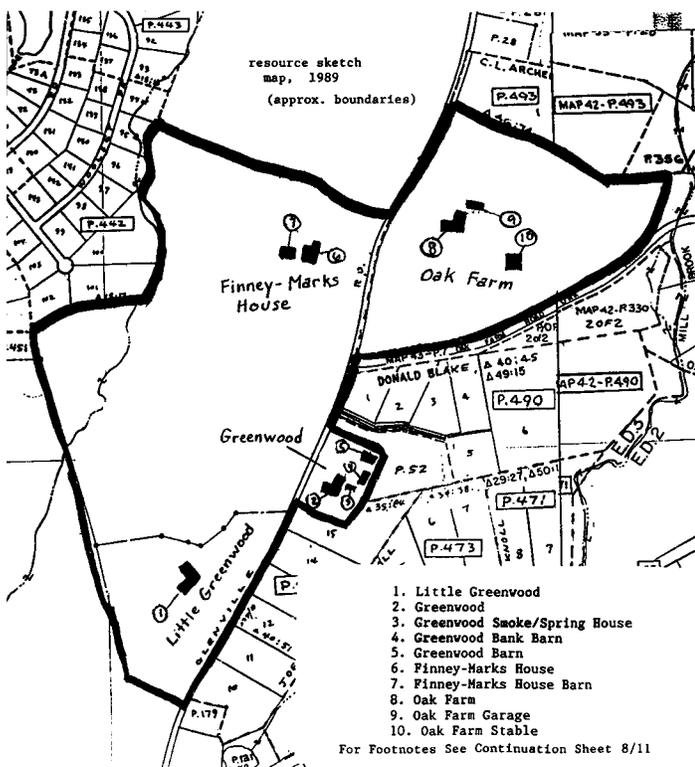
The survey's objectives might be to characterize the range of properties in the region or planning area, to identify properties within a particular context, or to determine which properties in an area may be significant.

Survey planners should consult with SHPO staff when preparing a research design. Staff members in the Office of Research, Survey, and Registration and the Office of Preservation Services are experienced in designing and implementing surveys. They can provide valuable advice and models, as well as help ensure that the design is consistent with statewide survey standards and *Preservation Vision 2000: The Maryland Plan*.

Identification of the Survey Area

Planners must clearly define the physical extent of the area to be investigated and the amount and kinds of information to be gathered from the properties. In planning a survey, they will need background data on the community or project area that provides an overview of its development.

This preliminary step and a reconnaissance survey of the community or project area will identify potentially significant areas or specific properties to target for possible intensive survey efforts. Usually jurisdictional or project-area boundaries define the survey area. In large project areas or in areas recognized



for their development potential, however, survey efforts may be phased or targeted to address endangered properties or specific historic contexts.

If the background research suggests that significant properties may be concentrated in certain areas, the most cost-effective choice might be to survey those areas first. Areas where historic properties are less likely to be found would be given lower priority. Because historically significant places may not always be visually obvious, research designers should also make provisions for adding properties and areas identified through documentary research and subsequent field survey.

Discussion of Methodology

The research design should include a detailed explanation of data collection methods and how those methods relate to the survey goals and objectives. The explanation should clearly define background and archival research and field-study methods so that others using the findings can understand how they were obtained and their possible limits or bias. Sources and methods of selecting field-survey techniques should be described and related to the preservation goals directing the survey effort. Planners should also establish approximate time frames within which the work, or particular phases of the work, should be completed. This statement should also include, or be supported by, a brief description of the historic contexts to be investigated.

Expected Results

To the extent possible, those developing the research design should summarize their expectations as to the kind, number, location, character, and condition of historic properties from each historic context to be investigated.

Feedback for the Planning Process

In conclusion, the research design should specify the purposes for which the survey data will be used. Typically data is used to develop historic contexts or strategies for the preservation of historic resources; to revise community development planning; and to evaluate properties for designation locally or for the Maryland Register of Historic Properties and National Register of Historic Places. In the case of grant-funded survey contracts, resources identified through project research would be the basis of a preliminary plan for the evaluation and registration and/or a preliminary plan for protection and treatment.

Research Design Format

All initial research designs for survey and compliance projects should be submitted to the Trust for review in the following format: narrative sections should be typed, single-spaced, double-sided, on 8½" x 11" paper. For clarity, illustrations or maps may be larger than 8½" x 11", if they can be folded to fit in the report as pages or inserts in a pocket. The final research design will be a component of the Final Survey Report. It should reflect the project's adjusted goals and priorities, which usually are revised as the survey matures and new historic contexts are developed and others are refined. (See Chapter V and VI for a description of research designs for the Final Survey Report or compliance document.)

Suggested Research Design Outline

Title Page

- Include the name, nature, and location (with county) of the project.
- Clearly designate the report's author(s) with complete mailing address(es).
- Clearly designate the project's principal investigator(s) with complete mailing address(es).
- List names and complete mailing addresses of the lead government agency or non-profit organization and of the government agent (e.g., engineering firm, developer, or project sponsor, if applicable).
- Indicate the date.

Introduction

- Begin with a brief statement of the nature of the project, the source of funding, and sponsors.
- Include locator maps.

Goals and Objectives

- Include a detailed statement of goals and objectives.
- Explain the applicability of the work to broader county or regional historic and architectural contexts.

Identification of the Survey Area

- Clearly define the physical extent of the area to be investigated, including acreage.
- Describe the amount and kinds of information to be gathered about the properties in the area.

Methodology

- Explain the research methods to be used to develop the historic context(s).
- Describe the field survey techniques available and the levels of effort that may be assigned.

Historic Overview of the Project Area

- Identify the concept, time period, and geographical limits for the historic context(s).
- Collect and compile existing information about the historic context(s) in a written narrative.
- Include maps depicting potential locations of resources along with boundaries of the area to be surveyed.

Description of Expected Results of Field Investigations

- Describe field conditions and constraints.
- Describe potential architectural and historic resources with reference to comparable published studies, if known. Maryland Inventory site numbers issued by the Trust's Office of Research, Survey, and Registration must be utilized in the text and illustrations of the final report.
- When possible and appropriate, include interpretations referring to historic contexts; research questions; and integrity/significance (i.e., eligibility for the National Register).

A Plan for Evaluating and Registering Resources

- State the minimum information necessary to evaluate properties against Maryland Register and National register criteria.
- Explain how historic significance and historic integrity will be assessed and related to the properties surveyed.

Preliminary Plan for Protection and Treatment

- Summarize and evaluate the proposed methods and techniques to be used for protection and treatment.
- Assess the need for additional investigations or resource treatment.
- Discuss the study's public interpretation measures, if applicable.

Review of Bibliographic and Documentary Material

- The style of all citations should follow the latest edition of *The Chicago Manual of Style*.

IV Guidelines for Completing the Maryland Inventory of Historic Properties Form for Architectural and Historical Resources



Introduction

The Maryland Inventory of Historic Properties is a broadly based record of Maryland's historical and cultural heritage. It currently consists of information on more than 40,000 properties, including districts, sites, buildings, structures, and objects of known or potential value to the prehistory, history, upland and underwater archeology, architecture, engineering, and culture of the state.

Established primarily for information and record purposes, the inventory is an important repository of useful data for the study of Maryland's history and culture. These records provide information on a wide range of historic properties and are used by scholars and planners to identify the state's heritage, evaluate that heritage, and plan for its preservation. Inclusion in the inventory also serves as a red flag, alerting preservationists, governmental agencies, organizations, and others that a property may have some level of historical significance and may require further study and evaluation.

Whereas a listing in the inventory is tacit recognition by the state that a property contributes to the historical and cultural heritage of Maryland, protective and financial benefits, often associated with historic properties, are not automatically extended to inventory properties. Nor are inventory properties automatically evaluated with regard to significance or eligibility for inclusion in the Maryland Register of Historic Properties or the National Register of Historic Places. Inventory documentation does, however, provide the basis upon which evaluation decisions can be made.

The Maryland Inventory of Historic Properties, created by an act of the Maryland Legislature, is maintained by the Maryland Historical Trust, an agency of the Maryland Department of Planning.⁷ The inventory is divided into two parts: standing structures (i.e., buildings, structures, objects, and districts) and archeological sites. Listed properties are usually at least fifty years of age and should be of potential significance in relation to major historical trends at the local or state level.

A property should also demonstrate the potential for historical significance in one or more of four aspects of Maryland history:

- association with historic events or activities;
- association with persons who are important to the community or to specific developments of history;

7. State Finance and Procurement Article 5A, § 323(a), Annotated Code of Maryland.

- embodiment of distinctive characteristics of a type, period, method of construction, or the work of a master; and
- potential to provide important information about history or prehistory.

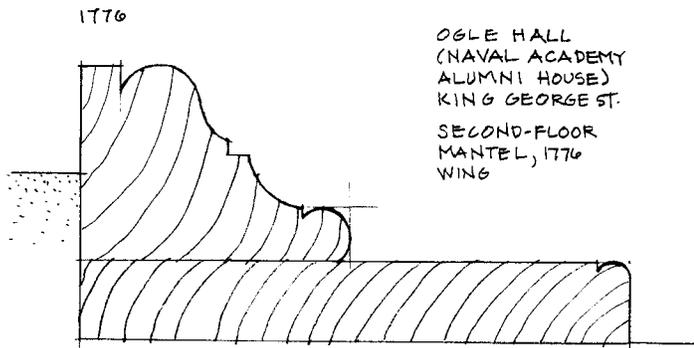
The Maryland Historical Trust also maintains the Maryland Register of Historic Properties and administers the state's nominations to the National Register of Historic Places. The National Register includes a broad range of types and levels of significance of properties, but they reflect a more intensive level of documentation and evaluation not generally associated with the Maryland Inventory of Historic Properties. To be entered in the National Register, the property must go through a more rigorous nomination process than required for inclusion in the inventory. All properties listed on the National Register, if they have not been previously recognized, are automatically included in the Maryland Inventory. For information and questions on the National Register, please contact the Administrator of Evaluation and Registration, Maryland Historical Trust, at 410-514-7649.

Getting Started

The following guidelines describe the requirements for completing the form used to add standing structures to the Maryland Inventory of Historic Properties. These guidelines may also serve as a standard for more intensive survey projects. Survey work that uses state or federal funds or is required by the compliance process is directly supervised by the Trust and may incorporate more specific requirements. For further information, consult the scopes of work or Memoranda of Agreement applicable to the specific project.

The archeological section of the Maryland Inventory uses an entirely different form. For information on the archeological inventory forms and inventory number assignment, please contact the Administrator of Archeological Research. Copies of the *Standards and Guidelines for Archeological Investigations in Maryland* are available through the Office of Preservation Services, MHT.

The Maryland Inventory form and accompanying documentation must be prepared by a professional qualified in at least one of the following disciplines: architectural history, American history, historic preservation, or a closely related field. Please note that archeology is not considered a closely related field for inventory documentation of standing structures. The federal qualifications for "Procedures for Approved State and Local Government Historic Preservation Programs," in the *Code of Federal Regulations*, 36 CFR Part 61 are more fully described in Chapter I, Section C of this manual. In certain cases, if the sole purpose is to add a historic property that is of interest to an individual or organization, the owner or a member of the organization, with prior approval of the Trust, may complete the inventory form.

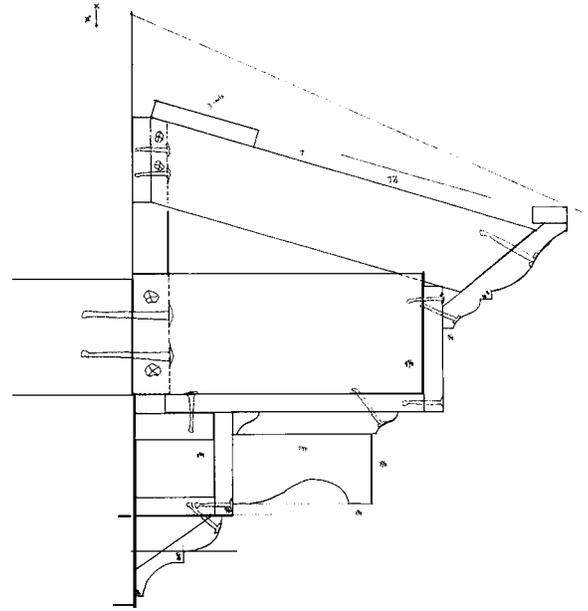


The Maryland Historical Trust's goal is to obtain detailed, comprehensive documentation and research on all properties. For practical purposes, survey documentation may be broken down into two levels of information: reconnaissance (the minimal amount) and intensive (in-depth research and analysis). Recognizing that surveys are made for diverse reasons, the Trust will accept reconnaissance level documentation when appropriate to the nature of the resource and/or the project. The surveyor must always consult with Trust staff for prior approval before undertaking a reconnaissance survey.

Reconnaissance documentation provides information sufficient to identify and locate properties and may serve as a useful planning tool. A reconnaissance level survey will include a concise overall description of the resource as well as general basic research of the site. At this level, the surveyor may document the exterior of the building only.

Intensive level of survey is required to determine eligibility for inclusion on the National Register of Historic Places, as well as the Maryland Inventory of Historic Properties. Trust-supervised survey projects, including grant-funded and review and compliance projects, are also required to submit intensive level documentation. An intensive level survey must include a comprehensive description of the exterior and interior of the building and emphasize the key elements that determine the resource's significance. All intensive level survey documentation must include an analysis of the resource and site-specific research into its history. A discussion of the history will place the property in its context by addressing its relationship to the history of the community and/or the state and other similar properties. Documentation would include multiple photographs illustrating various aspects of the property.

Regardless of the level of survey, the preparer must complete all sections of the MIHP form, and a capsule summary. The documentation will also include at least one 5" x 7" black and white photograph, with its negative, a color slide, and a current map.



General Instructions for Completing Documentation

The *Maryland Inventory of Historic Properties (MIHP) Form* is the only form used for all architectural fieldwork in Maryland, regardless of the level or type of survey. The form is available electronically as a Microsoft Word file or in database format using Microsoft Access. Disks programmed in Microsoft Word or Microsoft Access, or hard copies of the form, are available from the Trust by contacting the Inventory Registrar, at 410-514-7656. The form may also be sent via email upon request. Grant funded survey projects and large-scale compliance projects will be required to complete documentation using the database and submit both hard copy of individual properties and a database for the entire project. The form is supplemented by continuation sheets, which can be generated electronically or copied from continuation sheets provided by the Trust.

The four-page MIHP form should be completed using a computer or a typewriter. When submitted, the MIHP form and all accompanying documentation must be printed on acid-free, plain white bond paper. The information must be submitted electronically as well. Consistency in completing the form is critical. Standardized terminology and approaches as well as general definitions are included throughout these instructions. Complete each section and fill in every blank. Use "unknown" or "N/A" when necessary. Continuation sheets, with the appropriate heading, may be used for any section where space is limited, but only after the space has been used; do not type in "see continuation sheet." Specific instructions for completing the Access Database are included with the program.

Photocopied versions of the inventory form may be used if the copies are made on acid-free, plain white bond paper. **Other computer-generated versions are not acceptable.** Before beginning the project, written approval must be obtained from the Trust's Administrator of Architectural Research for the use of photocopied or National Register application forms or to make any alteration to the MIHP form.

For projects designed to determine National Register eligibility, the property must be placed in its historical context, and the statement of significance must address applicable National Register evaluation criteria. If, in the opinion of the preparer, the property is ineligible, the statement must address all criteria for evaluation and discuss how the property fails to meet each one. The actual determination of eligibility should be placed on an accompanying *Determination of Eligibility (DOE) Form*, included with the MIHP-form disk.

Completing the Maryland Inventory Form

Each section of the Maryland Inventory form should be completed according to the instructions listed below. The instructions are organized according to the number and name of each section of the form. Specific directions, terminology, and definitions are included.

The Inventory Number

An inventory number must be included in the appropriate space at the top right-hand corner of each page of the form and on all continuation sheets, maps, drawings, photographs, slides, negatives, and the capsule summary. The preparer must confirm that the site does not hold an existing inventory number before requesting a new number. It is the preparer's responsibility to identify previous documentation of the site. Inventory numbers should be added to all documentation before submitting any forms or draft reports for review and compliance surveys, as well as grant funded projects.

Inventory numbers are assigned only in coordination with the Inventory Registrar. Local jurisdictions cannot assign numbers. If an inventory number has not already been assigned, please contact the Inventory Registrar. The formal request should be made in writing and should include the names and addresses of all properties with the sites clearly located on a United States Geological Survey (USGS) map. This may be mailed or faxed to the Trust.

Section 1: Name of Property

This section identifies the various names by which the property has been known. The term "property" refers to the entire historic resource being documented. A property may be an individual building, site, structure, or object, or it may be a district consisting of numerous buildings, sites, structures, or objects.

Historic Name: The historic name is generally the name associated with the historic significance of the property. The historic name of the property will be used to identify the property in the Maryland Inventory of Historic Properties and any publications. The historic name is preferred for general reference because it continues to be meaningful regardless of changes in ownership or use.

Other Name: In the space provided, enter any other names by which the property has been commonly known, in chronological order of their use. These may reflect its history, current ownership, or popular use, and may or may not fall into the category of historic name. In some circumstances, there is reason to use a common name for the property rather than the historic name. In this situation, enter "preferred" after the appropriate name and explain the reason in Section 8: Significance. Be consistent throughout the form—use the historic or preferred name for all labels, including maps, drawings, and photographs.

If the property being documented is part of a historic district or thematic or multiple-property study for which a separate inventory form has been prepared, include the name of the district or study in parenthesis to the right of the historic or preferred name, and refer to the name and inventory number of the district or study in the narrative.

Section 2: Location

Street and Number: For individual buildings, structures, sites, and objects, enter the number and name of the street or road where the property is located using a mailing address. If the road has a route number rather than a name, give the number and indicate whether it is a federal, state, or county road. If a property does not have a specific address, give the name of the nearest roads and the property's relationship to the roads (i.e., ½ mile east of Middletown Road; or northwest corner of Hampton Road and Smith Avenue). The address must be as exact as possible to be entered into the Trust's searchable database. For districts, enter either the



inclusive street address numbers for all primary buildings and structures (i.e., 12-157 South Street, 414 Eutaw Street, and 40-819 Maple Avenue); or a rough description of the boundaries (i.e., roughly bounded by Perdue, South, Roland, and Belmont streets; or eight blocks in downtown Gouldville). If the location is not to be published for any reason, place an “x” in the space allotted.

City, Town: Enter the name of the city or town where the property is located. If the property is not located within the boundaries of a local jurisdiction, then place an “x” in the space for vicinity.

County: Enter the county in which the property is located.



Section 3: Owner of the Property

Give the names and addresses of *all* owners of the property at the time the inventory form is completed. Use state assessment records as the source for this information. For ten or fewer owners, list each one; use a continuation sheet if necessary. For more than ten owners, enter “multiple ownership” in the space provided, and give the name of a contact person, if appropriate.

Section 4: Location of Legal Description

Usually, the legal description of a property is in the land records office in the courthouse for the county or city in which the property is located. Cite the tax map, parcel designation, and deed reference to Liber (deed book) and folio (page); these are usually included in the assessment records. For more than ten owners, enter “multiple deeds” in the space provided, with the name of a single contact person, if appropriate.

Section 5: Primary Location of Additional Data

Mark “x” in the appropriate spaces that apply to the property. Check, or list, any prior historical or architectural studies in which this property was included. Indicate whether the property has been listed on, or has been determined eligible for, the National Register of Historic Places or the Maryland Register of Historic Properties. Preliminary research should include the completed DOE forms for individual properties determined eligible for the National Register through review and compliance projects. These are located in separate notebooks in the Trust library. Also determine whether a Historic Structure Report or other field report has been completed. List under *Other* any broad surveys that include the property. Site-specific research should be listed in Section 9: Major Bibliographic References.

Section 6: Classification

Mark “x” in the appropriate spaces that apply to the property.

Category: Mark the one most appropriate resource type on the list. If the property has a number of resources, choose the most important or main resource. Definitions of each resource type are listed below.

- **District:** A district possesses a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united historically or aesthetically by plan or physical development. Examples include residential areas, industrial complexes, rural villages, transportation networks, and large landscaped parks.
- **Building(s):** A building, such as a house, church, hotel, or similar construction, serves principally to shelter any form of human activity. The term building may also be used to refer to a historically and functionally related unit, such as a courthouse and jail or a house and barn.
- **Structure:** The term structure is used to distinguish from buildings those functional constructions usually made for uses other than human shelter. Examples include bridges, corncribs, kilns, historic vessels, and roadways.

- **Site:** A site is the location of a significant event, a prehistoric or historic occupation or activity, or a building or structure, whether standing, ruined, or vanished, where the location itself possesses historic, cultural, or archeological value regardless of the value of any existing structure. Examples include gardens, ruins, shipwrecks, designed landscapes, and land areas having cultural significance.
- **Object:** The term object is used to distinguish from buildings and structures those constructions that are primarily artistic in nature or are relatively small in scale and are simply constructed. Although it may be movable by nature or design, an object, as referred to here, is associated with a specific setting or environment. Examples include monuments, boundary markers, and sculptures.

Ownership: Mark whether the property is currently public or private property.

Current Function: Mark the current use of the resource(s). Describe its historic function or use in the narrative portion of Section 8: Significance.

Resource Count: Count both the contributing and non-contributing resources that make up the property, and place the numbers by each resource type (i.e., buildings, sites, structures, objects) in the appropriate column. Total each column. Include in this count all resources, regardless of whether they already appear in the Maryland Inventory or are listed in the National Register. Completing this item requires three steps: 1) classify each resource by category: building, site, structure, or object; 2) determine whether each resource does or does not contribute to the historic significance of the property; 3) count the contributing and non-contributing resources in each category.

Record the number of resources previously entered in the Maryland Inventory or listed on the National Register in the space provided. This number should also be included in the total resource count.

Section 7: Description

Condition: Identify with an “x” the condition of the property as it existed at the time of the survey.

Narrative Description: Provide a narrative describing the property and its physical characteristics as it exists today, noting the features which create the historic character plus changes that have been made over time and the impact of those changes on the historic character. The narrative should be concise but thorough, factual, and well organized.

Where brevity is required, emphasize the main elements that determine a particular property’s character—form, plan, spatial use, and key features. The narrative should provide a detailed, comprehensive description of the property, whether buildings and structures or districts and sites. It should cover the historic and non-historic features that characterize the property. The text should trace the property’s evolution and describe its present-day physical characteristics. If the property is a primary building or structure, the narrative should



include a detailed description of its exterior. Also, because information on the interiors of resources is essential in evaluating their significance, ideally, an inventory listing should cover the interiors of historic properties.

Outline for Describing Properties in Section #7

Introduction

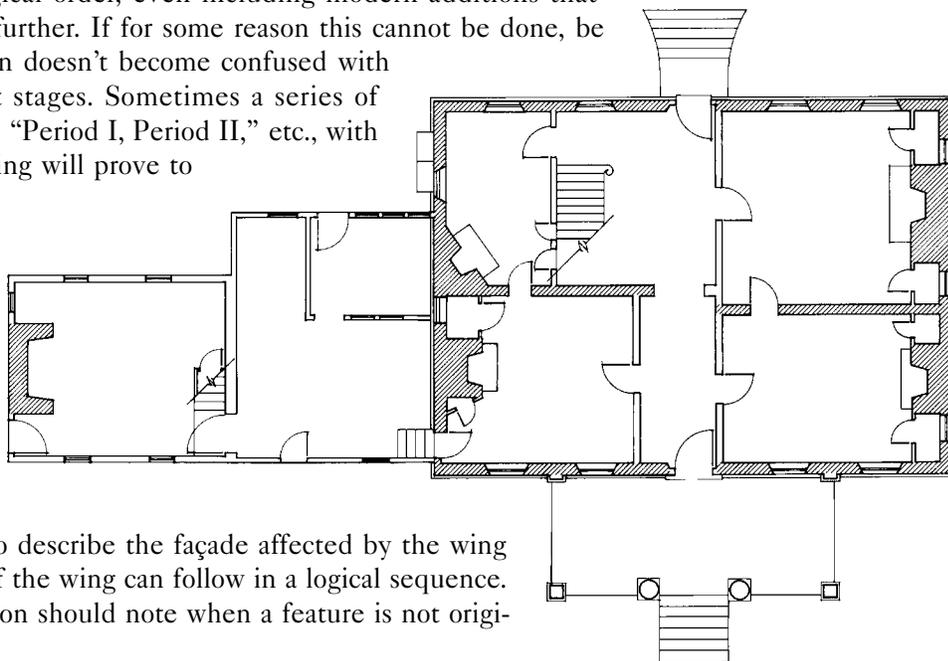
Briefly describe the geographic location of the historic site or property.

Summarize the physical setting and the number and type of buildings or features. Include all structures, even if they are not considered to be significant and are not mentioned again in the form. Include approximate construction dates to the extent possible. A discussion of specific dating evidence should be included in the appropriate sections of the detailed description.

Detailed Description

Begin with the principal dwelling house (or the dominant structure, if not a dwelling site).

- Describe the overall form, size, height, and number of bays, roof form, and principal materials.
 - If the building was constructed in more than one stage, briefly summarize the building sequence in a logical order, even including modern additions that may not be discussed any further. If for some reason this cannot be done, be careful that your description doesn't become confused with references to the different stages. Sometimes a series of simple sketch plans labeled "Period I, Period II," etc., with the text keyed to the drawing will prove to be the easiest solution.
- Proceed to a more detailed description of each exterior façade. Begin with the front or principal entrance façade, and then move in a logical sequence (clockwise; counter clockwise; front, rear, left gable, right gable). If there is a wing or addition, it is often helpful to describe the façade affected by the wing last, so that the description of the wing can follow in a logical sequence. Where relevant, the description should note when a feature is not original or historical.
 - The description of the façade should follow a logical order that is repeated for each successive façade. For example:
 - Fenestration: first story, second story, roof (if dormers), cellar openings.
 - Materials: foundation, siding or brick bonding, roofing.
 - Decorative elements: door and window trim, cornice, and porches.
- As a general rule, proceed to a description of the exterior of any wings or additions before describing the interior of the original section. The exception would be an extremely complex house that defies orderly description. In this case, it is often easier to describe the principal section, or main block, in its entirety and then move to later sections, which should have been briefly described in the introductory paragraph.
- Describe the interior of the main structure in detail.
 - Begin with the first floor, and always start by describing the floor plan. Use conventional terminology.
 - After describing the plan, proceed in a logical order from room to room. In a central passage house, for example, describe the stair passage first, then the rooms to one side (front to rear), then the rooms to the other side. In a hall-parlor plan house, describe the larger, more public hall first, then the parlor. Room descriptions should, where possible, include major features (staircases, fireplace, mantel, cupboards, paneling, decorative trim, baseboard, chair rail, cornice, door and window architraves), doors and hardware, original or altered flooring, early heating stoves, decorative plaster ceiling medallions, etc.



- Describe each successive floor in a logical order. It is usually best to begin with the first floor and move up to the attic, then describe the cellar, if one exists. Upper floors are often similar to the first story but become simpler in detail as you move away from the first floor.
- The attic description should, where possible, include a description of the principal construction details of the roof, including evidence of the date (and possible sequence) of construction.
- The cellar description should, where possible, include the plan, visible construction details, and a discussion of any evidence of room use (cooking fireplaces, early shelving, hanging hooks, barred windows, lattice partitions, etc.)
- Describe the interior of any wings or additions. Particular attention should be paid to the spatial and functional relationship of the wing to the house. For example, was this a service wing for cooking and dining? Is there evidence of segregated living space for servants or farm laborers (i.e., a separate ladder or stair to rooms over the kitchen that has no direct access to the house) or other functions?
- After the house has been described, move out into the yard. Describe any outbuildings or farm buildings that are considered significant, as well as historic landscape features (terraced gardens, fully mature plantings, the family cemetery, etc.).

Other issues to be discussed in Section 7 include:

- Deterioration due to vandalism, neglect, lack of use, or weather, and the effect it has had on the property's historic integrity.
- For moved properties:
 - Date of move;
 - Descriptions of location, orientation, and setting historically and after the move;
 - Reasons for the move (if known);
 - Method of moving; and
 - Effect of the move and the new location on the historic integrity of the property.
- For restored and reconstructed buildings:
 - Date of restoration or reconstruction;
 - The historical basis for the work done;
 - The amount of remaining historic material and replacement material;
 - The effect of the work on the property's historic integrity; and
 - For reconstructions, whether the work was done as part of a master plan.
- For properties where landscape or open space adds to the significance or setting of the property, such as rural properties, college campuses, or the grounds of public buildings:
 - The historic appearance and current condition of natural features; and
 - Land uses, landscape features, and vegetation that characterized the property during the period of significance, including gardens, walls, paths, roadways, grading, fountains, orchards, fields, forests, rock formations, open spaces, and bodies of water.
- For industrial properties where equipment and machinery are intact:
 - The types, approximate date, and function of machinery; and
 - Their relationship to the historic industrial operations of the property.
- For scenic roadways or viewsheds:
 - The historic appearance and current condition of both man-made features (such as bridges, buildings, farms, villages) and natural features throughout the area; and
 - Land uses, features, and vegetation that characterized the roadway during its period of significance.
- For architectural and historic districts:
 - Natural and man-made elements comprising the district, including prominent topographical features and structures, buildings, sites, objects, and other kinds of development.

- Architectural styles or periods represented and predominant characteristics, such as scale, proportions, materials, color, decoration, workmanship, and quality of design.
- General physical relationship of buildings to each other and to the environment, including facade lines, street plans, squares, open spaces, density of development, landscaping, principal vegetation, and important natural features. Any changes to these relationships over time. Some of this information may be referred to on the Resource Sketch Map but should still be described in the narrative.
- Appearance of the district during the time when the district achieved significance and any substantial changes or modifications since.
- General character of the district, such as residential, commercial, or industrial, and the types of buildings and structures, including outbuildings and bridges, found in the district.
- General condition of buildings, including alterations, additions, and any restoration or rehabilitation activities.
- Identity of the buildings, groups of buildings or other resources that do and do not contribute to the district's significance in the form of a list or coded sketch map.
- Individually describe the most important contributing buildings, sites, structures, and objects. Characterize in general terms the common kinds of other contributing resources; describe representative examples.
- Qualities distinguishing the district from its surroundings.
- Any open space such as parks, agricultural areas, wetlands, and forests, including vacant lots or ruins that were the site of activities important in history or prehistory.
- For industrial districts:
 - Outline industrial activities and processes, historic and current, within the district; describe important natural and geographical features related to these processes or activities, such as waterfalls, quarries, or mines.
 - Original and other historic machinery still in place.
 - Linear systems within the district, such as canals, railroads, and roads, including their approximate length and width and the location of terminal points.
- For rural districts:
 - Geographical and topographical features such as valleys, vistas, mountains, and bodies of water that convey a sense of cohesiveness or give the district its rural or natural characteristics.
 - Examples and types of vernacular, folk, and other categories of architecture, including outbuildings, within the district.
 - Man-made features and relationships making up the historic and contemporary landscape, including the arrangement and character of fields, roads, irrigation systems, fences, bridges, and vegetation.
 - The historic appearance and current condition of natural features such as vegetation, principal plant materials, open space, cultivated fields, or a forest.



Section 8: Significance

Mark “x” in the appropriate spaces that apply to the property in terms of period and areas of significance.

Period of Significance: Enter the dates for one or more periods of time when the property attained significance. For some properties, the period of significance can be as brief as a

year, whereas others may span many years and consist of beginning and closing dates. Base the period of significance on specific events directly related to the significance of the property.

Areas of Significance: Mark all areas of significance that are directly related to the property. Only enter those areas that are supported and justified by the narrative statement. For districts, enter areas of significance applying to the district as a whole. If no category applies to the property, mark “other,” and identify the area in which the property attained significance.

The area of significance relates to the property’s contributions to the broader patterns of American history, architecture, archeology, engineering, or culture. It is not the historic function. The terms are defined below:

Agriculture The process and technology of cultivating soil, producing crops, and raising livestock and plants.

Architecture The practical art of designing and constructing buildings and structures to serve human needs.

Archeology The study of prehistoric and historic cultures through excavation and the analysis of physical remains.

Art The creation of painting, printmaking, photography, sculpture, and decorative arts.

Commerce The business of trading goods, services, and commodities.

Communications The technology and process of transmitting information.

Community Planning/Development The design or development of the physical structure and communities.

Conservation The preservation, maintenance, and management of natural or manmade resources.

Economics The study of the production, distribution, and consumption of wealth; the management of monetary and other assets.

Education The process of conveying or acquiring knowledge or skills through systematic instruction, training, or study.

Engineering The practical application of scientific principles to design, construct, and operate equipment, machinery, and structures to serve human needs.

Entertainment/Recreation The development and practice of leisure activities for refreshment, diversion, amusement, or sport.

Ethnic Heritage The history of persons having a common ethnic or racial identity.

Exploration/Settlement The investigation of unknown or little known regions; the establishment and earliest development of new settlements or communities.

Health/Medicine The care of the sick, disabled, and handicapped; the promotion of health and hygiene.

Industry The technology and process of managing materials, labor, and equipment to produce goods and services.

Invention The art of originating by experiment or ingenuity an object, system, or concept of practical value.

Landscape Architecture The practical art of designing or arranging the land for human use and enjoyment.

Law The interpretation and enforcement of society’s legal code.

Literature The creation of prose and poetry.

Maritime History The history of the exploration, fishing, navigation, and use of inland, coastal, and deep sea waters.

Military The system of defending the territory and sovereignty of a people.

Performing Arts The creation of drama, dance, and music.

Philosophy The theoretical study of thought, knowledge, and the nature of the universe.

Politics/Government The enactment and administration of laws by which a nation, state or other political jurisdiction is governed; activities related to political process.

Religion The organized system of beliefs, practices, and traditions regarding mankind’s relationship to perceived supernatural forces.

Science The systematic study of natural law and phenomena.

Social History The history of efforts to promote the welfare of society; the history of society and the lifeways of its social groups.

Transportation The process and technology of conveying passengers or materials.

Other An area not covered by the above categories.

Specific dates: Enter the specific year(s) of the event(s) or association(s) for which the property is significant. As noted above under Period of Significance, for a property important for its architectural character, only the date of construction or major alterations will be included. For significance acquired by associations with a person or event, list only the specific date of the occupation of the property or specific date the event occurred. If a property is significant for more than one reason, the Specific Date will be multiple years. If not enough information is known about the property to list specific dates, enter Unknown.

Construction dates: Enter the date of construction and date of any major alterations for the main resource. If the exact construction date is not known, use a “circa” (ca.) date or specify to the nearest quarter of a century. If not enough information is known about the property to list specific dates, enter Unknown.

Architect/Builder: Enter the name of any known architect (individual or firm), builder, designer, landscape architect, engineer, or artist primarily responsible for the design or construction of the property. Identify the individual’s role after the name (i.e., John Smith, builder). If a building’s plan is from a pattern book or catalogue, enter the name of the publication. This space is not for the name of the person for whom the property was developed. If the design source is not known, write “unknown.” For more information on architects and builders in Maryland, consult the Maryland Historical Trust library.

Evaluation: If the purpose of this form is to determine a property’s eligibility for the National Register of Historic Places or the Maryland Register of Historic Properties, check the appropriate line. For compliance projects, the evaluation should then be completed on a *Determination of Eligibility (DOE) Form* and submitted with the MIHP form. An electronic DOE form for individual resources and districts is located with the MIHP form file. Questions concerning the DOE forms should be directed to the Administrator of Project Review and Compliance, or staff person working on the project. This process should be completed in consultation with the Preservation Officer reviewing the project. On the DOE form, the preparer should address all applicable evaluation criteria for which the property is significant. If the property is determined not eligible, each criterion must be addressed with a justification for lack of significance. Include an objective discussion of the property’s integrity as it relates to its eligibility. Avoid using the term “potentially eligible.” See below under, “Applicable Criteria for Evaluation,” for more information. In Section 8 of the inventory form, the preparer should proceed with a concise discussion of the significance of the resource, addressing the applicable criteria in a summary statement and then, providing a narrative discussion of the history of the resource and its context.

If the purpose is mainly to identify and document the property (including most grant-funded projects), mark “not evaluated.” Nevertheless, the preparer should discuss the significance of the resource by providing a statement of significance that addresses the applicable criteria and continues with a narrative discussion of the history of the resource and its context.

All criteria under which this property is significant must be explained in the significance statement. The statement may address a criterion that may potentially apply but sufficient information is currently lacking to support evaluation. The preparer should note that more information is needed before that criterion can be marked as part of a determination of eligibility.



Applicable Criteria for Evaluation: The criteria used for evaluating properties for the National Register of Historic Places are designed to guide state and local governments, federal agencies, and others in evaluating properties for eligibility for the National Register.

The quality of significance in American history, architecture, archeology, engineering, or culture is present in those districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and

- a) are associated with events that have made a significant contribution to the broad patterns of our history; or
- b) are associated with the lives of persons significant in our past; or
- c) embody the distinctive characteristics of a type, period, or method of construction; represent the work of a master; possess high artistic value; represent a significant and distinguishable entity whose components may lack individual distinction; or
- d) have yielded, or may be likely to yield, information important in prehistory or history.



Applicable Exception (Consideration): The criteria exceptions or considerations are part of the National Register criteria and set forth special standards for listing certain kinds of properties which are usually excluded from the Register. The applicable exception should be marked on the DOE form for all compliance projects. If the project is an evaluation of the resource for eligibility but will not be submitting a DOE form, the *Applicable Exception* should be clearly stated in the narrative statement of significance.

Ordinarily cemeteries, birthplaces, or graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past fifty years are not considered eligible for the National Register. However, such properties will qualify if they are integral parts of districts that do meet the criteria or if they fall within the following categories:

- a) a religious property deriving primary significance from architectural or artistic distinction or historic importance; or
- b) a building or structure removed from its original location but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event; or
- c) a birthplace or grave of a historical figure of outstanding importance, if there is no other appropriate site or building directly associated with his productive life; or
- d) a cemetery that derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events; or
- e) a reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived; or
- f) a property primarily commemorative in intent, if design, age, tradition, or symbolic value has invested it with its own historical significance; or
- g) a property achieving significance within the past fifty years, if it is of exceptional importance.

Statement of Significance: Provide a narrative stating the significant qualities and associations that make the property important. Begin with a summary paragraph that briefly explains why the property is significant in the areas marked and how it meets selected criteria. In additional paragraphs, provide information to support your assertions regarding the significance of the resource. Include a discussion of the historical context in which the resource has been studied and the evaluative information that explains its significance in relation to other properties of its type within precisely defined geographic boundaries, such as a neighborhood, city, county, region, state, or the nation.

Include background information on events, development of the property (i.e., date of construction, factors leading to the construction, etc.), and biographical data on persons associated with the property. If available, also include an evaluation of the importance of the property in architectural history, and/or an assessment of the types of information the property may be expected to provide.

Employ primary sources for research whenever possible and carefully document all sources of information. Use footnotes to indicate sources, and provide photocopies of key source documents, chain of title, etc., where appropriate.

Completing the Resource History

Documentary research in libraries, archives, and other facilities can provide both primary and secondary architectural and historic information. Several of the most basic archival sources that describe known historic structures, sites, and objects and their locations are the Maryland Inventory of Historic Properties, the National Register of Historic Places, and lists of sites for which determinations of National Register eligibility have been made. Note also that archeological sites included in the Maryland Inventory and the National Register may also indicate the possibility of architectural and historic resources from the historic period. Published and unpublished reports or surveys in or near the current project area are also essential sources. Other documentary materials, which can be useful in locating potentially significant architectural and historic properties, depending on the nature of the undertaking and project tract, include:

- historic maps and atlases, including early U.S. Geological Survey quadrangles;
- insurance records and maps;
- publications on local history;
- building permits;
- tax maps;
- publications on the nature and significance of the general property type;
- early lithographs and photographs;
- court records (deeds, mortgages, etc.);
- real property records;
- ordinances and resolutions;
- transportation records (i.e., ship manifests for a port);
- wills and probate inventories;
- census data;
- family histories (published and unpublished).

Informant interviews are another potential source of data on a project area's architectural and historic resources. Contacting people who live or work near a study site can yield very specific data on historic sites or standing structures and past land use. Preliminary field visits will establish a network of local contacts; and meetings with local historical societies, civic associations, and/or citizen groups can provide access to an array of knowledgeable individuals. MHT's Office of Preservation Services can provide the names of contact persons and may, in some instances, possess additional project-specific architectural and historical information.

Together, informant interviews and documentary research assist in predicting the number, location, and nature of cultural resources in a study area. Additionally, these activities

enable the refinement of appropriate historic contexts for the interpretation of new architectural and historical structures, sites, and objects. Fully developed contexts are the basis for well-reasoned discussions of the potential significance of the resources with respect to important research issues and comparative data from similar historic properties.

Important facilities for conducting archival and background research are:

- Maryland Historical Trust
- Maryland State Archives, Hall of Records
- Enoch Pratt Free Library
- Maryland Historical Society
- University of Maryland at College Park, Maryland Room and architectural library, McKeldin Library
- National Trust for Historic Preservation Library, McKeldin Library, UMCP
- Smithsonian Institution
- National Archives and Records Service
- Library of Congress
- University and public libraries
- Local museums and historical societies
- County and municipal government offices.

Section 9: Major Bibliographical References

Enter the primary and secondary sources of information used in documenting and evaluating this property. These may include land records, published works, oral interviews, library and historical society files, photograph collections, and drawings. Do not include general reference works, unless they provide specific information about the property or have assisted in evaluating the significance of the property.

The format for bibliographical entries should be clear and consistent and follow the most recent edition of the *Chicago Manual of Style*. Use a continuation sheet if necessary.

Section 10: Geographical Data

Acreage of Surveyed Property: Enter the total number of acres surveyed. This may be the acreage to which the present owner(s) hold(s) title, otherwise known as the tax parcel boundary; the Area of Potential Effect for a large study area; or boundaries determined by the surveyor. The acreage should include all of the land surveyed, even if large sections contain no historic resources—but only if the entire area was actually considered. For example, if the inventory form for a 300-acre farm complex includes ten resources grouped within only five acres, it is important to know the surveyor found no other resources in the 300-acre parcel. Thus, the acreage for the surveyed property should be 300 acres. The goal for intensive survey is to carefully study the entire 300 acres to determine the extent of historic resources within the entire area. However, if it is not possible to verify the existence or non-existence of resources within the larger area, the preparer must include only five acres as the acreage surveyed. Discuss the area of coverage within Section 7. For a compliance project, the Area of Potential Effect should encompass the entire project area. Acreage should be accurate to the nearest whole acre. For properties of less than one acre, round to the nearest quarter or tenth of an acre, as appropriate. If the exact acreage is unknown, a close approximation must be given. The National Park Service requires this information.

Acreage of historical setting: This refers to the property historically associated with the resource(s). In many cases, the significant elements of a historic resource will occupy an area that is different from—usually smaller than—the total area surveyed. For example, the 300-acre farm complex mentioned above is comprised of ten buildings and structures related to the farmstead within only five acres. It is surrounded by 295 acres of fields and woods on which no additional resources are found. In this case, the historical setting would be five acres with an explanation in the verbal boundary description and justification (see below). The significance of the landscape or setting may increase the acreage, and should be addressed more carefully

in Section 8. Using the same example, the historic setting may be expanded to include the 50 acres of historic fields, including hedgerows and other field delineations, surrounding the farm.

In a compliance project, an Area of Potential Effect might cover several square miles within which a series of historic resources, each with a definable historic acreage, can be identified. The historic setting would include only the definable acreage associated with the resources. For inventory forms used for a determination of eligibility, the acreage should include only the area being evaluated.

Quadrangle Name and Scale: List the name of the United States Geological Survey quadrangle map upon which the property is located. The quadrangle scale used by the Maryland Historical Trust is 1:24,000.

Verbal boundary description and justification: Describe both the survey and historical setting boundaries of the property. A legal parcel number or block and lot number, a sequence of metes and bounds, or dimensions may be used; or refer to an attached map. Provide a brief and concise explanation of the reasons for selecting the survey boundaries. Discuss how these differ from the historical setting, and provide a justification for the latter boundary. Also, list all states or counties for properties overlapping state or county boundaries. A continuation sheet may be used, if necessary.

Section 11: Form Prepared by

Enter the name, title, organization, address, and daytime telephone number of the person(s) who compiled the inventory form. This section is intended to credit authorship of the form and identify a person who can be contacted if a question arises or if additional information is needed. If different persons prepared the description and significance sections, identify the preparer of each part. If multiple authors contributed to the form, you may prefer to list only one person as coordinator with the other contributors acknowledged in the bibliography section. Also enter the date the form was completed. If the form is completed long after the property was inspected, include the date of the field inspection as well.



Accompanying Documentation

Continuation Sheets: Use continuation sheets when the space on the inventory form is insufficient to enter all the information necessary for documenting the property. A header for continuation sheets has already been created on the MIHP form. If used, fill in the inventory number, name of property, and the number of the section being continued as directed in the instructions for using the computerized forms.

Number the pages according to the section being continued. The computerized version will automatically number sheets for Sections 7 and 8. List the section number followed by a decimal point and page number. For example, continuation sheets for Section 7: Description, should be numbered 7.1, 7.2, 7.3, etc. For Section 8; any additional information should begin on continuation sheet 8.1. Note on the inventory form in the appropriate sections the number of the continuation sheet on which the information is continued.

Capsule Summary: Each Maryland Inventory of Historic Properties form must be accompanied by a capsule summary for inclusion with the inventory form. The summary should include a brief one- to two-paragraph description of the property noting its overall appearance, any key characteristics of the resource(s), a statement of significance, and a summary paragraph on the history of the resource in its context. This must be typed, double-spaced, on plain white 8½" x 11" acid-free paper. In the top left margin, type a heading that includes the name of the property, MIHP number, location, town or town vicinity in which the



property is located, approximate date of construction, and access (public or private).

Photographs: For each property recorded on an inventory form, submit clear and illustrative black-and-white photographs. Check individual project requirements for the number of sets of photographs and slides to be provided. Use a 35mm single-lens reflex (SLR) or larger format camera. All photographs should be in the form of prints at least 5" x 7" in size, with negatives. Also provide 35mm color slides of views corresponding to those shown in prints. Smaller size prints will not be accepted; nor will color prints or color film developed as black and white.

The photographs should be recent and should be a true visual representation of the historical integrity and significant features of the property. The number of photographic views will vary according to the size and complexity of the property. Submit as many photographs as needed to show the current condition and significant aspects of the property. Include representative views of both contributing and non-contributing resources. Copies of historic photographs may supplement documentation and may be particularly useful in cases where alterations make a property's historic integrity questionable. Photographic prints of historic views are preferred; photocopies may be acceptable. Guidelines relating to the number and types of photographs for individual properties and districts are listed below.



Buildings, Structures, and Objects

Submit one or more views to show the principal facades and the environment or setting in which the property is located.

- Additions, alterations, intrusions, and dependencies should appear in the photographs.
- Include views of interiors, outbuildings, landscaping, or unusual details if the significance of the property is entirely or in part based on them.
- If property includes a number of resources, such as a farmstead, key the photographs to a sketch map of the property.

Architectural and Historic Districts

Submit photographs representing the major building types and styles, pivotal buildings and structures, representative non-contributing resources, and any important topographical or spatial elements defining the character of the district.

- Provide overall streetscape, landscape, or aerial views showing the resources in context, as well as views of representative individual properties within the district. Views of individual buildings are not necessary, if streetscapes and other views clearly illustrate the significant historical and architectural qualities of the district.
- Key all photographs to the Resource Sketch Map for the district or prepare a separate photograph map.

The subject of each photograph must be written legibly on the back of the print. Use a soft graphite (lead) pencil to label photographs; prints labeled in any other medium cannot be accepted and will be returned. It may be difficult to write on resin-coated photographic paper

with many pencils, however, soft grades such as #1, commonly available in office-supply stores, or #4B, #5B, sold in art-supply stores, work well. Do not use china marking or grease pencils, as their waxy medium will smudge and transfer to the surface of other prints. Felt-tip markers, including permanent markers labeled for photographic purposes, are not acceptable.

Provide the following information on the back of each photograph:

- Maryland Inventory of Historic Properties (MIHP) number
- Name of property or, for districts, the name of the building or street address followed by the name of the district
- County and State
- Name of photographer
- Date of photograph
- Location of negative (enter MD SHPO)
- Description of subject of photograph. The caption should be concise and should clearly explain what is shown in the picture. The caption may describe the camera location and direction of view (i.e., view east on Main Street from Third Street), or may indicate the resource and elevation shown (i.e. Main House, south facade, Corncrib, west elevation). Interiors may require other information (Main house, first floor SW parlor, camera facing N; mantel, second floor N chamber; etc.). For districts, include the name and street number of the specific resource(s) shown in the photograph: Reese House, 20 Main Street, SE elevation.
- Photograph numbers should be assigned sequentially, for example, #1 of 7 or 1/7.

Use archival storage pages for submitting photographs to the Trust. These must be heavyweight polypropylene pages with two side-loading pockets in a 5" x 7" format that fit a standard three-ring binder. Vinyl or polyvinyl chloride (pvc) sheets are not acceptable. Photo sleeves are available through archival photographic storage companies. Place the photographs in the storage pages in a logical sequence, showing views of the overall setting, the exterior, the overall interior, specific rooms, details, and finally all secondary resources. They must be placed back to back so that four photographs are stored in one page.

Submit negatives in archival polypropylene negative holders. Neatly print or type the following information in the area provided on the holders: property name, MIHP number, name of photographer, and date taken. If hand written, use a permanent fine-point felt-tip pen, such as the Sanford Sharpie or Kaiser-Schreiber.



Submit color slides of representative views and key characteristics. These should follow the subject matter of the photographs as closely as possible. Label each color slide legibly with a fine-tip, permanent-ink pen. Self-adhesive labels applied to slide mounts are unacceptable. The following information must be included on each slide mount in the following manner: the MIHP inventory number in the upper right-hand corner; the name of the property and the location directly above the image; the description of the subject and view (i.e., barn, N elevation) directly below the image; the name of the photographer on the next line below; and the date the slide was taken in the lower right-hand corner. The top left-hand corner should be left completely blank so that the six-digit accession number can be added. Slides are always labeled the same way, even with a vertical shot.

Locational map: Submit two copies of an appropriate map clearly locating the property within the city or broader geographical context for each inventory form. It is extremely important that the map reflect only the resource being surveyed. This must be an 8½" x 11" photocopy made from the appropriate section of the United States Geological Survey quadrangle map with the location of the property clearly circled. For urban properties, a current tax, block, and parcel map should be included along with the USGS quad map. For incorporated towns and cities, prior approval of base map is required. For regulatory surveys that make a determination of eligibility, the map should clearly define the property boundaries and eligible resource, if different. Each map should include a north arrow and a title block that lists the inventory number, property name, town or town vicinity, county, and map or quadrangle name (adhesive labels are not acceptable).

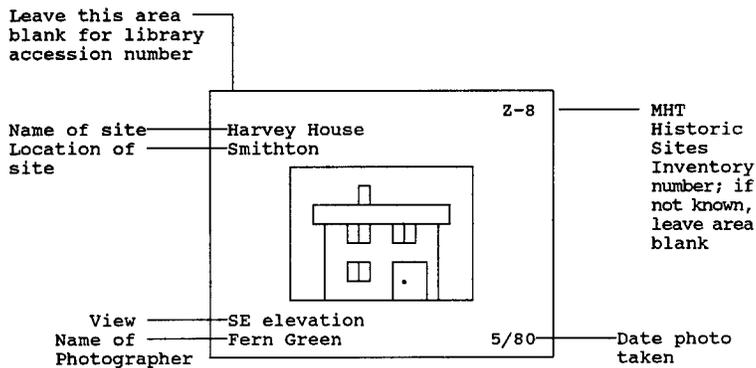
Resource Sketch Map: If the property contains a number of buildings, structures, objects, and/or sites, prepare a map that illustrates the approximate location of these resources within the boundaries of the property and clearly identifies contributing and non-contributing resources as well as their use. This map does not have to be drawn to scale. The map must be labeled with the inventory number, name of property, town or town vicinity, county, a north arrow, and the title *Resource Sketch Map* (adhesive labels are not acceptable).

Historic Maps: Historic maps should be included when possible, with the property clearly marked on an 8½" x 11" photocopy. Label the map, including the inventory number, name of property, town or town vicinity, county, north arrow, date, and source of the historic map (adhesive labels are not acceptable).

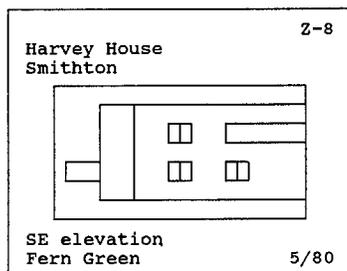
Measured Drawings: When possible, provide a plan of the room arrangement of the principal building(s) that characterize the property. Draw the plan to fit an 8½" x 11" sheet of paper. The plan need not be drawn to precise scale, but it should be generally proportional and should indicate overall exterior dimensions. It may be drawn either free hand or hard-line but must be clear and detailed.

The plan should illustrate the principal floor, generally the first floor, and should include additions, porches, etc. Denote arrangement of rooms, chimney or fireplace locations, and the placement of stairs, doors, and windows. Use conventional symbols to represent these elements.

When the significance of the resource is based on its architectural character or if the



SLIDES ARE ALWAYS LABELED THE SAME WAY, EVEN WITH A HORIZONTAL SHOT AS BELOW



resource is complex, prepare measured floor plans. These may be annotated field drawings, in pencil, at 1/4" scale, and should include at least the principal floor plan. If warranted, include other floor plans, sections, elevations, or details. If appropriate, prepare larger scale drawings. Label each plan with the inventory number, name of the property, town or town vicinity, county, year drawn, the delineator, and the floor represented. For specific requirements for compliance project drawings, refer to the applicable "Memorandum of Agreement" or recordation requirements.

Addenda: If the original inventory form was adequate and provided good documentation or the current project will only update current conditions, prepare addenda to update the existing forms. If, however, the existing form is inadequate, is reconnaissance level, or requires extensive correction, prepare a new form. Consultation with Trust staff is recommended before an addendum is completed. Include an addendum when, for example, a MIHP form documents the main house of a complex but not the outbuildings; an existing intensive form was prepared for a property that has since been significantly altered; or a surveyed property was not evaluated.

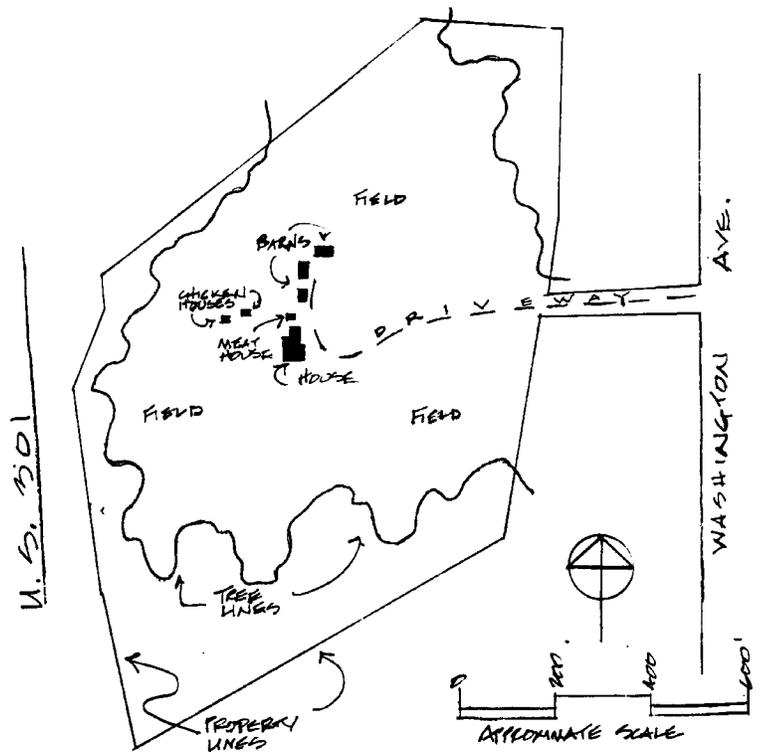
Addenda should contain all new information in a narrative format. If updating the entire form, follow and change the existing information in logical order. If a change is necessary (i.e., if there is a new owner) list Section 3 as an addendum and give the current information. If the addendum is only updating Sections 7 and 8, the new narrative text should follow the continuation-sheet format for section and page number information. Addenda should be typed, single-spaced, on plain white acid free paper. Place a heading in the upper left margin that gives the name of the property, inventory number, location, name of the surveyor, and date. Place the title Addendum in the center of the top line.

Submittal of Documentation

Please note: documentation that does not meet all of the above requirements will be returned for revision. Review will not proceed until all requirements are met.

Submit all Maryland Inventory forms and accompanying documentation to the Trust in a standardized manner. The required order follows the way the inventory forms are stored in the inventory notebooks at the Trust library. Once the information has been reviewed and accessioned to the library, the Trust will return the preparer's packaging materials upon request. For further guidance on accessioning procedures, please refer to Chapter VII, Accessioning Procedures.

Inventory forms must be three-hole punched, and submitted to the Trust in a binder (3" or smaller). Individual forms need not be placed in a binder, but must be hole-punched. Place photographs in archival storage pages at the end of the property's documentation. All labeled negative sleeves and slide boxes can be submitted in an accompanying envelope. Place the final survey report in front of the individual forms. Arrange the forms in the following order: capsule summary, the four main pages of the inventory form with continuation sheets placed directly behind in sequential order, drawings, maps, with two copies of the locational map placed first, and photographs.



SUBMIT COMPLETED FORMS, ALONG WITH A COVER LETTER, TO:
Office of Research, Survey, and Registration
Administrator of Architectural Research
Maryland Historical Trust
100 Community Place
Crownsville, Maryland 21032-2023

SUBMIT COMPLIANCE DOCUMENTATION, ALONG WITH A COVER LETTER,
TO:
Office of Preservation Services
Administrator, Project Review and Compliance
Maryland Historical Trust
100 Community Place
Crownsville, Maryland 21032-2023



V *Final Survey Report*



Historic resource surveys and their resulting inventories can form an important basis for planning decisions affecting the quality of life in our communities. The final survey report represents the culmination of a process of identification and gathering of data on a community's historic resources. It includes a field survey, the search for and recording of historic resources, a summary of pre-survey planning and background research, and the establishment of a historical overview of the project area to document the broad patterns of a community's historical development that will be represented by its historic resources.

Basic standards and guidelines for historic preservation surveys have been published as part of the Secretary of the Interior's *Standards and Guidelines for Archeology and Historic Preservation*, and this chapter interprets these standards and guidelines for use in Maryland. The National Park Service requires that all grant-funded projects complete a final survey report that provides a summary of all aspects of the project for future reference. This report differs from a final grant project report, which is primarily administrative in nature, in that it documents the results of identification efforts. These results can then be integrated into the planning process so that any evaluation decisions will be based on the best available information.

Final Report Contents

The final report should convey the thoroughness, consistency, and accuracy of all aspects of the survey. It should clearly summarize and demonstrate the goals and objectives of the survey that provided the foundation for the organization of the historical research and field survey work. A description of the methodology for the completed project should explain how specific historical and cultural information relevant to the development of the survey area was discovered and was related to the field work. The project's results should be described, emphasizing the quality and usefulness of the survey. Finally, a separate statement should address the disposition of all final products of the survey. (See suggested outline, below.)

Organization and review of the survey data is an ongoing process that begins while the fieldwork is in progress. The methods used to compile, evaluate, and store the data will have a direct effect on the usefulness of the inventory for planning purposes. Therefore, it is vital that the inventory forms, field notes, photographs, maps, and other supporting documentation are organized so that the disposition of the survey's final products can be easily described and located by planners and other interested individuals. The suggested organization and components of the final survey report are discussed in the following detailed outline.

Suggested Content Outline

Title Page

- Title of report.
- Name, nature, and location (with county) of the project.
- Clear designation of report's author(s) with complete mailing address(es).

- Clear designation of project’s principal investigator(s) with complete mailing address.
- Names and complete mailing addresses of the lead government agency and of the government agent (i.e., engineering firm, developer, or project sponsor, if appropriate).
- Date of current version of report (i.e., latest production date).

Executive Summary

- This summary—at most one half page long—should cover the survey’s purpose, the location of the survey area findings, and recommendations.

Table of Contents

- Entries with page numbers for all report chapters and headings/sub-headings.
- A figures list including all forms of illustrations (i.e., line drawings, plates) and tables, with page numbers for all figures.

Introduction

- A brief statement should give the purpose of the historic preservation work.
- Identify the lead governmental agency, or project sponsor, if appropriate.
- Include information on project funding and sources.
- Include locator maps.
- Specify dates when background research and architectural investigations were conducted.
- Record the acres examined.
- Give the number and titles of historic preservation personnel involved.
- Describe the organization of the report.

Research Design

- Open with a detailed statement of the survey’s goals and objectives, including applicability of the work to broader county or regional historic and architectural contexts.
- Describe the methods and techniques used, the archival and background research, the survey, and final analysis, including the intensity of coverage and any changes from proposed research design methodology.
- Summarize the results of the survey and other findings.
- Give the final disposition of field records and research information.

Historic and Architectural Context: Guidelines for organizing a historical overview of the project area:

- Determine the kinds of events, patterns of development, or activities for which properties meet the Maryland and National Register criteria. (See the list of areas of significance in Section 8 of the Maryland Inventory of Historic Properties and National Register forms.)
- Carefully analyze the survey area to identify themes in the area’s history and within the general areas of significance that represent significant patterns of American history, architecture, archeology, engineering, and culture and have

made significant contributions to the historical development of the locality, state, or nation.

- Identify the concept, time period, and geographical limits for the historic context(s) based on historical research related to theme(s), area(s) of significance, and geographical area.

Base this step on historical documentation of and fieldwork in the survey area. Consider stages and patterns of area settlement and development; aesthetic and artistic values embodied in the architecture or art such as craftsmanship, construction technology, or style; the work of a master; research values or problems related to the area's history; social and physical sciences and humanities; and local cultural interest.

Results of Field Investigations

- The report should include a statement of conditions and constraints that may have affected the fieldwork.
- Include a qualitative and quantitative description and an analysis of the architectural and historic resources with reference to comparable published studies.
- Include maps depicting the locations of identified resources and descriptive illustrations.
- When interpreting field-investigation results, refer to historic contexts and research questions; and address the issue of integrity and/or significance as related to the property's eligibility for the National Register, if possible and appropriate.
- Use official Maryland inventory numbers (i.e., site numbers issued by the Trust's Office of Research, Survey, and Registration) to identify resources in the text and in illustrations of both draft and final reports.

Summary and Recommendations

- Summarize the results and evaluate the survey's methods and techniques.
- Include a statement addressing the eligibility of identified cultural properties for the National Register of Historic Places and the Maryland Register of Historic Properties.
- Address the need for additional investigations or resource treatment, if applicable.
- Discuss the study's appropriateness for public interpretation.
- Include recommendations for future work.

References Cited

- The style of all citations should follow the latest edition of *The Chicago Manual of Style*.

Appendices

- Include a typed index that identifies all sites surveyed and includes for each the survey number, building name, specific address or location, and town.

Final Report Format

Original typed inventory forms, maps, and photographs must be submitted separately and should not be placed in the bound report.

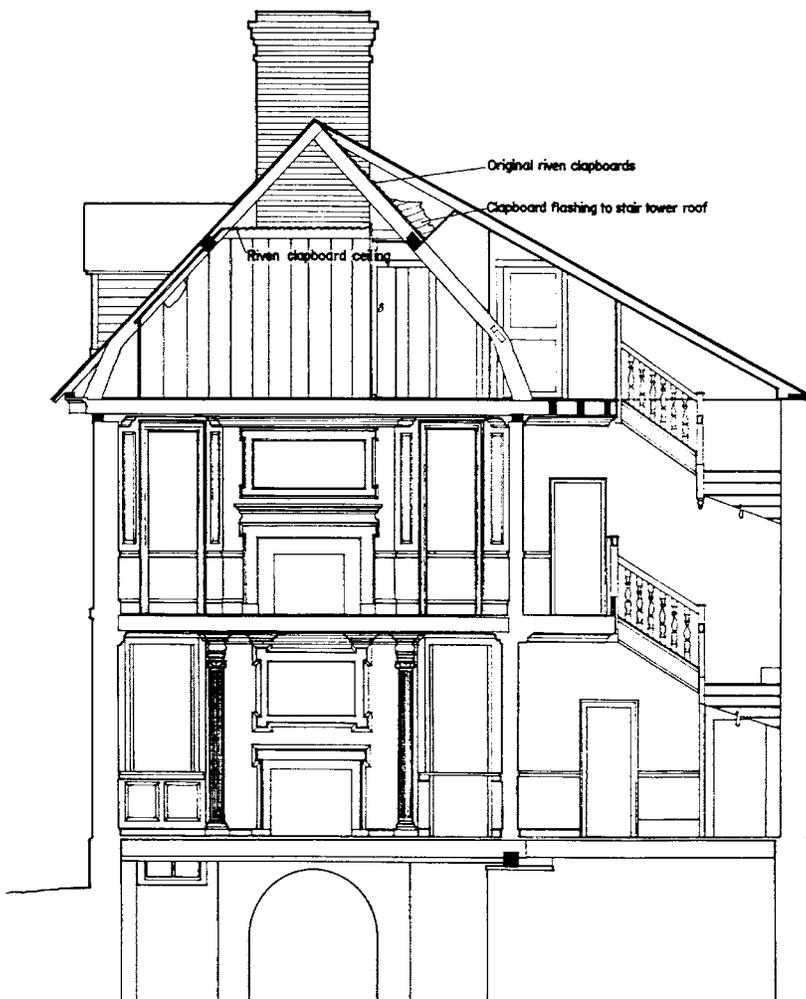
All final reports submitted to the Trust for review should consist of **spiral bound**, 8½" x 11" single-spaced, double-sided, typed pages. Three-ring binders are not acceptable. The final

report must be submitted on acid-free paper. Figures or maps may be larger in size for clarity, if they can be folded to fit in the bound report as pages or inserts in a pocket. Property survey data should be submitted on the official inventory form, which is not bound in the report. The original forms, submitted with the final survey report, are processed separately and stored at the Trust in flexible open-ended files. (See Chapters IV and VII for guidance on the preparation and accessioning of the Maryland Inventory of Historic Properties Form and supporting graphic materials.)

Standards for Illustrations in the Spiral Bound Final Survey Report

The following elements must characterize all report illustrations (maps, drawings, photographs, etc.), which should be called “figures” and numbered in a single running series. Each figure should be identified with:

- An informative title (including location and orientation of the camera for all landscape photographs) with any necessary citations;
- Scale (or indication that a historic source lacks a scale);
- North arrow and key;
- Clarity of illustrations (i.e., original photographs, halftones, or clear photocopies) is of paramount importance;
- Illustrations must supplement text with useful information that is not easily conveyed in written form.



VI *Compliance Reports*



The preceding chapters described the standards and guidelines for survey, identification, and documentation of standing cultural resources in grant-funded investigations. Although the same standards and guidelines apply to compliance documents, these specialized reports also contain additional vital information that assists agency personnel (i.e., at the SHPO, the governmental agency sponsoring an undertaking, and the Federal Advisory Council on Historic Preservation) in making informed decisions regarding the identification and treatment of significant historic resources. The submission of reports that lack key information may cause delays. For this reason, the Trust accepts only complete reports—not management summaries—for review. This chapter reviews the essential components of the compliance report.

With respect to compliance projects, reports are always reviewed in two phases. The first is a complete draft report submitted to the Trust's Office of Preservation Services for review. After review by SHPO staff, the report's author(s) will prepare a final, revised document for submission to the Trust.

Contractors and their clients, or the agencies that employ them, should decide which party will submit the draft and final reports to the Trust's Office of Preservation Services. Draft and final reports should be accompanied by cover letters containing agency names. These steps will help to eliminate confusion and prevent delays. Clear prose and illustrations will also help reviewers to interpret the information in the reports. For questions of style in the presentation of technical material, such as tables, footnotes, and the bibliography, follow the most recent edition of *The Chicago Manual of Style*.

For training in the preparation of compliance documents, historians and architectural historians are encouraged to attend the Federal Advisory Council on Historic Preservation's course, "Introduction to Federal Projects and Historic Preservation Law." On June 17, 1999, revised regulations for the implementation of Section 106 became effective. The Trust strongly recommends agencies, project sponsors, and preservation consultants become familiar with the revised regulations before participating in the historic preservation review process. The study of accepted final versions of recent cultural resource reports in the Trust library is also instructive.

Report Format and Content

All reports submitted to the Trust for review should be spiral bound, using 8½" x 11" acid-free paper. The pages should be typed single-spaced and double-sided. Bulky three-ring binders are not acceptable. Illustrations or maps may be larger in size for clarity, if they can be folded to fit in the bound report as pages or inserts in a pocket. Inventory forms are not bound in the report. These original forms must be submitted in both the draft and final phases of the compliance project. Scanned images or clear, sharp copies of photographs and the map may be submitted with the draft, original photographs are required in the final submittal. After final review and approval, the inventory forms are processed individually as separate documents (see Chapters IV and VII for guidance on the preparation and accessioning of the Maryland Inventory of Historic Properties Form).

Suggested Compliance Report Outline

Title Page

- Title of report including the name, nature, and location (with county) of the project.
- Clear designation of report's author(s) with complete mailing address.
- Clear designation of project's principal investigator(s) with complete mailing address.



- Names and complete mailing addresses of the lead government agency and of the government agent (i.e., engineering firm, developer, or project sponsor, if appropriate).
- Date of current version of report (i.e., latest production date).

Abstract

- This is an executive summary—at most one half page long—that covers the purpose of the historic preservation work, nature of the given governmental project, location of the project, findings, and recommendations.

Table of Contents

- Entries for all report chapters and headings/sub-headings with appropriate page numbers.
- A figures list including all types of illustrations (i.e., line drawings, plates) and tables, with page numbers for all figures, and appendices.

Introduction

- Briefly state the purpose of the historic preservation project.
 - Identify the lead governmental agency, or project sponsor, if appropriate.
 - Describe the proposed project with anticipated direct and indirect project impacts.
 - Include information on the agency contract or project numbers/names.
- Cite the specific law calling for the current historic preservation work.
 - Name any governmental agents directly involved with the historic preservation project.
 - Include a copy of a county map with project location and
 - a copy of U.S. Geological Survey 7.5' quadrangle map (1"=24,000') showing the Area of Potential Effects, as defined in 36 CFR § 800.2(c) and determined by the governmental agency.

- Give the dates when background research and architectural investigations were conducted.
- Specify the total number of acres examined.
- Give a brief description of the qualifications of historic preservation personnel involved.
- Describe the organization of the report.

Research Design

- Give a detailed statement of objectives, including applicability of the work to broader county or regional historic and architectural contexts. If a formal scope of work or proposal was prepared, authors may refer to this document, and include it in an appendix to avoid lengthy repetition.
- Describe the methods and techniques of archival and background research, survey, and analysis.
- Discuss the expected results and the proposed disposition of field records and research information.

Historic and Architectural Context

Guidelines for organizing a historical overview of the project area:

- Determine the kinds of events, patterns of development, or activities for which properties meet the Maryland and National Register criteria (see the list of areas of significance in Section 8 of the Maryland Inventory of Historic Properties and National Register forms).
- Carefully analyze the survey area to identify themes in the area's history and within the general areas of significance that represent significant patterns of American history, architecture, archeology, engineering, and culture and have made significant contributions to the historical development of the locality, state, or nation.
- Identify the concept, time period, and geographical limits for the historic context(s) based on historical research related to theme(s), area(s) of significance, and geographical area. Base this step on historical documentation of and fieldwork in the survey area.
- Consider stages and patterns of area settlement and development; aesthetic and artistic values embodied in the architecture or art, craftsmanship, construction technology, or the style and work of a master; research values or problems related to the area's prehistory or history; social and physical sciences and humanities; and local cultural interest.

Results of Field Investigations

- Include a statement of field conditions and constraints and a qualitative and quantitative description and analysis of the architectural and historic resources with reference to comparable published studies.
- Include maps depicting locations of identified resources, with MIHP numbers, along with boundaries of the Area of Potential Effect and descriptive illustrations.
- When interpreting field-investigation results, refer to historic contexts and research questions; and
- Address the issue of integrity and/or significance as related to the property's eligibility for the National Register, if possible and appropriate.

- Use official Maryland inventory numbers (i.e., site numbers issued by the Trust’s Office of Research, Survey, and Registration) to identify resources in the text and illustrations used in both draft and final reports

Summary and Recommendations

- Discuss the impact of the governmental undertaking on identified cultural properties when recommended by the SHPO (36 CFR § 800.3).
- Include a summary of results and an evaluation of methods and techniques used.
- Include a statement addressing the survey’s level of intensity. If it was an intensive survey, address the eligibility of identified cultural properties for the National Register of Historic Places and the Maryland Register of Historic Properties. (Chapter IV contains guidance on the application criteria used for compliance evaluation.)

References Cited

- List all references consulted in the report’s preparation according to the latest edition of *The Chicago Manual of Style* format.

Appendices

- Include relevant project correspondence only.
- The scope of work or proposal, if appropriate.
- The qualifications of principal investigator(s). The maximum resume length should be two (2) pages per individual. Each resume must clearly demonstrate that the person meets National Park Service requirements published in the Code of Federal Regulations (36 CFR Part 61 and discussed in Chapter I).

Standards for Illustrations

The following elements must characterize all report illustrations (i.e., maps, drawings, photographs, etc.), which are called “figures” and are numbered in a single running series:

- informative title, including location and orientation of the camera for all landscape photographs, with any necessary citations;
- scale, or indication that a historic source lacks a scale;
- north arrow and key;
- clarity (i.e., original photographs, scanned images, halftones, or clear photocopies); and
- utility, which means that illustrations should provide useful information that cannot readily be transmitted in written form.

Coordinating with the SHPO

To provide adequate time to address all historic preservation concerns and to prevent avoidable delays, agency officials, or their officially designated project sponsor, should consult the SHPO as early in the project planning process as possible—when alternative project locations, configurations, and methods are still available; or when program discussions begin; etc.

An agency official should initiate coordination with the Trust with the submission of a written request for assistance in identifying historic properties. To enable the Trust staff to respond in a timely and effective manner, the request should include: 1) a brief description of the proposed undertaking and the nature of federal or state agency involvement; 2) a clear delineation of the project’s Area of Potential Effect marked on a section of a U.S. Geological Survey 7.5’ quadrangle, or other 1” = 2,000’ scale map (see below for clear understanding of the APE); 3) a summary of the agency’s review of existing information on known and potential

architectural and historic properties, including the Maryland Inventory of Historic Properties and surveys by Certified Local Governments that may be affected by the undertaking; 4) a detailed description of past land use on the subject property; and 5) labeled photographs of known and potential architectural and historic properties.

Determining the Area of Potential Effect (APE)

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

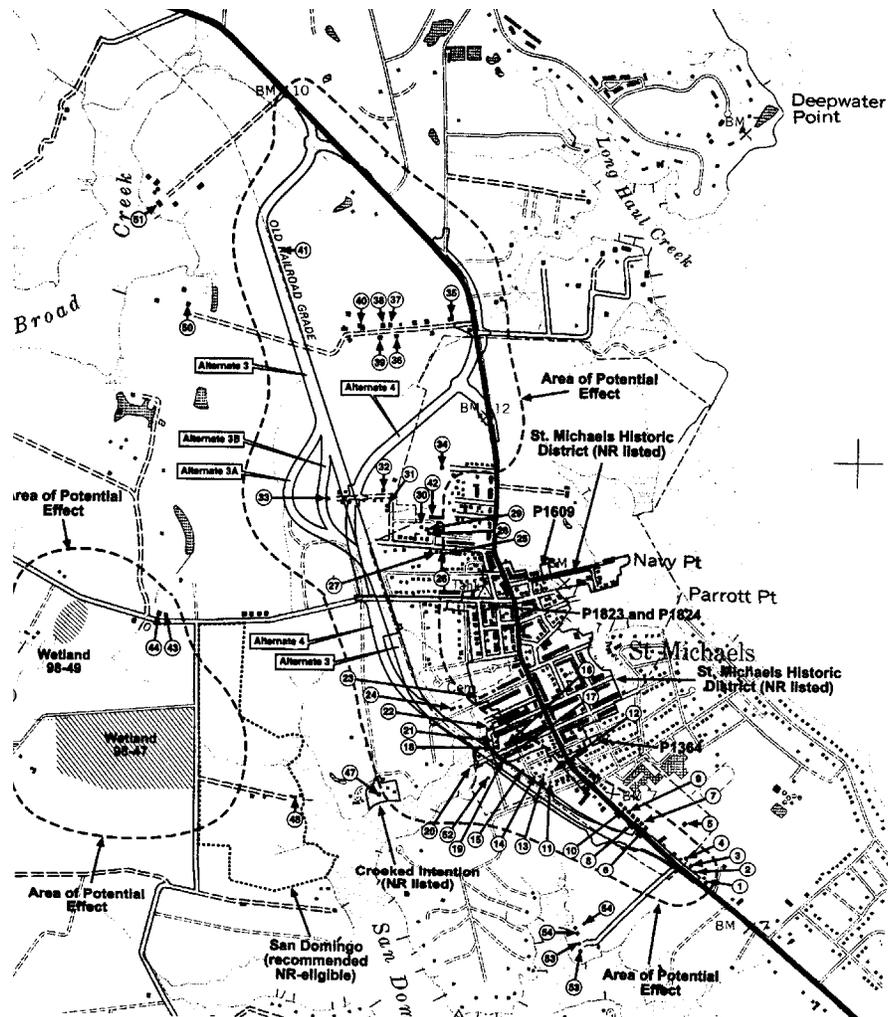
The first and most essential step in the compliance review process is determining the Area of Potential Effect using a map (i.e., U.S. Geological Survey 7.5' quadrangle, or other 1" = 2,000' scale map) showing the area and indicating the acreage surveyed for the project. Factors to be considered in preparing an APE are the anticipated impact of the project, the characteristics of resource types expected to be found within the APE, the number and types of alternatives under consideration, and potential geographic and topographic changes.

The Federal Agency determines the Area of Potential Effect. If the Trust staff recommends preparation of a compliance report, the agency should submit a draft of the compliance report (see outline described above). For purposes of clarity, the draft report must include the original photographs or sharp, clear photocopies. The draft report will facilitate the Trust staff's review of potentially significant resources.

After addressing staff review comments and incorporating needed changes and requested revisions, the agency will then submit its final report.

Identification of Properties

The goal of property identification for compliance projects is to locate architectural and historic properties that may be eligible for the National Register of Historic Places or the Maryland Register of Historic Properties, as appropriate, in an undertaking's Area of Potential Effect. All identification projects should begin with the formulation of an explicit plan or program of architectural and historical study—a research design. The research design for a compliance project describes activities that will accomplish the goals of an identification study



(Chapter III includes more comprehensive directions and describes the important components of the research design). Part of the research design might take the form of a proposal written in response to a request for bids.

Research Design

The Secretary of the Interior's *Standards and Guidelines or Standards for Historic Preservation Projects* requires that a research design for a historic preservation project have three major sections: objectives, methodology, and expected results. The objectives section should begin with a discussion of why architectural and historical identification is necessary. This should include the name of the governmental agencies and other parties involved in the undertaking; the nature of the undertaking (i.e., construction of a transmission line with certain access roads) and its Area of Potential Effect, where both the direct and indirect consequences of a project may occur. This discussion should also cite the specific laws, regulations, guidelines, and other requirements that either call for or apply to the project. Based on this information, project historians or architectural historians will determine the appropriate level of research to be conducted. Specific objectives of a compliance investigation should include:

- an inventory of all architectural and historic properties in the APE;
- characterization and interpretation of all identified architectural and historic properties with respect to the historic contexts outlined in the state plan;
- an appraisal of the results of the investigations in light of existing architectural and historic information;
- an evaluation of National or Maryland register eligibility; and
- an assessment of the undertaking's effects on the identified architectural and historic properties.

The methodology section of a research design should describe the amounts and kinds of archival or background research, field investigations, and analytical studies anticipated to achieve the goals and objectives of the project. Descriptions of the general research methods

(i.e., literature review, archival and background research, and oral history) and specific survey techniques (i.e. reconnaissance or intensive survey). To ensure a successful outcome of the research, plan appropriate strategies for the particular project area's size, accessibility, environmental characteristics, and expected architectural and historic properties. This explicit discussion of research methods and survey techniques will also help agency reviewers and other architectural historians and historians to judge the quality and effectiveness of the work.



The expected results section of the research design should discuss the number, size, location, age, and characteristics of the architectural and historic resources anticipated in the area of potential effect. Thorough background research into the project area and the historic contexts for analogous locations can provide the basis for these expectations. Whenever possible, make a preliminary field check to provide familiarity with the APE's potential historic resources and cultural and historic landscape.

Additional technical information for developing strategies for identification surveys can be found in the publications listed in the Secretary of the Interior's Standards for Identification, Recommended Sources of Technical Information. Numerous other sources of information on survey methods and strategies are cited in Chapter 8.

Archival and Background Research

The purpose of archival and background research is to acquire information on a project area's known and potential architectural and historic properties before initiating time-consuming and costly field investigations. Most archival and background studies should be completed and their results assessed before fieldwork begins so that the preliminary survey strategies outlined in contract proposals may be refined. The non-field research will help guide the field survey by indicating where any documented Maryland Register or National Register eligible architectural and historical sites are located and where other significant properties may be found.

Fieldwork

The Federal Advisory Council on Historic Preservation's regulations for the Section 106 review process state that federal agency officials "shall make a reasonable and good faith effort to carry out appropriate identification efforts. . ." (36 CFR § 800.4(b) (1)). In the same manner, historians and architectural historians conducting surveys for all federal and state compliance projects in Maryland are to conduct their investigations with "a reasonable and good faith effort." A reasonable and good faith effort would, in most cases, include well-designed reconnaissance or intensive surveys to collect the necessary representative information in the Area of Potential Effect, and the systematic application of field survey techniques, whatever the level used. Surveys performed according to a judicious survey methodology will help to reduce project costs while yielding credible information on the distribution of historic standing properties throughout a project tract. (See Chapter IV for information on the preparation of the Maryland Inventory of Historic Properties Form and how to determine the appropriate survey treatment for historic standing structures.)

Evaluation of Properties

The goal of evaluation for compliance projects is to determine if an architectural and historical property identified in a project's APE is eligible for inclusion in the National Register of Historic Places (for federal projects) or the Maryland Register of Historic Properties (for state projects). To decisively evaluate the eligibility of a cultural resource, the accumulated documentation must demonstrate that the subject property does or does not meet the four eligibility criteria for the Maryland Register of Historic Properties and National Register of Historic Places.⁸ These criteria define the scope and nature of historic and archeological properties that are considered for listing in the Maryland Register of Historic Properties and the National Register of Historic Places (see Chapter IV).

When developing a compliance report and documenting individual historic properties or districts, the preparer should focus on three major areas: its significance within local, state, and national contexts; its historical and architectural integrity; and a clear definition of the resource's boundaries. Care in documenting and identifying the areas of significance and physical characteristics of historic properties are fundamental to subsequent assessments of project effects and may suggest appropriate treatment measures.

In most cases, the significance of any one resource cannot be fully evaluated until the survey area's historic contexts have been developed and other resources in the project area

8. Described in Chapter IV and cited in State Finance and Procurement Article 5A, § 5A-323(b)(1) and (2), Annotated Code of Maryland, COMAR 34.04.05.07 and 36 CFR Part 60.4.

have received some reasonably comparable level of documentation. During the survey, the investigator should record the qualities of each property that relate it to the project area's historic contexts and may contribute to its significance. (See below.) The surveyor should also note any qualities that appear unique or significant and should record these observations for future reference and evaluation. Evaluation of a property is based upon relevant historic contexts and the areas of significance under which the property may be important, for example agriculture or architecture. (See Chapter IV for more on the areas of significance used by the Maryland and National register programs.) The areas in which a property may be significant should be recorded on the *Maryland Inventory of Historic Properties Form* or *National Register of Historic Places Form* and supported in the statement of significance.



Whether showing that a property is or is not significant, the statement of significance should

be developed as a well-reasoned argument that identifies the historic context or contexts to which the property relates and discusses the property type within relevant historic contexts and describes the characteristics that justify its place within the context.

The exact information needed to evaluate significance depends upon a property's historic context. In most cases, the needed information will fall into one or more context categories, which include

- historically significant events/or patterns of activity associated with the property;
- significant period or periods of time during which the property was in use;
- specific dates or period(s) of time when the resource achieved its importance (i.e. date of construction, date of a specific event, period of association with an important person, period of an important activity);
- historically significant persons associated with the property (i.e. tenants, visitors, and owners);
- exemplification of a style, period, or method of construction;
- person(s) responsible for its design or construction;
- quality of style, design, or workmanship;
- historically or culturally significant group associated with the property and the nature of the association;
- information that the property may yield (especially true of archeological sites and districts).

A property's integrity enables it to clearly convey its historic identity and significance. Therefore, a description of the physical characteristics of a historic resource is an important consideration in its evaluation. The survey should produce sufficient information for an authoritative description of the property's physical appearance and condition. In most cases, a description following the guidelines presented in Chapter IV will be sufficient. However, if a building is judged to be ineligible based on its lack of structural integrity, a structural engineer's report may be required to substantiate the recommendation. Guidelines for evaluating the significance and integrity of historic properties are contained in *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation*.

A final important component of the review of a historic property is a definition of its boundaries, which may be either spatial or conceptual, or both. The acreage of the property, a written description of its boundaries, and a statement justifying the choice of particular bound-

aries are vital to an understanding of the nature and extent of a historic resource. Carefully defined boundaries are important to individual properties as well as historic districts and may require considerable professional judgment. (See *National Register Bulletin 21: How To Establish Boundaries for Historic Properties* for technical information on this subject.) Documentation for complexes containing more than one building, structure, or object, or for historic districts must contain a statement clearly categorizing all inventoried properties as contributing or non-contributing (see Chapter IV for guidelines for counting resources). Factors that influence the selection of boundaries include the distribution of significant features, uses, historic associations, property lines, integrity of the site, topographic features, and visual qualities, both natural and historic.

Assessing Effects

If a survey reveals historic properties listed in, or determined eligible for, inclusion in the Maryland Register of Historic Properties or National Register of Historic Places, the agency must assess how its project will affect them. Throughout this assessment stage, the agency should work with the Trust staff and consider the views of others, such as representatives of local governments, property owners, members of the public, and the Advisory Council on Historic Preservation. The agency's assessment must be based on a complete documentation of the significant characteristics of any eligible or potentially eligible historic standing structures within the area in question and the project's potential impact on them. This documentation can be presented as part of the compliance report, or may be contained in a letter from the agency to the Trust. In either instance the statement must be well justified. In making its assessment, the agency should use the criteria found in the Advisory Council's regulations (36 CFR § 800.5).

Upon completion of its deliberations, the agency can make one of three determinations:

- no effect—the undertaking will not affect historic properties;
- no adverse effect—the undertaking will affect one or more historic properties, but the effect will not be harmful—or
- adverse effect—the undertaking will harm one or more properties.

If an adverse effect will occur, the agency should consult with the Trust staff and others (i.e., local governments, property owners, members of the public, and the Federal Advisory Council on Historic Preservation) to find ways to reduce, avoid, or mitigate the adverse effect. A productive consultation will result in a Memorandum of Agreement (MOA) outlining the measures the agency agrees to take to account for the adverse effects on historic properties. In rare situations when consultation is unproductive, the agency, the Trust, or the Advisory Council may terminate consultation. Should that occur, the agency would be required to submit appropriate documentation to the Advisory Council for its written comment. In limited cases, the Advisory Council may comment during the consultation step by participating in and signing the MOA.

If a MOA is executed, the agency must submit a copy of the MOA with supporting doc-



New technologies can be used within historic districts without causing adverse effects. Note the cellular antenna attached to the water tank.

VII *Accessioning Procedures*



Written and graphic documentation for historic resources in Maryland is generated by an array of programs within the Division of Historical and Cultural Programs of the Trust. Materials may be submitted in a variety of forms, including the Maryland Inventory of Historic Properties forms, final survey reports, compliance reports, documentation for the Historic American Building Survey/Historic American Engineering Record (HABS/HAER), and measured drawings. After review and approval by the Trust staff, these various survey and research products are accessioned into the Archives and Library of the Division of Historical and Cultural Programs. This is the state's principal repository for information about Maryland's architectural, archeological, and cultural resources. The holdings of the library include the following:

- Inventory forms for standing structures and site files for archeological sites
- National Register nomination forms
- Map collection (archeological and architectural site locations and historical maps and atlases)
- Photographs and negatives (architectural resources)
- Slides (archeological and architectural sites and preservation-related activities)
- Books
- Professional journals and newsletters
- Architectural drawings
- Historic Structure Reports
- Plans (development plans, town plan, etc.)
- Compliance (archeological and architectural) site and survey reports
- Vertical files (correspondence, news clippings, brochures, and pamphlets)
- Microform
- Folklife documentation
- Audio and video cassettes
- Archeological Society of Maryland, Inc. Library

The library is open to the public by appointment on Tuesdays, Wednesdays, and Thursdays. All material related to Maryland's archeological sites is accessible only to qualified researchers with prior approval from the Office of Archeology. Appointments to use the library may be made by calling the librarian at (410) 514-7655.

The Maryland Historical Trust maintains computerized-catalogue and hard-data filing systems for all documentation received related to architectural investigations in the state. Easy entry of new information and the implementation of a modern data processing and retrieval system require that the material submitted to the archives and library is processed in a manner which is both easily accessible and protective.

After review and approval by qualified architectural historians on the MHT staff, the MIHP form becomes the centerpiece of the survey data files. Certified Local Government materials are reviewed by the Administrator, Statewide Preservation Programs. Compliance generated forms are reviewed by the Office of Preservation Services, Review and Compliance unit. The Administrator of Architectural Research reviews all other inventory forms. The Trust has established guidelines for the submission of documentation related to architectural investigations as follows:

Maryland Inventory of Historic Properties Form

Regardless of the level of survey, all forms (hard copy and electronic) must be submitted with the required supplementary materials, including capsule summaries, photographs, slides, drawings (if applicable), and two copies of a map.



The Inventory Registrar will process forms, photographic prints, slides, maps, and other material on a particular property. All properties are required to be identified by an inventory number assigned by the Inventory Registrar. Usually this assignment of inventory numbers is requested during an early phase of a survey or compliance project. If an inventory number has not been assigned, the Registrar will return all materials to the consultant with a designated number to be labeled on all materials.

After approval by MHT staff, the MIHP form(s) are logged into both hard data and computer indexes in numerical and alphabetical order. Property forms and accompanying documentation for all surveys should be organized by Maryland inventory number to facilitate processing.

The contents are checked to ensure that all the required materials have been submitted (see Chapter IV: Submittal of Documentation).

Trust staff will process and accession the material into the library and archives where it is made available for use. Inventory forms are placed in the loose-leaf binders for each county. Black and white photographs, which receive heavy use, are placed behind the form in inert protective sleeves, as submitted by the preparer. Slides and negatives are stored vertically in separate filing cabinets. Site locations are plotted on United States Geological Survey quad maps in the Trust library and later, are entered into a Geographic Information System computer database.

Compliance Reports

Compliance reports are prepared in draft and final stages. After review by MHT staff, comments on the draft reports are sent to the submitting agency and consultant. The report is then submitted to the Inventory Registrar for processing. The draft report is logged in by the Registrar and given to the librarian for accessioning. The location of the project area, as well as individual sites in the area, is mapped on the MHT's USGS quad maps at this time. After final reports are received and approved, they supersede the draft reports in the library collection. The MIHP forms generated by a compliance project are processed as described above and must meet the same organizational and packaging requirements.

Final Survey Reports

Final survey reports are submitted to the Administrator of Architectural Research just before completion of the grant-funded projects. Following approval and acceptance of all final products described in the grant contract, the report is submitted to the librarian for processing. After being accessioned, the bound reports with their original and final research designs are entered into the Field and Research Reports (FRR) section of the library.

Historic American Buildings Survey (HABS) and Historic American Engineering Record (HAER) Materials

Documentation to HABS/HAER standards is submitted to appropriate staff for review. If not forwarded to the National Park Service, all materials are given to the Inventory Registrar to be logged in and then submitted to the librarian for accessioning. Written reports become a part of the library collection. Photographs are placed in inert archival sleeves and entered in the photograph collection. Drawings are processed and become part of the architectural drawing collection. If appropriate, early drawings, such as designs or “as built,” may be given to the Maryland State Archives. Please refer to the HABS/HAER guidelines for current guidance on completing this type of document.





VIII *Survey and Planning Materials*



Technical Information

Advisory Council on Historic Preservation:

- 1985 *Protection of Historic Properties, 36 CFR Part 800.*
- 1986 *Section 106, Step-by-Step.*
- 1988 *Identification of Historic Properties: A Decisionmaking Guide for Managers.*
- 1989 *Public Participation in Section 106 Review: A Guide for Agency Officials.*

Advisory Council on Historic Preservation and National Park Service:

- 1989 *The Section 110 Guidelines: Annotated Guidelines for Federal Agency Responsibilities under Section 110 of the National Historic Preservation Act.*
- 1989 *Preparing Agreement Documents: How to Write Determinations of No Adverse Effect, Memoranda of Agreement, and Programmatic Agreements Under 36 CFR Part 800.* ACHP, Washington, D.C.
- 1989 *The Section 110 Guidelines: Annotated Guidelines for Federal Agency Responsibilities under Section 110 of the National Historic Preservation Act.* ACHP and NPS, Washington, D.C.

Advisory Council publications, fact sheets, and information about their training courses are available from: Advisory Council on Historic Preservation, 1100 Pennsylvania Avenue, N.W., #809, Washington, D.C. 20004, (202) 606-8505.

National Park Service:

- 1981 *36 CFR 60: National Register of Historic Places.*
- 1990 *Secretary of the Interior's Standards and Guidelines for Architectural and Engineering Documentation: HABS/HAER Standards.*
- 1988 *Guidelines for Recording Historic Ships.* Richard K. Anderson, Jr. Washington, D.C.
- 1981 *HABS Field Instructions for Measured Drawings.* HABS/HAER., Washington, D.C.
- 1981 *HAER Field Instructions.* Washington, D.C., HABS/HAER.
- 1983 *HABS Historian's Procedures Manual.* HABS/HAER, Washington, D.C.
- 1984 *Specification for the Production of Photographs.* HABS/HAER, Washington, D.C.
- 1985 *Transmitting Documentation to HABS/HAER, WASO.* HABS/HAER, Washington, D.C.

Materials regarding HABS/HAER are available from: HABS/HAER Division - National Park Service, P.O. Box 37127, Washington, D.C. 20013-7127, (202) 343-9618.

National Register of Historic Places Bulletin Series:

- How to Apply the National Register Criteria for Evaluation (#15)*
- How to Complete the National Register Registration Form (#16A)*
- How to Complete the National Register Multiple Property Documentation Form (#16B)*
- How To Evaluate and Nominate Designed Historic Landscapes (#18)*
- Nominating Historic Vessels and Shipwrecks to the National Register of Historic Places (#20)*

How to Establish Boundaries for National Register Properties (#21)
Guidelines for Evaluating and Nominating Properties That Have Achieved Significance Within the Last Fifty Years (#22)
How to Improve the Quality of Photos for National Register Nominations (#23)
Guidelines for Local Surveys: A Basis for Preservation Planning (#24)
Using the UTM Grid System to Record Historic Sites (#28)
Guidelines for Evaluating and Documenting Rural Historic Landscapes (#30)
Guidelines for Evaluating and Documenting Properties Associated with Significant Persons (#32)
Guidelines for Evaluating and Documenting Traditional Cultural Properties (#38)
Researching a Historic Property (#39)
Guidelines for Evaluating and Registering Cemeteries and Burial Places (#41)
Guidelines for Identifying, Evaluating, and Registering Historic Mining Properties (#42)

The National Register Bulletin Series may be obtained from the National Register of Historic Places, National Park Service, U.S. Department of the Interior, P.O. Box 37127, Washington, D.C. 20013-7127, (202) 343-9500.

Survey Publications

- Blumgart, Pamela James, et. al., *At the Head of the Bay: A Cultural and Architectural History of Cecil County, Maryland*, Elkton: Cecil Historical Trust, and Crownsville: Maryland Historical Trust, 1996.
- Bourne, Michael, *Historic Houses of Kent County: An Architectural History 1642-1860*, Chestertown: the Historical Society of Kent County, 1998.
- Bourne, Michael, *Inventory of Historic Sites in Caroline County*, Annapolis: Maryland Historical Trust, 1980.
- Bourne, Michael, et al. *Architecture and Change in the Chesapeake: A Field Tour on the Eastern and Western Shores*, Crownsville: Maryland Historical Trust Press, 1998.
- Getty, Joe, *Carroll's Heritage: Essays on the Architecture of a Piedmont Maryland County*, Westminster, Md.: Carroll County Commissioners and Historical Society of Carroll County, 1987.
- Hughes, Elizabeth, *Historic St. Michaels: An Architectural History*, Chestertown, Md.: River Press, 1996.
- Inventory of Historic Sites in Calvert County, Charles County and St. Mary's County*, Annapolis: Maryland Historical Trust, 1980.
- Larew, Marilyn M., *Bel Air: An Architectural and Cultural History, 1782-1945*, Bel Air: Town of Bel Air and Crownsville: Maryland Historical Trust, 1995.
- Miller, Marcia and Ridout, Orlando, eds. *Architecture in Annapolis: A Field Guide*, Crownsville: Maryland Historical Trust Press, 1998.
- Touart, Paul Baker, *Along the Seaboard Side: The Architectural History of Worcester County, Maryland*, Snow Hill, Md.: Worcester County Commissioners, 1994.
- _____, *Somerset: An Architectural History*, Annapolis: Maryland Historical Trust, 1990.
- Ware, Donna M., *Anne Arundel's Legacy: The Historic Properties of Anne Arundel County*, Annapolis: Maryland Historical Trust, 1990.
- Weeks, Christopher, *An Architectural History of Harford County, Maryland*, Baltimore: Johns Hopkins University Press, 1996.
- _____, ed., *Between the Nanticoke and the Choptank: An Architectural History of Dorchester County, Maryland*, Baltimore: Johns Hopkins University Press, 1984.

_____, et. al., *Where Land and Water Intertwine: An Architectural History of Talbot County, Maryland*, Baltimore: Johns Hopkins University Press, 1984.

General Reference

- Blumenson, John J.-G., *Identifying American Architecture*, rev. ed., Nashville, Tennessee: American Association for State and Local History, 1981.
- Burns, John A., ed., *Recording Historic Structures*, Washington, D.C.: The American Institute of Architects Press, 1989.
- Federal Historic Preservation Laws*. Washington, D.C., 1993.
- Glassie, Henry, *Pattern in the Material Folk Culture of the Eastern United States*, Philadelphia, Pennsylvania, 1969.
- Lanier, Gabriele and Bernard Herman. *Everyday Architecture of the Mid-Atlantic*, Baltimore: Johns Hopkins, 1997.
- Lounsbury, Carl R., ed., *An Illustrated Glossary of Early Southern Architecture and Landscape*, New York and Oxford: Oxford University Press, 1994.
- McAlester, Virginia and Lee, *A Field Guide to American Houses*, New York, Alfred Knopf, 1988.
- Poppeliers, John, S. Allen Chambers, and Nancy B. Schwartz, *What Style Is It?* rev. ed., Washington: Preservation Press, 1983.
- Saylor, Henry H., *Dictionary of Architecture*. New York: John Wiley & Sons, 1952.
- Whiffen, Marcus, *American Architecture Since 1780: A Guide to the Styles*. Cambridge, Massachusetts: MIT, 1969.

Selected Internet Resources

- Advisory Council on Historical Preservation*: www.achp.gov
- HABS/HAER*: www.cr.nps.gov/habs/haer/
- Heritage Preservation Services*: www2.cr.nps.gov
- Library of Congress*: www.loc.gov
- Maryland Historical Trust*: www.MarylandHistoricalTrust.net
- Maryland State Archives*: www.mdarchives.state.md.us
- National Archives and Records Administration*: www.nara.gov
- National Conference of State Historic Preservation Officers*: www.sso.org/ncshpo
- National Park Service*: www.nps.gov
- National Register of Historic Places*: www.cr.nps.gov/nr
- National Center for Preservation Technology and Training*: www.ncptt.nps.gov



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Joseph D. Lyons House, general view, Calvert County, Doug Barber, 1997.
- Page 38: Slide Labeling Directions, Ron Andrews, 1990.
- Page 39: Joseph D. Lyons House, Calvert County, Resource sketch map. J. Richard Rivoire, 1996.
- Page 40: Riversdale, stair, Riverdale. Marcia Miller, 1995.
- Page 41: Oral histories of tobacco farming, Calvert County. Jim Hauser, 1991.
- Page 44: Cloverfields, Queen Anne's County. Michael J. Dowling, 1975.
- Page 45: Brady Farm, Calvert County. Christopher Martin, 1991.
- Page 46: Drum Point Lighthouse, St. Michaels. Marcia Miller, 1993.
- Page 49: St. Michaels, Area of Potential Effect for Proposed Bypass, John Milner Associates, 1999.
- Page 50: Crisfield Historic District, Paul Touart, 1986.
- Page 52: Belle Chance, Andrews Air Force Base, Prince George's County, Susan Pearl, 1986.
- Page 53: David Taylor Model Basin, Montgomery County. Bill Hutchison, 2000.
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- Page 55: Tobacco Auction House, Calvert County. Christopher Martin, 1991.
- Page 56: Fluharty Log House, Caroline County. Orlando Ridout V, 1996.
- Page 57: 9900 Colesville Road, Polychrome Historic District, Silver Spring. Constance Terry, 1993.
- Page 58: Mar-Va Theater, Pocomoke City. Paul Touart, 1993.
- Page 59: D. Parron Barn 'A', Calvert County. Tora Williamson, 1990.
- Page 62: Hitchcock Tunnel, Garrett County. Donna Ware, 1981.

Notes



Maryland Historical Trust
Maryland Department of Planning
100 Community Place
Crownsville, Maryland 21032-2023



PROJECT REVIEW FORM

Request for Comments from the Maryland Historical Trust/
MDSHPO on State and Federal Undertakings

MHT USE ONLY	
Date Received:	Log Number:

Submit hard copy of form and all attachments to:

Beth Cole, MHT, 100 Community Place, Crownsville, MD 21032

Print Form

Section A: General Project Information

Project Name County

This is a new submittal **OR** This is additional information related Project Log Number:

Section B: Primary Contact Information

Contact Name Company/Agency

Mailing Address

City State Zip

Email Phone Number Ext.

Section C: Description of Undertaking

Location - Attach a map, preferably a section of a USGS quad, showing the location and boundaries of the project

Address City/Vicinity

List all federal and state agencies / programs (funding, permits, licenses) involved in this project (e.g. Bond Bill Loan of 2009, Chapter #; Transportation Enhancement Grant; HUD/CDBG; MDE/COE permit; etc.).	Agency Type	Agency/Program/Permit Name	Project/Permit/Tracking Number (if applicable)
	<input type="text"/>		

Proposed Work - Attach project description, scope of work, site plans / drawings

This project includes (check all applicable): New Construction Demolition Remodeling/Rehabilitation

This project involves: State or Federal Rehabilitation Tax Credits

Properties subject to an easement held by MHT, MET, or another entity

Section D: Identification of Historic Properties

This project involves: Properties designated as historic by a local government, listed in the National Register, or included in Maryland Inventory of Historic Properties

Property/District Name

The subject property has has not been the subject of previous archeological, architectural, or historical investigations.

Please describe

Attachments Map Project Description/Scope of Work Site Plans/Drawings

Photographs - Attach prints or digital photographs showing the project site including images of all buildings and structures, preferably keyed to a site plan

Conditions - Attach a brief description of past and present conditions of the project area (wooded, mined, developed, agricultural uses, etc) including construction dates of buildings, if known.

MHT Determination MHT Reviewer: _____ Date: _____

There are **NO HISTORIC PROPERTIES** in the area of potential effect The project will have **NO ADVERSE EFFECT WITH CONDITIONS**

The project will have **NO EFFECT** on historic properties **MHT REQUESTS ADDITIONAL INFORMATION**

The project will have **NO ADVERSE EFFECT** on historic properties The project will have **ADVERSE EFFECTS** on historic properties



MHT Project Review Staff

MHT's Project Review and Compliance Unit, comprised of a team of archeologists and architectural historians, handles the review of projects and provide a wide range of technical assistance to program clients. See the lists below for staff contact information and assignments by key federal and state agency programs, broad project types and geographic region.

Staff Contact Information:

Beth Cole, Administrator	410-514-7631	bcole@mdp.state.md.us
Amanda Apple, Preservation Officer	410-514-7630	aapple@mdp.state.md.us
Dixie Henry, Preservation Officer	410-514-7638	dhenry@mdp.state.md.us
Jonathan Sager, Preservation Officer	410-514-7636	jsager@mdp.state.md.us
Tim Tamburrino, Preservation Officer / Transportation Reviewer	410-514-7637	ttamburrino@mdp.state.md.us
Troy Nowak, Assistant State Underwater Archeologist	410-514-7668	tnowak@mdp.state.md.us

Reviewer Assignments by Project Type:

Project Type	Architectural Historian	Archeologist
Agriculture (Farms, livestock, soil conservation)	<i>Jonathan Sager</i>	<i>Dixie Henry</i>
Airports	<i>Amanda Apple</i>	<i>Beth Cole</i>
Communications (Cell towers, public safety towers.)	<i>Amanda Apple</i>	<i>Beth Cole</i>
Corps of Engineers / MDE joint permits		
Shoreline / water / dredging actions		<i>Troy Nowak</i>

COE/MDE - All other projects	<i>Jonathan Sager</i>	<i>Dixie Henry</i>
Defense / Military / Homeland Security / Veterans (Military installations, testing, security grants, armories, veterans' facilities)		
Army & National Security Administration	<i>Amanda Apple</i>	<i>Dixie Henry</i>
Air Force, Homeland Security, Marines, Maryland Military, National Guard, Navy, Veterans Administration	<i>Amanda Apple</i>	<i>Beth Cole</i>
Education Public Schools	<i>Jonathan Sager</i>	<i>Dixie Henry</i>
Education Colleges/Universities	<i>Amanda Apple</i>	<i>Beth Cole</i>
Energy / Utilities (Transmission lines, power plants, electric/gas/nuclear/wind/solar facilities)	<i>Jonathan Sager</i>	<i>Dixie Henry</i>
Extraction / Industry / Waste (Mining, timbering, landfills)	<i>Amanda Apple</i>	<i>Dixie Henry</i>
Government Facilities (Courthouses, post offices, municipal buildings, excess properties) State owned (DGS)	<i>Jonathan Sager</i>	<i>Beth Cole</i>
Government Facilities Federally owned (GSA)	<i>Amanda Apple</i>	<i>Beth Cole</i>
Health Care (Hospitals, mental health facilities, research facilities)	<i>Jonathan Sager</i>	<i>Dixie Henry</i>

**Housing / Community & Economic
Development / Revitalization / Bond Bill
projects**

(Rehabilitation, new construction, façade grants,
community legacy, revitalization, and bond bill
funded activities)

Divided by County jurisdiction:

Anne Arundel, Baltimore City, Baltimore
County, Caroline, Cecil, Dorchester, Kent,
Queen Anne's, Somerset, Talbot, Wicomico,
Worcester

Amanda Apple

Beth Cole

Allegany, Calvert, Carroll, Charles, Frederick,
Garrett, Harford, Howard, Montgomery, Prince
George's, St. Mary's, Washington

Jonathan Sager

Beth Cole

Parks and Recreation

(Public park facilities, playgrounds, sports
complexes, grants for park projects)

State and Local Parks (DNR, POS, etc.)

Amanda Apple

Dixie Henry

Federal Parks (NPS)

Jonathan Sager

Beth Cole

Public Safety and Corrections

(Police, correctional facilities, fire stations)

Jonathan Sager

Dixie Henry

Sewer and Water

(Water and wastewater treatment plants,
distribution and collection lines)

Jonathan Sager

Beth Cole

Transportation

(Roads, bridges, rail, transit, park & ride lots,
transportation enhancement funded projects)

Tim Tamburrino

Beth Cole

Wildlife and Conservation

(Wildlife refuges, habitat restoration, wetlands
enhancement, acquisition and easements for
conservation purposes)

Amanda Apple

Dixie Henry



State and Federal Project Review How to Request MHT Comments

Section 106 of the National Historic Preservation Act and the Maryland Historical Trust Act of 1985 require federal and state agencies to consider the effects of their projects on historic and archeological properties through a consultation process known as “Section 106” review. The Maryland Historical Trust (MHT), Maryland’s State Historic Preservation Office, plays a key role in Section 106. The review process involves consultation among the agency (or its designee), project sponsor, MHT, and other participants. Through consultation, the agency must identify and evaluate historic properties that may be affected by a project and develop measures to avoid, reduce or mitigate any adverse effects on those properties. This fact sheet provides information on how to request MHT’s comments for a state or federal project. For more information on the review process, visit *State and Federal Project Review* on MHT’s website at: <http://mht.maryland.gov>.

The project review process applies to undertakings conducted or assisted by a state or federal agency, including actions that receive financial funds, permits or licenses from the agency. Any person, organization, business entity, or local government seeking state or federal assistance for a project may need to consult with MHT. Projects may include actions with federal or state grants, permits from the Corps of Engineers, state bond bills, a license from the FCC for telecommunications installations, or other actions with state or federal involvement. MHT encourages agencies and project sponsors to initiate consultation early in project planning, to allow adequate time to successfully complete the review well in advance of construction. To initiate MHT review of a proposed undertaking, please provide MHT with the following materials:

- ✓ A detailed description of the proposed project, noting the nature of the state and/or federal involvement;
- ✓ A map (preferably a section of a USGS topographic quadrangle or an ADC map) clearly showing the location and boundaries of the project area and more detailed site plans, if appropriate;
- ✓ Labeled photographs (print or digital) of the project site including images of all buildings and structures located within the project area, preferably keyed to a site plan;
- ✓ Drawings and/or a written scope of work illustrating any plans to construct, demolish, or rehabilitate buildings or other structures;
- ✓ A brief description of past and present conditions of the project area (wooded, mined, developed, agricultural uses), including the construction dates of any buildings, if know.

Submit these items to: Beth Cole, Maryland Historical Trust
100 Community Place, Crownsville, MD 21032
bcole@mdp.state.md.us / 410-514-7631

MHT encourages use of its optional *Project Review Form* available on its website at: <http://mht.maryland.gov> to assist project sponsors in preparing their submittal to request MHT comments. MHT normally provides written comments within 30 days of receiving a complete project submittal. This often concludes the Section 106 process. Providing MHT with detailed and accurate project information greatly facilitates MHT’s review and response time.

Certain local jurisdictions administer their own historic preservation review process. Local reviews are handled independently from the Section 106 process but may generate helpful information to inform Section 106 consultation. MHT encourages agencies and project sponsors to coordinate the local review process in advance of Section 106 consultation. If you anticipate state or federal involvement in a project, agencies and project sponsors must consult with MHT prior to the commencement of archeological investigations, building renovations, demolitions or construction activities, including those that have been required or approved by a local jurisdiction.

Please visit the MHT website for more information about our programs and services at <http://mht.maryland.gov>.



Guidelines and Resources for Compliance-Generated Determinations of Eligibility (DOEs)

Maryland Historical Trust / State Historic Preservation Office

May 2009

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Introduction: As part of the “Section 106” process required by the National Historic Preservation Act and its equivalent state law, federal and state agencies must identify historic properties that might be directly or indirectly affected by their projects. These properties can include any building, structure, archeological site, object, landscape, or district that meets at least one of the National Register of Historic Places Criteria for Evaluation, specified in 36 CFR 60.4 and listed in Appendix H. Section 106 affords consideration to properties that are listed in the National Register as well as unlisted properties that are eligible for inclusion. Thus, agencies must assess the National Register eligibility of resources that have not previously been evaluated.

Agencies most often identify historic properties through the Section 106 procedures outlined in 36 CFR 800.4. This process allows agencies to study a property, recommend it as either meeting or not meeting the National Register Criteria, and present their findings to the State Historic Preservation Office (SHPO) for concurrence. The Maryland Historical Trust (MHT), Maryland’s SHPO office, uses the Determination of Eligibility (DOE) form to reach these “consensus determinations” between an agency and MHT for resources evaluated in Maryland. MHT permanently documents these determinations in the Maryland Inventory of Historic Properties (MIHP) and associated databases.

Efforts to identify and evaluate historic and archeological resources should follow the appropriate MHT guidance and procedures established in the *Standards and Guidelines for Archeological Investigations in Maryland* (Cole and Shaffer 1994) and the *Standards and*

Guidelines for Architectural and Historical Investigations in Maryland (MHT 2000). Survey efforts should build upon existing information, include relevant research and field investigations, provide defensible evaluations, and generate pertinent documentation of the resource being studied. Agencies and their consultants should contact the project reviewer in MHT's Project Review and Compliance Unit for guidance on the appropriate level of effort for a given project or resource.

The following guidance provides direction and resources regarding the DOE evaluation process, preparation of forms, required attachments, and submittal format. Although this guide focuses on the content of DOE forms for evaluating buildings and landscapes, it also offers assistance on assessing archeological sites. For further information on MHT's programs, services, and related documents, visit the MHT website at <http://mht.maryland.gov>.

Purpose of the Determination of Eligibility Form: The primary purpose of the DOE form is to fulfill a federal or state agency's obligations under Section 106 of the National Historic Preservation Act or the Maryland Historical Trust Act of 1985 (State Finance and Procurement Article §§5A-325 and 5A-326 of the Annotated Code of Maryland). In the spirit of these laws, DOE forms should provide accurate and meaningful documentation of historic properties that can benefit the public and future researchers. Professionals completing DOE forms should approach them as they would any other piece of research: begin their project with relevant research questions; approach their sources in a critical manner; consider the place of their work within larger efforts to understand Maryland's past; and provide citations, bibliographic notes, and recommendations for future research whenever appropriate.

DOE forms should be objective, non-editorial, and uninfluenced by the nature or possible impacts of the proposed project. It is the responsibility of agencies and their designees to provide a complete and appropriately formatted DOE form with attachments. Incomplete materials may be returned, and the Section 106 process cannot proceed until a satisfactory form is provided.

DOE forms become a permanent part of the MIHP and its associated databases. Government agencies, MHT, and a variety of other users may rely upon the eligibility determinations documented through the DOE process to inform project planning and cultural resource management decisions, as well as for general research purposes.

When to Complete a Determination of Eligibility Form: Agencies or their representatives should consult with the MHT project review staff prior to completing a DOE form. Depending on the nature of a project and the needs of the agencies involved, it may be appropriate to evaluate every building in the area of potential effect with either a regular DOE form or a DOE "short form." Certain circumstances, such as the evaluation of whole neighborhoods, a complex of resources, or an expansive geographic area may warrant special considerations. Sometimes it is necessary to reevaluate a resource that was previously determined eligible or ineligible - due to the passage of time, changes to the property's integrity, new information about the resource, or changing views of significance. Completion of a DOE form for a property that is already included in the National Register is not warranted since the property is already listed.

The following guidance applies to most projects and agencies.

- A map and digital photos, but not a DOE form, are needed if the potentially-affected property does not have a MIHP number, is not in a historic district, and is subject to one or more of the National Register Criteria Considerations (e.g. a building that is less than 50 years old), found in Appendix I.
- A DOE “short form” is generally sufficient if the potentially-affected property has not been evaluated in the past, does not have a MIHP number, is not in a historic district, and is unquestionably ineligible (e.g. a building that has been greatly modified in recent decades and displays very little integrity from any time more than 50 years ago).
- A complete DOE form is often needed if a property has not been evaluated in the past, has a MIHP number (including all archeological sites), is in a historic district, or appears to have any reasonable possibility of being eligible for listing in the National Register of Historic Places.

Contents of the Determination of Eligibility Form: All DOE forms for built resources must be completed by a qualified architectural historian, historic preservationist, or historian and be accompanied by supporting materials as described in *Standards and Guidelines for Architectural and Historical Investigations in Maryland*. DOE forms for archeological sites must be completed by a qualified archeologist and follow relevant guidance contained in the *Standards and Guidelines for Archeological Investigations in Maryland* (Cole and Shaffer 1994). The professional completing the form must be intimately familiar with *National Register Bulletin 15; How to Apply the National Register Criteria for Evaluation*, available online at <http://www.nps.gov/history/nr/publications/bulletins/nrb15/>, and with other National Register Bulletins that relate to the specific type of property under evaluation (including archeological resources). The National Park Service offers copies of all the National Register Bulletins on its website at <http://www.nps.gov/history/nr/publications/index.htm#bulletins>.

The process of completing a DOE form should begin with a careful consideration of the nature of the subject property and the contexts, or areas of significance, under which it is most likely to meet the criteria for listing in the National Register of Historic Places. *Bulletin 15* and *The Maryland Preservation Plan* may be consulted for lists of the most commonly applied contexts. This initial consideration of a property and its potential areas of significance should be followed by archival and field research and finally by the completion of the DOE form. The form must contain the elements described below - a description of the property, a history of the property, an assessment of the property’s National Register eligibility, and supporting attachments.

- Description of the Property: DOE forms must contain sufficient description of buildings, structures, areas of land use, and the overall landscape of a property to evaluate its significance under National Register Criterion C and its historic integrity. This should include a narrative description of each building on the property including information

about feature age, form, stylistic elements, methods of construction, materials, and condition. Descriptions should be thorough, objective, and uninfluenced by the possible impacts of the proposed undertaking. A great number of “field guides” and architectural dictionaries are available to assist the preparer in this process. Appendix A lists a few of these resources.

Descriptions of archeological sites should include a brief discussion of the level of fieldwork conducted (number and type of shovel tests, excavation units, and other methods of investigation and analyses) along with a succinct description of the identified site remains (features, cultural deposits, surface remains, recovered materials) to evaluate significance under National Register Criterion D, and Criterion C where relevant. Site descriptions should specifically address the site’s integrity as revealed through the investigations.

- History of the Property: DOE forms must contain sufficient historical information to evaluate a property under National Register Criteria A and B. This should include information derived from historic maps and land records; examination of the existing buildings, structures, and landscape as historical sources; and relevant information from existing reports and other secondary sources. The completion of a DOE form requires the use of all or most of the common sources listed in Appendix B.

DOE forms for archeological sites should address National Register Criteria A and B as relevant to the resource under evaluation.

- Assessment of the Property: Assessments should specifically address historic contexts, which must either be placed in this section or a citation must be provided for a history, context report, or other existing and accessible document. Selected publications about local and regional architectural history, portions of which may serve as contexts, are listed in Appendix C. Assessments should separately evaluate the property under each of the National Register Criteria. The assessment section should define a property’s period(s) of significance and its boundaries. Assessments should follow the detailed guidance in *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation*, found at <http://www.nps.gov/history/nr/publications/bulletins/nrb15/>.

DOE forms for archeological sites should provide sufficient justification to support the evaluation, particularly with regards to site integrity, research potential, and ability to yield important information (Criterion D). Archeological sites recommended as eligible under Criterion D must have the demonstrated potential (as revealed through professional investigation) to contribute information important in prehistory or history. The DOE form must identify the specific research topics or questions the site may address along with justification for the importance of those topics. The *National Register Bulletin 36: Guidelines for Evaluating and Registering Archeological Properties* contains detailed guidance on evaluating archeological sites and is available online at: <http://www.nps.gov/history/nr/publications/bulletins/arch/>.

- Attachments: The required DOE form attachments are essential to allow MHT reviewers to agree or disagree with the preparer's findings. They also serve the important function of allowing future researchers to build upon the preparer's work. All attachments must be prepared in accordance with *Standards and Guidelines for Architectural and Historical Investigations in Maryland*. Attachments must include the items listed in Appendix D.

Appendix A

Selected “Field Guides” and Architectural Dictionaries

America’s Architectural Roots; Ethnic Groups that Built America. ed. Dell Upton. New York: John Wiley & Sons, Inc. \ Preservation Press, 1986.

American Landscape Architecture; Designers and Places. ed. William H. Tishler. Washington, DC: The Preservation Press, 1989.

Brownstone, Douglass. *A Field Guide to America’s History.* New York: Facts on File, 1984.

Carter, Thomas and Elizabeth Collins Cromley. *Invitation to Vernacular Architecture; A Guide to the Study of Ordinary Buildings and Landscapes.* Knoxville: The University of Tennessee Press, 2005.

Dictionary of Building Preservation. ed. Ward Bucher, AIA. New York: John Wiley & Sons, Inc. \ Preservation Press, 1996.

Foster, Gerald L. *American Houses: A Field Guide to the Architecture of the Home.* New York: Houghton Mifflin, 2004.

Howe, Barbara J., Delores A. Fleming, Emory L. Kemp, and Ruth Ann Overbeck. *Houses and Homes; Exploring Their History.* Walnut Creek: AltaMira Press in cooperation with the American Association for State and Local History, 1997.

An Illustrated Glossary of Early Southern Architecture and Landscape. ed. Carl R. Lounsbury. New York: Oxford University Press, 1994.

McAlester, Virginia and Lee McAlester. *A Field Guide to American Houses.* New York: Knopf, 1984.

McVarish, Douglas C. *American Industrial Archaeology; A Field Guide.* Walnut Creek, CA: Left Coast Press, 2008.

Pillsbury, Richard and Andrew Kardos. *A Field Guide to the Folk Architecture of the Northeastern United States.* [Hanover, NH]: Geography Publications at Dartmouth No. 8; Special Edition on Geographical Lore, [1970].

Appendix B

Common Sources of Information about Historic Places

- **Historic maps and aerial photographs:** Maps and aerial photographs provide valuable information about construction dates, land use, property ownership, and change over time. At a minimum, the map collections of the MHT library and a local library or historical society should be consulted in the preparation of a DOE form.
- **Land records:** Land records provide information about changes to a property over time, the names of a property's owners, and a variety of other information. Information from land records is often necessary to evaluate a property under National Register Criteria A and B. Deeds from all Maryland counties are available online at www.mdlandrec.net. Plats from all Maryland counties are available online at www.plats.net.
- **People:** In preparing a DOE form, the owners, users, and neighbors of a property should be consulted regarding its history.
- **The buildings and landscape:** The preparer of the DOE form should consider the age, arrangement, method of construction, and other visible factors of the buildings and landscape as historical sources. Professional judgments and assumptions should be noted and explained, and relevant citations should be provided whenever possible.
- **Other primary sources:** Agricultural and tax records, pattern books and builders guides, newspapers, and "vertical files" may provide necessary information about the subject property or provide relevant context. For many properties, relevant information is available at MHT, the Maryland Archives, and local libraries or historical societies. An increasing number of historic documents related to design and construction are publically available online from sources that include: Google Books (books.google.com), Making of America (moa.umdl.umich.edu), archive.org, Project Guttenberg (www.gutenberg.org), and Chronicling America (www.loc.gov/chroniclingamerica).
- **The Maryland Inventory of Historic Properties:** The MIHP contains information about thousands of Maryland properties. It is an essential source of information about the architectural history of Maryland and is uniquely valuable when considering the quality or uniqueness of a property as an example of regional architecture or history. Like all sources, MIHP forms are products of their time and circumstance and should be read critically.
- **Local histories:** Published county, city, and town histories are available in local libraries for nearly every location in the state. These are essential sources to evaluate the potential local significance of a property under National Register Criteria A and B.
- **Architectural Histories:** MHT and other presses have published survey summaries and architectural histories for many counties, regions, and property types in the state and region. Some of these are listed in Appendix C.

For further information on MHT programs and resources visit the website at:
<http://mht.maryland.gov>.

Appendix C

Selected Publications about Local and Regional Architectural History

- Architecture in Annapolis: A Field Guide; Second Edition.* ed. Marcia M. Miller and Orlando Ridout V. Crownsville, MD: Maryland Historical Trust Press, 2001.
- Architecture and Change in the Chesapeake: A Field Tour on the Eastern and Western Shores.* ed. Michael Bourne. Crownsville, MD: Maryland Historical Trust Press, 1998.
- Between the Nanticoke and the Choptank: An Architectural History of Dorchester County, Maryland.* ed. Christopher Weeks. Baltimore: Johns Hopkins University Press, 1984.
- Blumgart, Pamela James. *At the Head of the Bay: A Cultural and Architectural History of Cecil County, Maryland.* Crownsville, MD: Maryland Historical Trust, 1996.
- Bourne, Michael Owen. *Historic Houses of Kent County: An Architectural History, 1642-1860.* Chestertown, MD: The Historical Society of Kent County, 1998.
- Buildings of Virginia: Tidewater and Piedmont.* ed. Richard Guy Wilson. New York: Oxford University Press, 2002.
- Getty, Joe. *Carroll's Heritage: Essays on the Architecture of a Piedmont Maryland County.* Westminster, MD: Carroll County Commissioners and Historical Society of Carroll County, 1987.
- Hayward, Mary Ellen and Frank R. Shivers. *The Architecture of Baltimore; An Illustrated History.* ed. Baltimore: Johns Hopkins University Press, 2004.
- Hayward, Mary E. and Charles Belfoure. *The Baltimore Rowhouse.* Princeton: Princeton Architectural Press, 1999.
- Haryward, Mary Ellen. "Rowhouse: A Baltimore Style of Living." *3 Centuries of Maryland Architecture.* Maryland Historical Trust, 1982. pgs 65-79.
- Herman, Bernard L. *Architecture and Rural Life in Central Delaware 1700-1900.* Knoxville, TN: The University of Tennessee Press, 1987.
- Holcomb, Eric L. *The City as Suburb; A History of Northeast Baltimore Since 1660.* Staunton, VA: Center for American Places, 2005.
- Hughes, Elizabeth. *Historic St. Michaels: An Architectural History.* Chestertown, MD: River Press, 1996.
- King, Marina. "Sears mail-order house survey in Prince George's County, Maryland." Upper Marlboro, MD: M-NCPPC, 1988.

- Lanier, Gabrielle M. and Bernard L. Herman. *Everyday Architecture of the Mid-Atlantic; Looking at Buildings and Landscapes*. Baltimore: Johns Hopkins University Press, 1997.
- Larew, Marilyn M. *Bel Air: An Architectural and Cultural History, 1782-1945*. Bel Air, MD: Town of Bel Air and Maryland Historical Trust, 1995.
- Lebherz, Ann and Mary Margrabe. *Pre-1800 houses of Frederick County*. Frederick, MD: (6733A S. Clifton Rd., Frederick 21703): A. Lebherz, [1997-1999].
- Legler, Dixie and Carol M. Highsmith. *Historic Bridges of Maryland*. Crownsville, MD: Maryland Historical Trust, 2002.
- M-NCPPC Historic Preservation Section. "Historic Contexts in Prince George's County." Upper Marlboro, Maryland: M-NCPPC Planning Department, 1991.
- Pearl, Susan. "Prince George's County African-American Heritage Survey." 1996
- Rivoire, J. Richard. *Homeplaces: Traditional Architecture of Charles County, Maryland*. La Plata: Southern Maryland Studies Center, 1990.
- Scott, Pamela and Antoinette J. Lee. *Buildings of the District of Columbia*. New York: Oxford University Press, 1993.
- Touart, Paul. *Along the Seaboard Side: An Architectural History of Worcester County, Maryland*. Crownsville, MD: Maryland Historical Trust Press, 1994.
- Touart, Paul Baker. *Somerset: An Architectural History*. Crownsville, MD: Maryland Historical Trust, 1990.
- Ware, Donna. *Anne Arundel's Legacy: The Historic Properties of Anne Arundel County*. Crownsville, MD: Maryland Historical Trust Press, 1990.
- Ware, Donna M. *Green Glades & Sooty Gob Piles; The Maryland Coal Region's Industrial and Architectural Past*. Crownsville, MD: Maryland Historical Trust, 1991.
- Weeks, Christopher. *An Architectural History of Harford County, Maryland*. Baltimore: Johns Hopkins University Press, 1996.
- Where Land and Water Intertwine: An Architectural History of Talbot County, Maryland*. ed. Christopher Weeks. Baltimore: Johns Hopkins University Press, 1984.

Appendix D

Attachments to the Determination of Eligibility Form

- Paper Copy: DOE forms must be printed on acid free paper and contain the following information in the format specified by the *Standards and Guidelines for Architectural and Historical Investigations in Maryland*. For places not previously recorded in the MIHP, a number must be obtained in advance from the Trust's Inventory Registrar. For contributing resources to a National Register listed or eligible historic district, please use the MIHP number for the district. Properties within a district that are individually eligible for the NR may have their own MHIP number assigned.
- Bibliography: The bibliography should include the sources of historical information about the property as well as sources of technical information that are relevant to the research methods and analysis used to prepare the DOE form. For DOE forms on archeological sites, a separate bibliography is not needed as long as the form includes a citation for the report that documents the associated archeological investigations.
- Maps: Attachments must include two 8½"x11" copies of the appropriate section of a United States Geological Survey (USGS) quadrangle (quad) map that clearly illustrate the location and boundaries of the resource, labeled with the property's name, MIHP number, and the name of the quadrangle. Sections of historic maps and site plans with the location and boundaries of the resource clearly marked are also encouraged. For DOEs on archeological sites, USGS quad maps are not required, but detailed site plans are welcome.
- Photographs: Photographs should include images clearly showing all facades of primary buildings, all accessory buildings and structures, all significant landscape features, and the general landscape and context of the property. Photographs must be either traditional black-and-white images prepared in accordance with *Standards and Guidelines for Architectural and Historical Investigations in Maryland* or digital images prepared in accordance with Appendix E. Traditional black-and-white photographs are the preferred format. DOE forms with photographs not meeting these standards may be returned, delaying the Section 106 process. Photographs are not required for DOE forms on archeological sites, but preparers have the option of providing photographs with the DOE forms.
- Drawings: The appropriate level of documentation varies by resource and the scope of the research project. Site and building plans provide valuable information and are encouraged.
- Electronic copies: DOE forms must be completed using the electronic form provided on the SHPO website and must be accompanied by a WORD or, preferably, ACCESS copy of the form's text. PDF copies of the form and all attachments are encouraged. If digital images are being submitted, these electronic copies may be on the same CD-R or DVD-R as the digital images, see Appendix E.

Appendix E

Guidelines for Digital Images

The Maryland Historical Trust, the State Historic Preservation Office (SHPO), will accept digital images for Determination of Eligibility (DOE) forms and other submissions to the Maryland Inventory of Historic Properties (MIHP). Traditional black-and-white photographs are still the preferred format of the MIHP. Traditional black-and-white photographs are processed using chemistry designed exclusively for black-and-white images and do not include negatives processed with C-41 color chemistry or prints on chromogenic papers. The DOE “short” forms that are required for certain ineligible properties are not added to the MIHP and do not require archival photographs. Regular DOE forms are permanently added to the MIHP, and if they are supported by digital images instead of traditional black-and-white photographs, must include archival prints, digital image files, and a photo log that meet the requirements below. These SHPO requirements vary slightly from those of the National Register of Historic Places in the labeling and packaging of prints, the size and naming convention for digital files, and the requirement for additional information in the photo log.

All original images, including digital photographs, in the MIHP are intended to be available to the public for unrestricted use and reproduction, provided appropriate credit is given to editors, creators, and photographers. It is the responsibility of the preparers of DOE forms and other MIHP documentation to secure any necessary permission for unrestricted use and reproduction of digital photographs submitted to the MIHP. DOE forms accompanied by digital photographs without these permissions are not acceptable.

Prints: Prints must be 5” X 7” and printed in black-and-white using the full color spectrum of an ink and paper combination demonstrated to last seventy-five years or longer before showing significant signs of fading, deterioration, or discoloration. A non-comprehensive list of ink and paper combinations that have been demonstrated to meet this seventy-five year permanence standard may be found below. All prints must be produced from digital image files meeting the requirements described below. All printed digital photos must be packaged in side-loading polypropylene pages and labeled on the back with soft pencil. In addition to the label information described on pages 36-7 of *The Standards and Guidelines for Architectural and Historical Investigations in Maryland*, printed digital photos should be labeled with the name of the corresponding digital image file.

Digital Image Files: All prints must be accompanied by a corresponding digital image file. Digital image files must be in an uncompressed TIF format, named in accordance with Appendix B, and saved on an archival CD-R Gold or DVD-R Gold. Digital images files must:

- be original capture .tif or .tiff (Tagged Image File format) files or raw files converted to .tiff;
- be named in accordance with File Requirements below;
- have a pixel array of at least 3000 x 2000;
- have a resolution of 300 ppi (pixels per inch) or larger;
- be saved in RGB color mode; and
- be submitted on a closed and finalized CD-R Gold or DVD-R Gold labeled in permanent archival ink (not a Sharpie) with the MIHP number and date.

Photo Log: A photo log in Microsoft Word format must be included with the DOE form and saved on the archival CD-R Gold or DVD-R Gold. Each log should include the exact image file name and a description of the view. The log must also note the ink and paper combination used to create the prints and the brand, make, and dye type of the CD-R Gold or DVD-R Gold.

Ink and Paper Combinations: The SHPO does not endorse any particular commercial product or process, but follows the recommendation for permanence established by the National Register of Historic Places. The non-comprehensive list below consists of ink and paper combinations demonstrated to meet the seventy-five year permanence standard. Since the longevity of a print is dependent on the ink and paper combination used to produce it, specific printers are not identified. More information on the archival properties of inks and digital papers can be found at: <http://www.nps.gov/history/nr/publications/bulletins/photopolicy/index.htm> and <http://www.wilhelm-research.com>.

Epson UltraChrome pigmented inks:

- Epson Premium Glossy Paper
- Epson Premium Semigloss Photo Paper
- Epson Premium Luster Photo Paper
- Epson Premium Semimatte Photo Paper
- Epson UntraSmooth Fine Art
- PaperSomerset Velvet for Epson
- Epson Velvet Fine Art Paper
- Epson Textured Fine Art Paper
- Epson Enhanced Matte Paper

Epson Picture Mate Inks:

- Epson Picture Mate Photo Papers

Hewlett-Packard (HP) 84/85 dye-based inkset:

- HP Premium Plus Photo and Proofing Gloss
- HP Premium Plus High Gloss Photo Paper
- HP Premium Plus Soft Gloss Photo Paper
- HP Premium Photo Paper, Gloss
- HP Premium Photo Paper, Soft Gloss

HP 59 gray photo cartridge:

- HP Premium Plus and HP Premium Photo Papers (high gloss, glossy, and soft gloss)

HP 100 gray photo cartridge:

- HP Premium Plus and HP Premium Photo Papers (high gloss, glossy, and soft gloss)

HP Viverra inks (95 and 97 tri-color cartridges):

- HP Premium Plus and HP Premium Photo Papers (high gloss, glossy, and soft gloss)

File Requirements: The file naming system for digital image files is based on the Maryland Inventory of Historic Properties (MIHP) number. The MIHP numbering convention is generally consistent throughout the state, but slight variations by county do exist and therefore the digital naming system will also have slight variations by location. The basic naming structure for digital image files consists of three elements separated by underscores: 1. the MIHP number (county code-four digit number); 2. the eight digit numerical date of creation (yyyy-mm-dd); and 3. a two digit photo number. Thus, digital image files of the Maryland State House (MIHP number AA-685) taken on June 3 2007 would be named AA-0685_2007-06-03_01.tif; AA-0685_2007-06-03_02, etc.

County variations are as follows:

- Allegany County: Allegany County MIHP numbers contain district numbers (I-VII) and letters. Digital images for MIHP number AL-V-A-47 and shot on June 7, 2007 would be labeled:

AL-V-A-0047_2007-07-03_01.tif, AL-V-A-0047_2007-07-03_02.tif, etc.
- Frederick County: Frederick County MIHP numbers contain district numbers (1-8). Digital images for MIHP number F-7-326 and shot on November 3, 2007 would be labeled:

F-7-0326_2007-11-03_01.tif, F-7-0326_2007-11-03_02.tif etc.
- Frederick Historic District MIHP numbers use the code FHD followed by a four digit number: FHD-1234_2007-11-03_01.tif, etc.
- Garrett County: Garrett County MIHP numbers contain district numbers (I-VI) and letters. Digital images for MIHP number G-V-A-261 and shot on March 13, 2007 would be labeled:

G-V-A-0261_2007-03-13_01.tif, G-V-A-0261_2007-03-13_02.tif, etc.
- Montgomery County: Montgomery County MIHP numbers include a colon after the county code, followed by a space and a regional number (1-37), follow by a dash and a site number. In digital file names, the colon is replaced by a semi-colon and the space remains. Digital images for MIHP number M: 37-44 and shot on August 5, 2007 would be labeled:

M; 33-44_2007-08-05_01.tif, M; 37-44_2007-08-05_02.tif, etc.

Some Montgomery County MIHP numbers have site sub-numbers: M: 37-44-01. These sub-number are indicated after a dash: M; 37-44-01_2007-08-05_01.tif
- Prince George's County: Prince George's County MIHP numbers include a colon after the county code followed by a regional number (61-87), a dash and a site number. In digital file names, the colon is replaced by a semi-colon. Digital images for MIHP number PG:60-25 and shot on January 20, 2007 would be labeled:

PG;60-25_2007-01-20_01.tif, PG;60-25_2007-01-20_02.tif, etc.
- Laurel Historic District MIHP numbers use the code LAU- in between the semi-colon and the site number (there are no district numbers):

PG;LAU-12_2007-01-20_01.tif, etc.
- Washington County: Washington County MIHP numbers contain district numbers (I-IV). Digital images for MIHP number WA-II-313 and shot on October 31, 2007 would be labeled:

WA-II-0313_2007-10-31_01.tif, WA-II-0313_2007-10-31_02.tif etc.
- Resources in town historic districts in Washington County insert a town code (with dashes) between the county code and site number: Hagerstown: WA-HAG-001_2007-01-01_01.tif, etc; Hancock: WA-HAN-001_2007-01-01_01.tif, etc.; Williamsport: WA-WIL-001_2007-01-01_01.tif, etc.

Appendix F

Instructions for Completing the Computer DOE Forms

Electronic versions of the DOE database in Microsoft Access and the DOE form in Microsoft Word can be obtained through MHT's website: <http://mht.maryland.gov>. Microsoft Access format is preferred for all DOE forms.

1. To download a copy of the DOE form in Microsoft Access from MHT's website, double click on either the *DOE database form for structures* or the *DOE database form for archeology* under forms on the State & Federal Project Review page. Choose the Save option to keep a copy of the database on your computer. Before entering data into the database, copy and rename it in order to preserve a blank database on your computer for future use.

To copy the database, do the following:

- a. In Windows Explorer, find the database file. The file downloaded from MHT is named *DOEExtStructXP02.mdb* or *DOEExtArcheoXP02.mdb* depending on whether you downloaded the database for structures or archeology.
- b. Right-click the file name and choose copy
- c. Right-click and choose paste

To rename the database, do the following:

- a. Right-click the file name and select rename
 - b. Type the new name. Be sure to retain the .mdb extension
 - c. Press ENTER
2. You are now ready to complete a determination of eligibility. When using the DOE database to record architectural resources, the preparer must determine which level of documentation is appropriate (i.e. regular DOE form or the Short Form DOE). Refer to *When to Complete a Determination of Eligibility Form* in the Introduction of this document for guidance in making this decision. Preparers of determinations of eligibility for archeological resources do not have the option to complete Short Form DOEs, since all inventoried archeological sites have an assigned MHIP number.
 3. The Short Form does not have a Microsoft Word equivalent and is only available in the Access database. The Short Form is the same as the regular DOE Form except that it requests less information and thus has fewer fields. See Appendix G for details on the minimum information required for ineligible resources.
 4. Access Tips:
 - a. The file you download from MHT is called *DOEExtStructXP02.mdb* or *DOEExtArcheoXP02.mdb*. The file is a blank database.
 - b. For each project, use one database to record all structures and one database to record all archeological sites. The database can contain one record or multiple records depending on your needs. The database file is then sent to MHT on CD or via email for review.
 - c. To move between pages on the screen, click the labeled tabs at the top of the forms.

- d. Press the “Tab” key to move between fields.
 - e. If desired, the justification text can be “cut-and-pasted” from a word processing program.
 - f. Spell check is available. Use it!
5. As stated above, the DOE Form is available in Microsoft Word format in addition to the preferred Access database. The field descriptions discussed below are also useful for completing the Microsoft Word version of the form.

Descriptions of Database/Form Fields

All of the fields for the regular DOE Form are described and explained below. The fields are organized by the three screens navigated by the tabs labeled “Property and Project Data”, “Preparer’s Recommendation” and “Justification”. In the tables below, fields indicated with an asterisk (*) do not appear on the Short Form for Ineligible Properties.

Property and Project Data

Determination of Eligibility--Regular DOE Form

Property & Project Data Preparer's Recommendation Justification

Inventory No.: Name:

County: Is the property an historic district?

Address:

Street No. Prefix Street Name Street Type Suffix Route

Other:

City: Zip Code:

Quad: and and

Owner:

Tax Account ID:

Tax Map Number: Tax Parcel Number:

Project:

Agency:

Select Doe To Edit:

Add Record Preview Report Delete Record Close Form

Record: 1 of 1 No Filter Search

<i>Field Name</i>	<i>Description</i>
Inventory No. *	Enter the Maryland Inventory of Historic Properties (MIHP) Inventory Number (architecture or archeology number). If an inventory number has not already been assigned, please contact the Inventory Registrar, Barbara Shepherd at 410-514-7656. To obtain a new inventory number, you will need the name of the property, the address, and two USGS quad maps with location and quad name.
Name	Enter the name by which the property is known. The term "property" refers to the entire historic resource being documented. (i.e. Lewistown Historic District, Wilson-Tannard House, Millard Farm, SHA Bridge No.

<i>Field Name</i>	<i>Description</i>
	0201801) For archeology sites, if the site does not have a name, please use the site number as the name.
County	Enter the county in which the property is located.
Is the property being evaluated as a historic district? *	Select “Yes” or “No”. Do not use the Short Form to evaluate historic districts.
Address	Enter the street address of the property. For bridges, use the “Other” field to enter the street name/route number and the name of the feature being crossed [i.e. Belair Road (US 1) over Gunpowder Falls].
City	Enter the city in which the property is located.
Zip Code	Enter the postal code for the property.
Quad	Enter the name(s) of the United States Geological Survey quadrangle on which the property appears.
Owner *	Enter the name of the current owner of the property.
Tax Account ID *	Enter the tax account ID number of the property. This is the Property Account Identifier Number assigned to the property by the State Department of Assessments and Taxation (SDAT). This number can be found by searching SDAT’s database at www.dat.state.md.us . In Baltimore City ward, section, block and lot are used instead. The numbers combined should be entered here.
Tax Map Number	Enter the number of the Tax Map on which the property is located. This number can be found by searching SDAT’s database at www.dat.state.md.us .
Tax Parcel Number	Enter the number of the Parcel on which the property is located. This number can be found by searching SDAT’s database at www.dat.state.md.us .
Project	If applicable, enter the name of the federal or state project for which this DOE is being prepared. (e.g. MD 410 road widening, Buckeystown Cell Tower Site 333, Viewmont Elementary Rehabilitation, etc.)
Agency	Enter the federal or state agency that is sponsoring the above project. (e.g. FCC, SHA, GSA, etc.)

* These fields are not found on the Short Form for Ineligible Properties

Preparer's Recommendation

Determination of Eligibility--Regular DOE Form

Property & Project Data **Preparer's Recommendation** Justification

Preparer's Eligibility Recommendation:

Eligibility Recommendation:

Criteria: A B C D Considerations: A B C D E F G None

There is a previous DOE for this property

To be completed only if the property is a contributing/ non-contributing resource:

District Inventory Number NR Listed District NR Eligible District

District Name:

Prepared by:

First Name Last Name:

Agency: Date:

Please Continue to Justification Section

Select Doe To Edit:

Add Record **Preview Report** **Delete Record** **Close Form**

Record:

<i>Field Name</i>	<i>Description</i>
Eligibility Recommendation	This is the preparer's recommendation. Click the arrow and choose "Recommended" or "Not Recommended" from the list. For properties within historic districts, select "Recommended" for contributing resources and "Not Recommended" for resources that do not contribute to the historic district.
Criteria *	These are the National Register Criteria For Evaluation. Click to put an "✓" in the applicable box(es). This applies only to resources recommended eligible for listing in the National Register.

<i>Field Name</i>	<i>Description</i>
Considerations *	These are the National Register Criteria Considerations. Click to put an “✓” in the applicable box(es). This applies only to resources recommended eligible for listing in the National Register.
There is a previous DOE for this property *	Click here to put an “✓” in the box if there has been a previous determination of eligibility for this resource.
To be completed only if the property is a contributing/ non-contributing resource:	Complete this section only when evaluating resources within National Register-listed or eligible historic districts.
District Inventory Number	Enter the district’s MIHP number.
NR listed District	Click here to put an “✓” in the box if the district is listed in the National Register of Historic Places.
NR Eligible District	Click here to put an “✓” in the box if the district has been determined eligible by the Maryland Historical Trust.
District Name	Enter the name of the historic district. (Frederick Historic District, Takoma Park National Register District, etc.)
First Name/ Last Name	Enter the preparer’s name
Agency	Enter the preparer’s agency/ firm name
Date	Enter the month, day, and year in which the form was prepared. Must be in mm/dd/yyyy format.

* These fields are not found on the Short Form for Ineligible Properties

Justification

Determination of Eligibility--Regular DOE Form

Property & Project Data Preparer's Recommendation **Justification**

Documentation on the property is presented in:

Justification for decision:

To change to Short Doe Form:

1. Erase Inventory No.: 2. Select: 3. Change Form:

4. Close this form and open the short form, select it from the "Select DOE to Edit" pull-down, and continue.

Select Doe To Edit:

Add Record Preview Report Delete Record Close Form

Record: 1 of 1 No Filter Search

<i>Field Name</i>	<i>Description</i>
Documentation on the property is presented in *	Enter the name of the library, repository, or report from which the information was obtained. (e.g. Baltimore County Library, MIHP form, Phase II Archeological and Architectural Investigations)
Justification for decision	This is the preparer's judgment. Describe all structures and landscape features. Provide a history of the property. Explain in detail why the property is eligible or ineligible for listing in the National Register of Historic Places. Be certain to address all NR criteria and the integrity of the property.

* This field is not found on the Short Form for Ineligible Properties

Appendix G

Guidance for Completing the Short Form for Ineligible Resources

For all properties MHT determines do not meet the criteria for eligibility in the National Register, MHT documents the decision in the DOE database. MHT staff, agencies, or consultants may initiate recommendations of ineligibility. MHT reviews compliance recommendations and makes the appropriate determination that a resource does not meet the criteria for National Register eligibility based upon the minimum information necessary to reach a justifiable decision.

In cases of ineligibility it is still necessary to ensure that appropriate evaluations are completed for the resources and that permanent records are maintained. To facilitate the submission of the information for resources recommended as ineligible and the tracking of ineligible properties, MHT developed a Short Form for Ineligible Properties (Short Form) in the DOE database. MHT strongly encourages agencies and consultants to utilize this streamlined and electronic format for documenting properties that are *unquestionably* ineligible (e.g. a building that has been greatly modified in recent decades and displays very little integrity from any time more than 50 years ago).

Short Forms may be used for:

1. Resources (except archeological sites or historic districts) recommended or determined ineligible for the National Register;
2. Any property recommended as a non-contributing resource to a National Register listed or eligible historic district.

The Short Form (minimum required information) includes:

1. Property name;
 2. Property address, city, county, and zip code;
 3. A brief description of the property, with dates of construction (or approximate age), and justification of why the property is not eligible;
 4. One copy of the appropriate section of United States Geological Survey (USGS) quadrangle (quad) map which clearly illustrates the location of the resource, labeled with the property's name and address, and the name of the quadrangle (the map may include the locations of multiple properties);
 5. Photograph(s) (For resources documented on a Short Form, the photographs may be digital, print, Polaroid, color or black and white.)
- When submitting information for review, provide MHT with paper copies of the Short Form (with attachments) and an electronic copy of the DOE database on CD or sent via email.
 - For large submittals with multiple properties recommended as ineligible, please consult with the MHT's project reviewer in advance to determine the most efficient format for data submittal. Close coordination with MHT on such projects will greatly facilitate MHT's evaluation of submitted information.

- If insufficient information is provided on which to make an informed decision regarding eligibility, the MHT project reviewer may request the preparation and submission of a full DOE form for the resource.
- All resources determined to be ineligible using the Short Form are documented and tracked through the DOE database. MHT does not assign MIHP numbers to properties documented through the Short Form. MHT enters the documentation on ineligible resources by importing electronic submittals.
- Documentation of ineligibility for districts or individual properties with existing MIHP numbers, including all archeological sites, requires the completion of a DOE Form.

Appendix H

National Register Criteria for Evaluation (36 CFR 60.4)

The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

- Criterion A. That are associated with events that have made a significant contribution to the broad patterns of our history; or
- Criterion B. That are associated with the lives of significant persons in or past; or
- Criterion C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction (architecture or engineering); or
- Criterion D. That have yielded or may be likely to yield, information important in history or prehistory. (This criterion is used primarily for archeological resources.)

The above is adapted from *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation*, a technical bulletin published by the National Park Service and available online at <http://www.nps.gov/history/nr/publications/bulletins/nrb15/>.

Appendix I

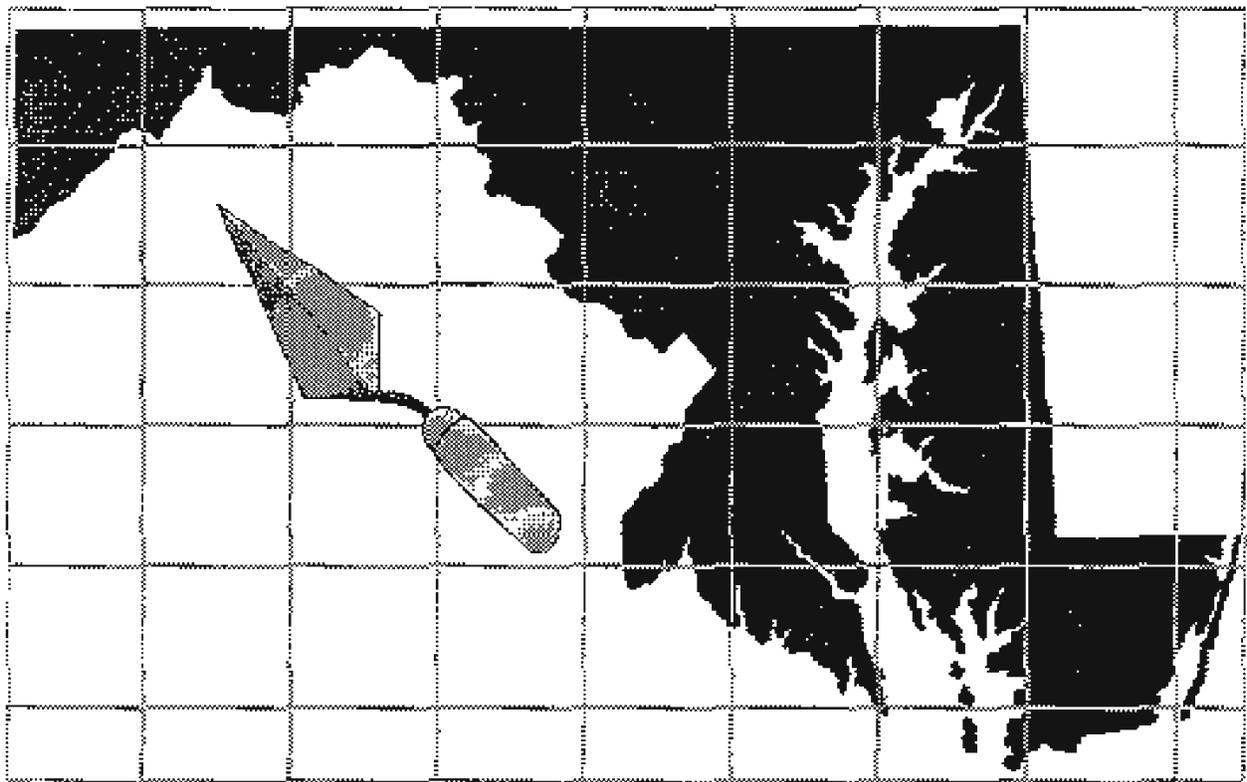
National Register Criteria Considerations (36 CFR 60.4)

Ordinarily cemeteries, birthplaces, graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past 50 years shall not be considered eligible for the National Register. However, such properties will qualify if they are integral parts of districts that do meet the criteria or if they fall within the following categories:

- a. A religious property deriving primary significance from architectural or artistic distinction or historical importance; or
- b. A building or structure removed from its original location but which is primarily significant for architectural value, or which is the surviving structure most importantly associated with a historic person or event; or
- c. A birthplace or grave of a historical figure of outstanding importance if there is no appropriate site or building associated with his or her productive life; or
- d. A cemetery that derives its primary importance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events; or
- e. A reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived; or
- f. A property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own exceptional significance; or
- g. A property achieving significance within the past 50 years if it is of exceptional importance.

The above is adapted from *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation*, a technical bulletin published by the National Park Service and available online at <http://www.nps.gov/history/nr/publications/bulletins/nrb15/>.

STANDARDS
AND
GUIDELINES
FOR
ARCHEOLOGICAL INVESTIGATIONS
IN MARYLAND



GARY D. SHAFFER AND ELIZABETH J. COLE

1994

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Prepared by

Gary D. Shaffer and Elizabeth J. Cole

**Office of Archeology & Office of Preservation Services
Maryland Historical Trust
Department of Housing and Community Development**

1991

Maryland Historical Trust Technical Report Number 2

PREFACE

In 1981, the Maryland Historical Trust (Trust) issued the first statewide guidelines for archeological work conducted in Maryland. For over a decade, the Guidelines for Archeological Investigations in Maryland (McNamara 1981) served as the minimum standards for all phases of archeological work performed in the state. The 1981 guidelines greatly improved the general quality and consistency of archeological investigations and resulting project reports for Maryland. However, the Trust realized that revisions to the 1981 document were necessary to address changes in federal and state historic preservation legislation and regulations, to incorporate advances in archeological methods and techniques, and to correct other deficiencies identified by the Trust's subsequent experience in the review of archeological projects.

These new standards and guidelines provide an expanded discussion of the goals, methods, and required products of the major stages of archeological work in Maryland. These phases include: identification survey (Phase I), site evaluation (Phase II), and data recovery/treatment (Phase III). This document also contains the minimum requirements for the processing and curation of collections and associated reporting. In addition, the document presents information regarding other types of cultural resource investigations (such as archival studies, historic preservation plans, work conducted for Trust grant/loan/easement projects, and site registration). The revised standards and guidelines also address the following important issues related to archeological research conducted in Maryland: professional qualifications, permits, treatment of human remains, multidisciplinary investigations, public education/interpretation, and use of the Trust's library facilities. The standards and guidelines contain a listing of additional sources of technical information. Appendices include copies of report recording forms and other reference materials.

The revised standards and guidelines are intended for use by a broad and diversified audience. In addition to use by professional archeologists working in Maryland, the Trust anticipates that the document will serve as a reference for project sponsors, agency officials, Trust grant and loan recipients, and owners of properties on which the Trust holds historic preservation easements. Archeological investigations conducted for compliance with federal or state historic preservation statutes and regulations will be required to adhere to the standards and guidelines presented in this new document. Academic researchers and private scholars conducting investigations in Maryland also are encouraged to follow applicable sections of this document. The Trust will adhere to the principles presented herein for its own archeological activities, as required by Maryland law and regulations.

We envision that the new standards and guidelines will promote further improvement in the quality of archeological research, enhance the use of appropriate methods, provide consistency in reporting, and heighten agency and project sponsors' understanding of the value and rationale for archeological investigations in the state of Maryland. Adherence to these minimum standards will help achieve these goals, as well as facilitate the Trust's review of individual projects. Additionally, the new standards and guidelines, like the earlier 1981 Guidelines, are designed to allow for and even encourage archeologists and researchers to employ innovative approaches, consistent with the spirit and intent of these standards and guidelines, to fulfill project-specific goals.

Richard B. Hughes
Chief, Office of Archeology
Maryland Historical Trust

ACKNOWLEDGMENTS

The authors wish to extend their appreciation for the guidance, assistance, and support they received from their co-workers, colleagues, and the interested public in the preparation of these standards and guidelines. Many individuals, agencies, and organizations provided valuable insights and constructive comments which the authors employed in the original drafting of this document and its subsequent revision. While these parties are too numerous to name individually, the authors particularly acknowledge the contributions of the Council for Maryland Archeology, the Maryland Advisory Committee on Archeology, and the Archeological Society of Maryland, Inc. The authors also offer thanks to the Maryland State Highway Administration, which generously permitted the use of several of its illustrations for the figures presented herein. Finally, the authors express special appreciation to Linda Durbin for her exceptional word processing assistance.

The authors are grateful for all of the contributions which served to enhance the overall quality and usefulness of these standards and guidelines. Comments on this document may be directed to the Office of Archeology, Maryland Historical Trust, 100 Community Place, Crownsville, Maryland 21032.

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I. INTRODUCTION

A. **Authority**

The Maryland Historical Trust (Trust), Maryland's State Historic Preservation Office (SHPO), issues these standards and guidelines under the authority of the National Historic Preservation Act of 1966, as amended (16 U.S.C. 470a[b][3][D],[E],[F], and [G]), and Article 83B, §§ 5-607 (b)(8),(10), and (12), 5-617 (f)(1), 5-618 (g), and 5-623 (b)(2), of the Annotated Code of Maryland.

B. **Scope and Purpose**

This document represents a revision of Maryland Historical Trust Technical Report Number 1, "Guidelines for Archeological Investigations in Maryland," (McNamara 1981). It presents minimum standards and guidelines for archeological projects in Maryland, and it recognizes the need for the procedures of historic preservation to be flexible to meet changing scientific and professional practice. In this spirit, many aspects of field procedures are left to the discretion of archeological researchers. The principal purpose of this document is to ensure the development of archeological information which is useful and of consistently good quality. Since archeological properties are non-renewable, fragile resources, it is important to undertake investigations according to carefully devised research plans that cause minimal harm to the properties while providing the most critical and significant historical data.

The primary audience intended for these standards and guidelines is the community involved with "compliance" archeology. This type of archeology entails the identification, evaluation, and treatment of historic properties in fulfillment of federal and state historic preservation laws. The group in compliance archeology which will benefit most from this document includes governmental personnel and their agents (e.g., environmental consultants and developers requiring federal or state permits or licenses), as well as grantors of historic preservation easements to the Trust and recipients of certain Trust grants and loans. These people may learn some of the basic archeological practices associated with historic preservation in Maryland; and they may find information on the essential archeological studies and documentation needed to comply with federal and state historic preservation laws. Professional archeologists working in the compliance field (most frequently as contractors) will also find in these standards and guidelines a formal statement of the minimum levels of effort for investigations in Maryland. Archeologists should not, however, view this document as a detailed textbook of the archeological methods and techniques which they are expected to have learned elsewhere. Explanations of archeological procedures are purposefully simplified herein for the general reader.

The secondary audience for these standards and guidelines consists of individuals and organizations involved with archeological studies that are not tied directly to compliance with federal or state law. Independent and academic researchers, as well as those who fund or oversee their work, can benefit from this document's descriptions of the Maryland Inventory of Historic Properties, state antiquities permits and curation facilities, and Maryland's resources for conducting research (e.g., State artifact collections and the Trust's library of contract archeology reports). Additionally, local governments may find in these standards and guidelines a model from which to develop historic preservation procedures for their own jurisdictions.

1. **Compliance Archeology** One goal of this document is to facilitate the review of projects requiring compliance with federal and state historic preservation laws and regulations. Specific types of information are required by the governmental agencies responsible for identifying and treating historic properties, as well as by those who are obliged to review activities affecting historic properties. The following chapters

go beyond the National Park Service's (NPS) Archeology and Historic Preservation; Secretary of the Interior's Standards and Guidelines (Dickenson 1983) to specify the documentation the SHPO/Trust requires from other governmental units and their agents to provide formal, substantiated comments as required by federal and state law. While the present volume discusses standards and guidelines for terrestrial archeology, preservation professionals should contact Trust staff to learn of corresponding documents on underwater archeology and historic architecture to assist and enhance multi-disciplinary projects in which a number of different cultural resources may face impacts.

The Trust's Office of Preservation Services reviews projects for effects on historic properties under the federal and state laws noted above. The most common review is conducted pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended, or Article 83B, §§ 5-617 and 5-618, of the Annotated Code of Maryland. These laws (and their implementing regulations) require agencies to consider the effects of their undertakings on properties included in or eligible for the National Register of Historic Places and the Maryland Register of Historic Properties, respectively. It is important to emphasize that the governmental agencies which initiate the undertakings are responsible for compliance with the historic preservation laws. The SHPO's role is a consultative one, for the provision of information, advice, and recommendations on how to eliminate adverse effects on historic properties.

Agency officials should begin their consultation with the SHPO as early in the project planning process as possible (when alternative project locations, configurations, and methods are still available; when conducting programmatic discussions; etc.) in order to provide adequate time to address historic preservation concerns and to prevent avoidable delays. This coordination should commence with the agency official submitting a written request to the SHPO for assistance in the identification of historic properties. The request should include: 1) a brief description of the proposed undertaking and the nature of federal or state agency involvement; 2) a clear delineation of the project's area of potential effects on a section of a U.S. Geological Survey 7.5' quadrangle (or other 1" = 2000' scale map); 3) a summary of the agency's review of existing information on known and potential historic properties that may be affected by the undertaking; and 4) a detailed description of past land use on the subject property.

Upon receipt of this information from the sponsoring governmental agency, SHPO staff archeologists and architectural historians review the Maryland Inventory of Historic Properties for recorded archeological sites and standing structures, as well as other available documents, to determine if known historic properties exist in the project's area of potential effects. Staff will also examine survey records, historic maps, historic and prehistoric settlement models, and descriptions of present and past land use to assess the potential of the project area to contain historic properties that have not yet been identified. Based on this review, SHPO staff will inform the inquiring agency of its recommendations of the need for further survey or other historic preservation activities. Since the SHPO reviews over 4000 projects annually, on a first come — first served basis, a response may take up to 30 days from the receipt of complete documentation from the requesting agency. Recommendations from the SHPO may include: 1) advising that no further studies are warranted (when, for example, prior surveys or documented past disturbance indicate that no significant archeological resources would be present); 2) calling for additional investigations to locate or evaluate the significance of properties (when archeological resources are known to or may exist in the area of potential effects); or 3) requesting the development of treatment plans for identified historic properties (when projects may adversely affect archeological resources). Figure 1 illustrates the review steps in a flow chart. The Advisory Council on Historic Preservation provides additional information on the review process in its course, "Introduction to Federal Projects and Historic Preservation Laws," and its publications.

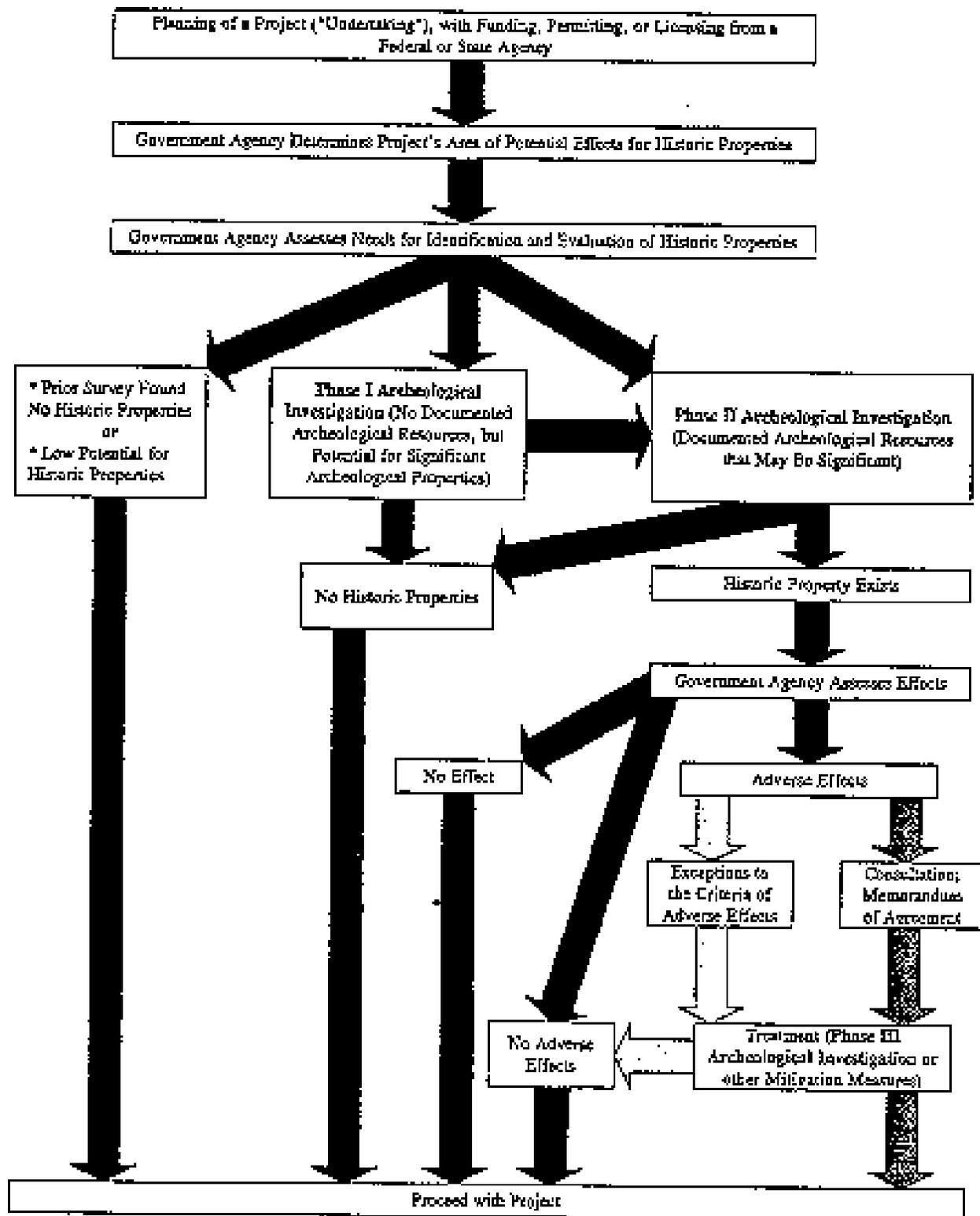


Figure 1. Flow chart of a government agency's steps in complying with Federal or State historic preservation laws for archeology.

Other historic preservation compliance activities will necessitate consultation with the SHPO. These activities may involve: federal agencies locating, inventorying, and nominating to the National Register of Historic Places properties under the agencies' ownership or control (16 U.S.C. 470h-2); Maryland state agencies locating, documenting, and nominating properties under those agencies' ownership or control that may be eligible for the Maryland Register of Historic Properties (Article 83B, §§ 5-617 and 5-618 [a][1], of the Annotated Code of Maryland); individuals or organizations obtaining financial assistance through the Trust's Historic Preservation Loan or Grant Programs (established by Article 83B, §§ 5-612 and 5-613, respectively, of the Annotated Code of Maryland); or individuals and organizations participating in the Trust's Easement Program. Governmental agencies, consulting historic preservation professionals, and others who are involved with some facet of compliance reviews should realize that the Trust's requests for adherence to specific standards and guidelines stem, in part, from statutory responsibilities to comply with National Park Service requirements.

2. Archeology Beyond Compliance Those researchers conducting archeological investigations in Maryland for academic and similar purposes will find much of use and interest in these standards and guidelines. For example, archeological projects proposed for caves and for certain lands owned or controlled by the state require permits from the Trust; and this document describes procedures for acquiring such permits. Archeologists conducting surveys and discovering previously unidentified cultural resources also will learn how to record archeological properties for the Maryland Inventory of Historic Properties.

It is not the intention of the Trust to use these standards and guidelines to direct or oversee the research of academic archeologists and other professional scholars. The Trust believes, however, that Maryland's entire archeological community would benefit from consistent recording of archeological finds in conformance with the basic procedures outlined herein and from reporting results with reference to the historic contexts established in The Maryland Comprehensive Historic Preservation Plan (Weissman 1986). The Trust strongly recommends that all archeological work in the state take place according to professional standards and under the direct supervision of individuals who meet the Secretary of the Interior's "Professional Qualifications Standards" (Dickenson 1983:44738-44739; Chapter VII). Organizations which fund or oversee the work of archeologists and local governments which plan to develop their own historic preservation laws are encouraged to consider these recommendations. In addition to acquiring a familiarity with the present standards and guidelines, archeological researchers should establish and maintain contacts with Trust staff for assistance in locating unpublished studies and records on cultural properties and to ensure that appropriate laws, regulations, and guidelines are followed.

C. **Organization**

Chapter II describes the goal of the identification component of historic preservation activities (Phase I), and discusses the research designs, archival studies, fieldwork, and analysis associated with locating archeological historic properties. Chapters III and IV provide corresponding information for the evaluation of an archeological property's significance (Phase II) and for the treatment or mitigation of adverse effects on an archeological historic property (Phase III). Comments on other archeological investigations for archival studies; historic preservation plans; Trust grant, loan, and easement projects; the registration of archeological properties; and academic research are included in Chapter V. Chapter VI presents the required minimum standards for the processing and curation of collections, including artifacts and associated records. Additionally, Chapter VII contains standards and guidelines for the production of archeological reports and other documentation; and Chapter VIII (Special Provisions) addresses professional qualifications, permits, treatment of human remains, and education. Finally, numerous references and appendices provide supplementary sources of technical archeological information.

D. **Definitions**

This Introduction closes with a list of some useful definitions of words and phrases in Maryland historic preservation:

Advisory Council on Historic Preservation- means the independent federal agency established by the National Historic Preservation Act of 1966 (16 U.S.C. 470i) and charged with advising the President and the Congress on historic preservation issues and with reviewing federal and federally assisted projects that affect historic properties.

Area of Potential Effects- means the geographic area or areas within which an undertaking may cause changes in the character or use of historic properties, if any such properties exist. The area of potential effects is also called the “project area” or “study area” for purposes of these guidelines.

Archeological Property- means any object (e.g. artifact), site, or district which embodies human activity. For the purposes of this document, an archeological property must date from prehistoric or historic times (i.e., at least 50 years ago). Not all archeological properties (archeological resources) are necessarily historic properties.

Artifact- means any object which has been made or has been intentionally modified by human action. For the purposes of this document, the object must date from prehistoric or historic times (i.e., generally at least 50 years ago) to be an artifact.

Collection- means “material remains that are excavated or removed during a survey, excavation or other study of a prehistoric or historic resource, and associated records that are prepared or assembled in connection with the survey, excavation or other study” (36 CFR § 79.4[a]). Collections may include artifacts, specimens, field notes, drawings, photographs, and other materials.

Historic Contexts- means an organizational framework that groups historic properties by similarities in geographic region, time/developmental period, and theme. Historic contexts form a statewide system for the identification and evaluation of all known or expected historic property types and are the basis for developing appropriate treatment measures for those properties.

Historic Property- means any district, site, building, structure, monument, or object significant in the prehistory, history, terrestrial or underwater archeology, architecture, engineering, or culture of Maryland and which is included in or eligible for the National Register of Historic Places or the Maryland Register of Historic Properties. Historic properties include artifacts, records, and remains related to a district, site, building, structure, or object. Archeological sites are referred to as archeological properties in these guidelines.

Maryland Inventory of Historic Properties- means the Maryland Historical Trust’s list of all districts, sites, buildings, structures, and objects of known or potential value to the prehistory, history, terrestrial or underwater archeology, architecture, engineering, and culture of Maryland.

Maryland Register of Historic Properties- means the Maryland Historical Trust’s list of all properties included in or determined by its Director to be eligible for listing in the National Register of Historic Places by the United States Department of the Interior. (See **Historic Property**.)

National Register of Historic Places- means the United States Department of the Interior’s list of districts, sites, buildings, structures, and objects that possess integrity and are associated with signifi-

cant historical events; are connected with the lives of important people from the past; are embodiments of distinctive or artistic forms of construction; or have yielded or may yield information important in prehistory or history. (See **Historic Property**.)

Preservation and **Historic Preservation**- mean “identification, evaluation, recordation, documentation, curation, acquisition, protection, management, rehabilitation, restoration, stabilization, maintenance and reconstruction, or any combination of the foregoing activities” (16 U.S.C. 470w[8]).

Principal Investigator- means an individual who assumes responsibility for conducting or directly supervising a specific archeological project and who meets the Secretary of the Interior’s “Professional Qualifications Standards” (Dickenson 1983:44738-44739; Chapter VII).

State Historic Preservation Officer (SHPO)- means the individual appointed by the Governor of Maryland to administer the State Historic Preservation Program under the provisions of the National Historic Preservation Act of 1966. SHPO can also refer to the office or staff of this individual.

State Plan- means The Maryland Comprehensive Historic Preservation Plan, prepared by the Maryland Historical Trust (Weissman 1986). The plan includes a description and evaluation of: the goals and benefits of historic preservation to Maryland; threats to Maryland’s historic properties; preservation mechanisms in Maryland; the Trust’s programs — needs and recommendations; and recommendations for further actions to improve the overall effectiveness of preservation in Maryland.

Undertaking- means any project, activity, or program that can result in changes in the character or use of historic properties, if any such properties are located in the area of potential effects. Undertakings are also referred to as projects in these guidelines.

E. **Additional Information**

For additional information or assistance concerning the compliance review process or these standards and guidelines, contact the Trust’s Archeological Services Unit/Office of Preservation Services, (410) 514-7628. The Trust’s Office of Archeology provides guidance and oversight regarding general issues in Maryland archeology, (410) 514-7661.

II. IDENTIFICATION (PHASE I)

A. Goal

For Maryland, ***the goal of identification for compliance projects is to locate archeological properties that may be eligible for the National Register of Historic Places or the Maryland Register of Historic Properties, as appropriate, in an undertaking's area of potential effects.*** The various activities that comprise identification are grouped together under the designation of Phase I Archeological Investigation. Phase I studies entail development of research designs, archival and background research, field survey, analysis, and reporting. While Phase I investigations serve to discover or to locate archeological properties, Phase II and Phase III projects evaluate the significance of the resources and mitigate adverse project effects, respectively (see Chapters III and IV).

As a rule, Phase I surveys in Maryland involve some form of sampling — for example, according to systematically arranged transects — to permit the economical investigation of land with a high assurance that significant archeological resources have not been overlooked. Surveys which are designed to locate all historic properties in an area of potential effects will help to prevent the delays associated with discovering historic properties during a construction project (36 CFR § 800.11). The use of sampling in field survey is consonant with the Advisory Council's admonition for federal agencies to “make a reasonable and good faith effort to identify historic properties ...” (36 CFR § 800.4[b]; see section below entitled D. Field Survey, 1. General Considerations).

B. Research Designs

All identification projects should begin with the formulation of an explicit plan or program of archeological study — a research design. The research design, part of which might take the form of a proposal written in response to a request for bids, is a framework that describes activities to accomplish the goals of an identification study. Important components of research designs are statements and discussions which justify chosen methods and techniques as the most logical and otherwise suitable means to locate potentially significant archeological resources.

The Objectives section of a research design should begin with a discussion of why archeological identification is needed for the particular project. First, it is necessary to name the governmental agencies and other parties involved in an undertaking; to describe the nature of the undertaking (e.g., construction of a transmission line with certain access roads) and its area of potential effects (including the area where both the direct results and indirect consequences of a project may occur); and to cite which specific laws, regulations, guidelines, and other requirements have either called for or apply to the project. Based on this information, project archeologists should ensure that an appropriate level of research is conducted.

Specific objectives of a Phase I Archeological investigation are to include:

- ***delineation and inventorying of all archeological properties (that may be eligible for the National Register or the Maryland Register) in the area of potential effects;***
- ***characterization and interpretation of all identified archeological properties with respect to the cultural/temporal periods of the State Plan;***
- ***appraise the results of the investigations in light of existing models of settlement patterning;***
- ***if sufficient data are available, evaluation of National Register or Maryland Register eligibility;***
- ***assessment of the undertaking's impacts on the identified archeological properties; and***
- ***determination of the need for additional archeological work.***

The Methods and Techniques portion of a research design should describe the amounts and kinds of archival or background research, field investigations, and analytical studies anticipated to achieve the goals and objectives of the project. Descriptions of general research methods (e.g., cultural ecological modeling, sampling) and specific research techniques (e.g., pedestrian survey, soil chemistry analyses) should be justified to ensure that appropriate and successful strategies are planned for a particular project area's size, accessibility, environmental characteristics, and expected archeological properties. An explicit discussion of methods and techniques will also help agency reviewers and other archeologists to judge the quality and effectiveness of the work and permit scientific replication of analyses.

The Expected Results section of the research design should discuss the number, size, location, age, and general cultural characteristics of the archeological resources anticipated in the area of potential effects. Thorough background research into the project area and into predictive models of settlement for analogous locations can provide the basis for these expectations. Whenever possible, a preliminary field check should take place to provide familiarity with the micro-environment(s).

Additional technical information for developing strategies for identification surveys includes the archeological publications listed in the "Secretary of the Interior's Standards for Identification, Recommended Sources of Technical Information" (Dickenson 1983:44723). Among numerous other sources on survey methods and techniques are professional journals and publications by Ammerman (1981), Ammerman and Feldman (1978), Flannery (1976), Hirth (1978), McManamon (1984), and Redman (1974).

C. **Archival and Background Research**

The purpose of archival and background research is to acquire information on a project area's known and potential archeological properties prior to initiating time-consuming and costly field investigations. Most archival and background studies should be completed and their results assessed before fieldwork begins so that the preliminary survey strategies outlined in contract proposals may be refined. The non-field research will help guide the field survey by indicating where any documented Maryland Register or National Register eligible archeological sites are located and where other significant archeological properties may be found.

Documentary research in libraries, archives, and other facilities can provide both primary and secondary archeological information. Several of the most basic archival sources which describe known archeological sites and their locations are the Maryland Inventory of Historic Properties, the Maryland Register of Historic Properties, the National Register of Historic Places, and lists of sites for which determinations of (National Register or Maryland Register) eligibility have been made. It is important to note that standing structures included in the Inventory and the two Registers may also indicate the possibility of archeological resources from the historic period. Published and unpublished reports on previous archeological investigations in or near the current project area are also essential sources. Other documentary materials which can be useful in locating potentially significant archeological properties, depending on the nature of the undertaking and project tract include:

- contractors'/developers' maps and planning documents;
- historic maps and atlases, including early U.S. Geological Survey quadrangles;
- National Archeological Database (see Chapter VII.D);
- insurance records and maps;
- publications on local prehistory and history;

- compilations of environmental data, (e.g., geomorphological studies and the Soil Conservation Service's soil survey books with aerial photographs);
- building permits;
- tax maps;
- ground disturbance records.

Figure 2 illustrates how historic maps may provide information on historical settlement in a study area.

Informant interviews are another potential means by which one can obtain data on a project area's archeological resources. Contacting people who live or work near a study site can yield very specific data on archeological sites and past land use. Preliminary field visits are necessary to establish a network of local contacts; and meetings with local chapters of the Archeological Society of Maryland, Inc., and with the Council for Maryland Archeology can offer the opportunity to discuss an area with a sizeable number of individuals. Maryland's State Terrestrial Archeologist and archeologists of MHT's Office of Preservation Services can provide the names of contact persons and may, in some instances, possess additional project-specific archeological knowledge.

From informants and from data sheets of the Maryland Inventory of Historic Properties, it is often possible to determine if collections of archeological specimens from a project tract exist and where they are located. Avocational archeologists or repositories like the Trust may possess the collections (see Chapter VI.C). Examination of the collections can provide an investigator with an idea of the kinds and ages of archeological resources expected in a project area; these studies can also suggest the range of variability of cultural materials present in a locality. Furthermore, by assessing the amount of past collecting of artifacts from a site, one might be better able to judge the integrity of an archeological property.

Collection studies, informant interviews, and documentary research together assist in predicting the number, location, and nature of archeological resources in a study area. Additionally, these activities enable the refinement of appropriate historic contexts for the interpretation of new archeological finds. Fully developed contexts provide the basis for well-reasoned discussions of the potential significance of the resources with respect to important research issues and comparative data from similar archeological properties.

Several of the most important facilities for conducting archival and background research are:

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| <ul style="list-style-type: none"> ➤ Maryland Historical Trust
100 Community Place
Crownsville, MD 21032 ➤ Jefferson Patterson Park and Museum
10515 Mackall Road
St. Leonard, MD 20685 ➤ St. Mary's City Commission
P.O. Box 39
St. Mary's, MD 20686 ➤ Maryland State Archives
Hall of Records
350 Rowe Boulevard
Annapolis, MD 21401 | <ul style="list-style-type: none"> ➤ Enoch Pratt Free Library
Baltimore, MD 21201 ➤ Maryland Historical Society
201 West Monument Street
Baltimore, MD 21201 ➤ Smithsonian Institution
Washington, DC ➤ National Archives
Washington, DC ➤ Library of Congress
Washington, DC ➤ Local museums ➤ University and public libraries ➤ County and municipal government offices. |
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Figure 2. Illustration of a historic map providing information on historical settlement. (Used with the permission of the Md. State Highway Administration - Project Planning Division. Produced for or by the Archeology group.)

Numerous other sources of information are located in the Maryland Preservation Organizations Directory (Dorbin 1987).

D. **Field Survey**

1. **General Considerations** The Advisory Council's regulations for the Section 106 review process state that federal agency officials "shall make a reasonable and good faith effort to identify historic properties that may be affected by the undertaking..." (36 CFR § 800.4[b]). In the same manner, archeologists conducting Phase I surveys for all federal and state compliance projects in Maryland are to conduct their investigations with "a reasonable and good faith effort." This statement means first that some form of sampling should be employed so as to collect an appropriate amount of representative information in the area of potential effects. Secondly, whatever field procedures are followed must be well justified and systematically applied. Surveys performed according to a judicious sampling plan will help to reduce project costs while yielding credible information on the distribution of archeological properties throughout a project tract.

All surveys should be intensive and should include pedestrian (walkover) examinations of the ground surface as well as subsurface testing. This work should delineate all potentially significant archeological properties — both known sites and previously unreported resources — and should record current land-use features. Furthermore, sufficient geomorphological field studies should be conducted (with a specialist, if necessary) to ascertain whether intact archeological resources might exist in the soils and land forms of a project's area of potential effects. The intensity of sampling (e.g., spacing of transects) must directly relate to the expected sizes of the archeological properties, the possibilities of spatial patterning of the resources, and the field conditions. (Archeologists considering the use of staged or nested approaches [Redman 1974:28-30] should contact the staff of MHT's Office of Preservation Services as early in the planning process as possible.) While sampling of the area of potential effects is generally necessary, surveyors should retain all of the prehistoric and historic artifacts recovered from the sampled land for analysis and curation. (Recall that this document's definition of artifact includes only those cultural items which are at least 50 years old. Therefore, an archeologist need not collect clearly modern objects like styrofoam cups or aluminum pull-tabs. It may be useful, however, to save a modern cultural object if it is critical for the interpretation of an archeological property's stratigraphy and integrity.)

Pedestrian survey, which in some cases may be carried out simultaneously with subsurface testing, should include the examination of exposed sections of soil for artifacts and features. Even in areas covered with thick vegetation, it may be possible to discern features like trash dumps, wells, cellar holes, foundations, earth mounds, or rock cairns. The differential growth of vegetation, as at sites with ornamental trees and flowers where historic houses once stood, may also signal buried archeological deposits. Other potential targets of walkover surveys are standing historic structures, which may have associated archeological resources, and caves and rockshelters; the latter locations — most frequently found in steep terrain — may have been sites of prehistoric occupation.

Systematic walkover surveys may, in large measure, constitute the primary testing strategy of an area where deep burial processes, such as alluvial, colluvial, or aeolian deposition, are not expected and when the surface of a project tract has at least 50 percent exposed soil. This level of ground exposure affords a reasonable level of confidence to the recognition of most significant archeological resources in Maryland. However, the visibility of artifacts in many soils is often best following a washing rain; and the replication of collecting surface artifacts may be important to characterize the distribution of archeological materials (Ammerman and Feldman 1978; Ammerman 1993). If one can determine that a survey tract was previ-

ously plowed even though it now is heavily covered by vegetation, the ground may be replowed to the same degree as before in order to expose the soil for pedestrian survey. It is important to document the prior cultivation, generally by limited subsurface testing, so as not to compromise the integrity of archeological resources.

Pedestrian surveyors should design field techniques to delineate archeological properties and to identify cultural affiliation and research potential. For example, if artifact collection by quadrats is proposed for a plowed field, then the sampling units should be small enough to reveal site boundaries and activity areas; but they should not be so overly small (piece-plotting in the extreme case) that the scattering effects of cultivation are ignored and the results provide a false sense of accuracy. Finally, there should always be an accompanying, even if minimal, component of subsurface testing. The objectives of this excavation work are to provide: 1) information on the subsurface characteristics (including depth and integrity) of archeological properties discovered on the exposed surface; and 2) reasonable confirmation that no buried archeological resources are present where none are visible on the ground surface. In general, some systematic surface surveys of cultivated project areas can be more cost effective than subsurface investigations.

A larger subsurface survey component is necessary for project areas where less than 50 percent of the ground surface is exposed soil. The recommended form of survey and the one which appears to be the most effective in Maryland is the excavation of shovel test pits (STPs) according to a carefully justified sampling strategy. STPs are circular holes dug to the width of a shovel blade (ca. 35 cm diameter) and to the depth of subsoil, which is devoid of cultural material. In order to lend assurance that the base of a given pit is culturally sterile, excavation should continue at least 10 cm into the subsoil. Digging by shovel should proceed according to recognizable soil horizons and strata, with each soil or stratum being screened individually through hardware cloth (generally 1/4" mesh) to recover small archeological materials. Stratigraphic excavation, even at the scale of STPs, can, in some instances, shed light on the integrity and significance of archeological properties. Excavators should place artifacts and other cultural items in bags with horizontal and vertical provenience, as well as with other pertinent information. Before backfilling the STPs, field personnel also should systematically record data on the study area's soils and stratigraphy, including depths of strata, content, soil textures (Soil Survey Staff 1975), and soil colors (Munsell Color 1975).

When local ground surface conditions warrant subsurface testing, the recommended form for most intensive surveys is the excavation of STPs according to a systematic, transect sampling procedure (Redman 1974:17-18). This strategy appears to be the most cost-effective and rigorous for surveying the frequently wooded lands and irregular topography of Maryland. The intervals between STPs and transects should be based on the background research, specifically on the expected diameters and spatial patterning of archeological properties and on any additional information relating to archeological resource size and visibility. When establishing survey grids, field personnel should choose the tools and techniques (tapes, compasses, transits, pacing) appropriate for the task of identifying archeological properties under given field conditions. Records must be made on how survey grids were established with reference to local environmental features (e.g., distance and direction to datum points, standing buildings, or highway intersections). A small number of extra test pits should be excavated around STPs that appear to produce "isolated" cultural materials, in order to look for archeological resources of a smaller diameter than the test interval.

Special environmental characteristics of a project area may make modified forms of intensive subsurface surveys more reasonable. For example, in the case where the land has steep slopes, the pedestrian component of the survey is generally reliable for revealing the need for any subsurface investigation. Slopes of 10 percent and greater are believed to rarely contain significant archeological properties (see, for

example, Kavanagh [1982]). Furthermore, in areas where significant, deeply buried archeological deposits may exist, it is necessary to carry out a minimal amount of excavation to a depth below that which is reachable by hand shovel. Floodplains, areas covered by colluvium, and bogs may be some of the locations with deep archeological properties. Augering may, in these situations, identify cultural strata; and backhoe trenching with limited hand excavation and sieving of soil from exposed column samples may discern artifacts and other cultural materials. The excavation of deep pits by hand or by mechanical means must meet all federal, state, and local statutes for human safety (e.g., OSHA requirements for the shoring of trenches). Prior to commencing surveys in areas that may have deeply-buried archeological resources, agencies should consult with the Trust's Archeological Services staff to determine the amount of deep testing which is appropriate. Also, whenever alternative identification procedures are proposed (e.g., aerial photography, other forms of remote sensing, soil chemistry studies, etc.), consultation with Archeological Services staff should precede fieldwork.

2. Special Considerations in Urban Settings Since cities generally lack large tracts of land which are not covered by either pavement or buildings, field surveys in urban settings commonly take different forms than in rural areas. Survey strategies are directly related to the difficulty and large expense of conducting excavations in soils that are covered by concrete, standing buildings, rubble, or other hard materials. Archeological work in cities can also be costly for its extraordinary logistical problems and disruptions of municipal services. In addition, urban areas have often experienced intensive historic activity spanning several hundred years, with subsequent development building upon earlier episodes of historic occupation. Thus, archeological properties in urban contexts are frequently characterized by complex and deep stratigraphy and often consist of overlapping deposits representing several time periods of use.

For these reasons, Phase I investigations of urban settings initially entail detailed archival and background research to determine the types, time periods, and possible locations of prehistoric or historic archeological resources predicted within the area of potential effects. Chapter V.A presents a discussion of the goals, objectives, methods, and reporting requirements for an archival study. This background research is also useful for defining the most appropriate testing strategies and sampling plan for the project area.

In urban settings that still retain large expanses of open space (such as parklands or sizable residential tracts) it may be feasible to employ the surface and subsurface testing methods discussed in section D.1 above. However, when it would not be possible to examine the soil of an urban project area except by mechanical excavation (e.g., backhoe, jack hammer), Phase I field investigations may proceed in the following manner:

A pedestrian field check/disturbance study should occur in conjunction with the archival and background research, to assess the likelihood that significant, prehistoric or historic archeological properties exist in an area of potential effects. Documentary studies, interviews, and other background research should establish whether known or probable archeological resources are present. During the field check, there should be an examination of present land use to further consider how historic and modern building activities may have disturbed or affected the integrity of archeological properties. The contractor should then produce a report on the results of these Phase I studies and on the potential for significant archeological properties existing in the area of potential effects. Any excavation would await review of the report by Trust staff and would form part of a new Phase II project (Chapter III). In some instances, the archival study and disturbance assessment alone may be sufficient to demonstrate that the area of potential effects has a low potential for containing significant archeological properties, and thus eliminate the necessity for undertaking costly field excavations.

Certain other urban settings may already contain a documented high potential for the presence of archeological properties (based on historical association, previously identified resources, or the undisturbed nature of the project area). In these situations, a cost effective course of action for identification would combine all the archival work and field checking of Phase I with more intensive background research, if necessary, and excavation of Phase II evaluative test units. Systematic test strategies should target the full range of potential resource types, based on the results of the archival study. A single report would describe all of the Phase I and II studies, and it would contain clear evaluations of the significance of all identified archeological resources.

Consultation with the Archeological Services unit of the Trust's Office of Preservation Services should precede all stages of urban compliance projects, to determine the most appropriate level of investigation for a given project area. Furthermore, there should be consultation with Archeological Services staff prior to field identification surveys when alternative discovery techniques are considered.

E. **Analysis**

Analyses of archeological resources identified through Phase I investigations should be geared, minimally, toward qualitative and quantitative description, as well as determination of the need for further field study. Analyses requiring greater expenditures of effort, such as radiocarbon dating and certain microscopic use-wear studies of stone tools, would be more appropriate during Phase II evaluation and Phase III data recovery projects when archeological significance and significant archeological properties are being examined (see below). The preservation of significant archeological properties is, after all, the goal of both federal and state historic preservation laws.

One of the primary analytical tasks should be the classification of all artifacts and features discovered. Analytical procedures must be explicit to permit the confirmation of results by other researchers. Investigators should conduct their identifications of archeological materials using the best current standards of professional knowledge and with reference to professional publications of comparative samples. Another important step is the cultural and temporal characterization of the archeological resources with respect to historic contexts of The Maryland Comprehensive Historic Preservation Plan (Weissman 1986). Examinations of the individual archeological materials should also involve the interpretation of the larger archeological property in terms of cultural behavior and at least regarding function or use.

Supplementary analytical activities should, when possible, provide information on site significance and integrity. In this regard, one must judge whether the quantity and quality of the observed archeological resources indicate that the archeological property might meet the eligibility criteria for the National Register of Historic Places (see section III.E. below). Researchers, for example, should employ the results from their sample survey - whenever possible - to estimate the frequencies of different classes of artifacts and features for the entire archeological property. This estimate could serve an important role in comparisons with other known sites and in deciding on the need for further work. The examination of natural and cultural formation processes of the archeological record can also offer insights on site integrity, and therefore on significance. As an illustration, one should study the temporal homogeneity of archeological materials according to individual strata or other provenience units. Even at the Phase I level, the detection of a number of mixed artifacts dating from multiple time periods might allow characterization of a site as "disturbed"; this lack of integrity probably would obviate the need for further archeological investigations.

F. **Reporting**

Following the analysis of archeological resources, researchers must prepare complete draft and final reports on all of the Phase I activities. Chapter VII below contains standards and guidelines for these reports, copies of which must be submitted to the Trust's Office of Preservation Services. Additionally, Chapter VI discusses the requirements for processing and curation of the resulting collections (including artifacts and associated records).

III. EVALUATION (PHASE II)

A. Goal

The goal of evaluation for compliance projects is to determine if an archeological property identified in an undertaking's area of potential effects is eligible for inclusion in the National Register of Historic Places (for Federal projects) or the Maryland Register of Historic Properties (for State projects). In Maryland, the various activities that comprise evaluation are grouped together under the designation of Phase II Archeological Investigation. Phase II studies entail development of research designs, archival and background research, field studies, analysis, and reporting.

B. Research Designs

As with identification studies, all evaluation projects should start with the formulation of an explicit research design. General aspects of research designs appear in Chapter II. More specific comments on research strategies for evaluative studies follow.

The Objectives of Phase II archeological investigation are to include:

- ***defining the horizontal and vertical limits of the archeological property in question;***
- ***interpreting the archeological resource in terms of the activities, functions, time span, and historic contexts (from the State Plan) it represents;***
- ***investigating research questions (from the State Plan and other sources) that can provide information on the property's local or regional significance;***
- ***decisively evaluating the eligibility of the property for the National Register or the Maryland Register, as appropriate, and according to the proper criteria (36 CFR § 60.4 and Maryland Department of Housing and Community Development Title 05.08.05, respectively);***
- ***determining the impact of the proposed undertaking on the archeological property with reference to the federal Criteria of Effect and Adverse Effect (36 CFR § 800.9) or the State Criteria of Effect and Adverse Effect (Maryland Department of Housing and Community Development Title 05.08.06.13) for Federal and State projects, respectively; and***
- ***assessing the need for additional archeological treatment of the property.***

The Methods and Techniques portion of a research design should justify the proposed research strategies. These strategies should be designed to investigate the smallest sample of the property necessary to meet the outlined research objectives. Extant research reports (e.g., Phase I archeological investigations) and other readily accessible documents are several of the sources for development of a section on Expected Results; this portion of the research design should discuss the quantity, age, condition, and other general characteristics of the archeological materials and features anticipated in the study. Additional technical information for developing strategies for archeological evaluation projects includes the publications listed in the "Secretary of the Interior's Guidelines for Evaluation, Recommended Sources of Technical Information" (Dickenson 1983:44725-447260), as well as the works by Binford et al. (1970), Flannery (1976), Redman (1987), and Redman and Watson (1970).

C. Archival and Background Research

The purpose of Phase II archival and background research is to supplement the existing information on a previously identified archeological property and to determine the resource's significance and eligibility for the National Register or Maryland Register. Investigators should carry out documentary research,

informant interviews, and collection studies, as appropriate, to achieve these objectives. In addition to the sources noted in Chapter II, materials useful for the more intensive Phase II studies include:

- publications on the nature and significance of the general archeological property type;
- early lithographs and photographs;
- court records (deeds, mortgages, etc.);
- real property records;
- ordinances and resolutions;
- transportation records (e.g., ship manifests for a port);
- wills and probate inventories; and
- census data.

While most of the above items pertain to historical archeology, Phase II background research on certain prehistoric resources may entail consultation with soil scientists and geomorphologists on natural site formation processes. Reexaminations of the chronological and stratigraphic relationships of existing artifact collections might also provide new insights on a given site's integrity and significance. Finally, the various components of Phase II archival and background research should lead to refinement of the historic contexts particular to the investigated archeological resource.

D. **Field Studies**

Phase II studies require the investigation of adequate portions of archeological properties to evaluate the significance of the resources. Still, the investigated areas of the properties should be the smallest ones which allow the attainment of the research goals. Besides reducing project time and costs, small samples can prevent the destruction of significant archeological features and information (Dickenson 1983:44724). The practice of limiting sample size below the level which would compromise resource integrity will also ensure that the proper review agency (Advisory Council on Historic Preservation or SHPO) is afforded its legally mandated opportunity to comment on governmental undertakings that may affect historic properties. In this connection, while the emphasis of Phase II field studies needs to be on archeological resources within areas of potential effects, investigators also should establish the total horizontal and vertical extent of the resources whenever possible. The determination of archeological boundaries, even if they extend outside of the precise limits of an undertaking, will provide more accurate information on resource size and can be to an agency's advantage. For example, in the context of resource treatment, an agency might preserve outer archeological site areas in place in lieu of conducting further excavations within the area of potential effects. (It is not the intention of these guidelines, however, to suggest that Phase II field studies should extend beyond the area of potential effects off of the lands that are under the ownership, control, or jurisdiction of an agency in a given undertaking.)

Due to the diversity of archeological properties and the different constraints of undertakings, the precise amounts and kinds of Phase II field studies need to be determined on a case by case basis. Still, all archeological evaluation projects must include excavation as a major component of field sampling. Systematic walkovers of sites and intensive, replicated surface collecting can, however, be useful techniques for the establishment of site boundaries, the estimation of quantities of archeological materials, and the determination of where to place larger excavation units (Ammerman and Feldman 1978; Redman and Watson 1970). As with Phase I surveys, the surface examination of sites should proceed only if at least 50 percent of the resource area has exposed soil and generally only after a washing rain. When there is less visibility of the ground surface, one must rely on subsurface testing.

Generally, the excavation of systematically placed transects of close-interval shovel test pits (or, in some cases, auger holes) can determine the limits of an archeological property relatively quickly (e.g., Chartkoff 1978). This intensive shovel testing may also locate concentrations of artifacts and features for more detailed examination. The next step in a multi-stage Phase II investigation is to use the information generated by surface collection or test pits to decide which arrangement of larger excavation units would most efficiently provide for the evaluation of resource significance and the study of related research issues (see above). Also, sufficient geomorphological field studies should be conducted (with a specialist, if necessary) to interpret the natural context of the archeological resources.

Individual test units should measure at least 1 x 1 m to 2 x 2 m, depending on site size and expectations of artifact density and feature preservation. There should be an appropriate number of these units to ensure the sufficient sampling of an archeological property and its contents to determine the resource's eligibility for the National Register or Maryland Register, as appropriate. The cost-effective positioning of test units demands that archeologists carefully consider available data on intrasite patterning before choosing one or more forms of a sampling regime. In cases where initial site investigations have demonstrated that archeological deposits are or may be present at a considerable depth, a minimal amount of deep testing (with safety precautions) is necessary to evaluate the significance of the buried resource. Mechanical excavation (e.g., by backhoe) may accompany hand digging in these situations; and it is highly recommended that archeologists discuss deep testing and other alternative strategies with the archeological staff of the Trust's Office of Preservation Services prior to fieldwork.

The excavation of test units should normally continue at least 10 cm into the subsoil, in order to lend assurance that the bases of pits are culturally sterile. Digging by shovel and trowel should proceed according to recognizable soil horizons and strata, with each soil or stratum being screened individually through hardware cloth (generally 1/4" mesh) to recover small archeological materials. Mapping and photographing of the excavations and the archeological finds should supplement the systematic recording of notes on field activities. Excavators should place artifacts and other cultural items in bags with horizontal and vertical provenience, as well as with other pertinent information. Excavation strategies should enable the retrieval of specialized data (through recovery of soil samples, flotation, fine mesh screening). Before backfilling the test units, field personnel also should record data on each pit's stratigraphy, including depths of strata, content, soil textures (Soil Survey Staff 1975), and soil colors (Munsell Color 1975). Finally, all Phase II fieldwork should be conducted on a grid system, which is tied in to a permanent, local environmental feature (e.g., concrete and metal datum point, standing building). This practice will allow later researchers to relocate the test areas.

E. **Analysis**

Analytical studies carried out as part of Phase II investigations should be geared toward the evaluation of an archeological property's eligibility for the National Register or Maryland Register, as appropriate. This work must entail: 1) the interpretation of site activities, functions, time span, and historic contexts; and 2) the study of research questions dealing with the resource's local or regional significance. Initial analytical activities should be the identification and classification of all artifacts and features according to explicit procedures and using the best current standards of archeological knowledge (see Chapter II and Figure 3).

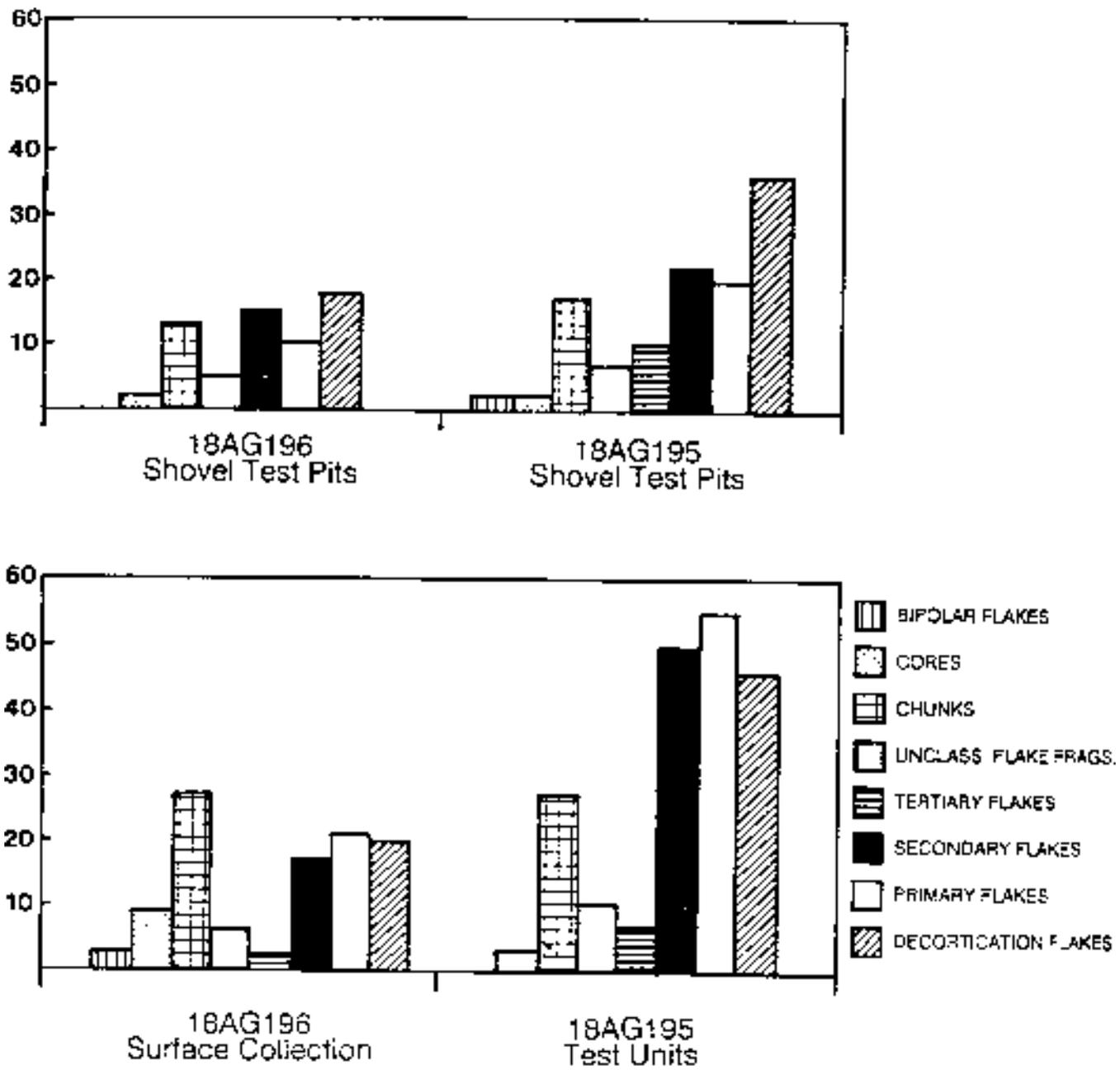


Figure 3. Some basic lithic analysis conducted for one Phase II investigation. (Used with the permission of the Md. State Highway Administration - Project Planning Division. Produced for or by the Archeology group.)

More detailed analyses at the Phase II level should include, whenever possible, the dating of a sample of archeological components from good contexts with chronometric techniques (e.g., radiocarbon). In the absence of adequate specimens for these procedures, one should date artifacts by comparison with previously dated, standard classes in combination with relative dating techniques. To examine site activities and functions, archeologists should use appropriate techniques such as the analyses of artifact morphology, use-wear, spatial patterning, and raw material sources; interpretive power will, of course, be largely dependent on other comparative, historical, ethnographic, and experimental archeological studies. Additionally, the flotation of soil samples is important for identifying micro-flora and fauna and for examining the spatial patterns of minute archeological materials (e.g., micro-debitage). Project archeologists should develop, on a case by case basis, a program of specialized analyses for the refinement of historic contexts and the investigation of particular research questions dealing with local and regional site significance. For the examination of resource significance (and integrity), however, some general analytical activities should include: 1) cross-mending of artifacts and minimum vessel analysis, when possible; 2) stratigraphic comparisons; 3) detailed soil studies; 4) estimating artifact and feature frequency for the archeological property as a whole; and 5) comparisons of the subject property with other known resources according to research themes identified in the State Plan.

The final components of Phase II analyses are less mechanical and include the formal evaluation of significance of a subject archeological property and the determination of project effect. Assessments of significance are considerations of all the available data and interpretations of the archeological resources with respect to the National Register Criteria for Evaluation (36 CFR § 60.4):

The quality of significance in American ... archeology ... is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and

- (a) that are associated with events that have made a significant contribution to the broad patterns of our history; or
- (b) that are associated with the lives of persons significant in our past; or
- (c) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- (d) that have yielded, or may be likely to yield, information important in prehistory or history.

Criteria for evaluation for the Maryland Register of Historic Properties (Title 05.08.05.07) are essentially equivalent to those of the National Register (see Chapter V.D.2 below); for compliance archeology, the important difference in the two registers is that the national one is used with federal projects, and the Maryland one serves for state projects.

While those archeological resources that are significant most frequently meet Criterion (d) (important information), it is necessary for evaluators to examine all four criteria and appropriate criteria considerations. An example of an archeological property in Maryland which meets several National Register criteria is the Simpsonville Stone Ruins (18HO80), a district with a concentration of late eighteenth through early twentieth century mill-related features. The archeological remains of this village reflect the importance of mills in the economic development of Howard County (Criterion a); include structures that embody the earliest development of mill technology (Criterion c); and demonstrate the capacity to yield important information on the agricultural, architectural, cultural, and economic themes in the State Plan (Criterion d). Additional information on the evaluation of National Register eligibility is found in 36 CFR § 60.4, Dickenson (1983:44723-44726), and NPS (1991). Some of the numerous other sources on the evaluation of archeological significance are publications by Barnes et al. (1980), Butler (1987), Dunnell

(1984), Glassow (1977; 1985), King (1985), King et al. (1977), Klinger and Raab (1980), Lees and Noble (1990), Leone and Potter (1992), Lynott (1980), McGimsey and Davis (1977), Moratto and Kelly (1978), National Park Service (1991), Raab and Klinger (1977, 1979), Schiffer and Gumerman (1977), Sharrock and Grayson (1979), and Tainter and Lucas (1983).

It is unnecessary to complete official nomination forms for the National Register or Maryland Register (National Register Registration Forms) as part of Phase II compliance projects. The determination of an archeological property's eligibility for the registers is generally sufficient. However, when an archeological property is found to be eligible for the National Register/Maryland Register, one does need to determine the effect of the given project (undertaking) on the significant resource. The ACHP has described the criteria of effect and of adverse effect at 36 CFR § 800.9. When considering project effect, archeologists should discuss with their clients and involved agencies possibilities of eliminating or reducing impacts (e.g., through project redesign to avoid sites).

F. **Reporting**

Following the analysis of archeological resources, researchers must prepare complete draft and final reports on all of the Phase II activities. Chapter VII below contains standards and guidelines for these reports, copies of which must be submitted to the Trust's Office of Preservation Services. Additionally, Chapter VI discusses the requirements for processing and curation of the resulting collections (including artifacts and associated records).

IV. TREATMENT (PHASE III)

A. **Goal**

The goal of treatment for compliance projects is to avoid, minimize, or mitigate an undertaking's adverse effects on an archeological property(s) listed in or determined eligible for inclusion in the National Register of Historic Places or the Maryland Register of Historic Properties. Additionally, treatment objectives may incorporate the promotion and enhancement of archeological properties (through education, interpretation). Adverse effects may include the destruction or substantial alteration of a significant archeological property, or its transfer out of federal/state ownership without protective restrictions. Treatment measures may entail in-place preservation, recovery of important data, or destruction without recovery of the significant archeological property(s), or a combination of those measures. Other innovative treatment measures may include nominating a site to the National Register of Historic Places, developing an historic preservation plan, or implementing an archeological resource training or interpretation program. In Maryland, the various activities that comprise recovery are grouped together under the designation Phase III Archeological Investigation/Data Recovery.

B. **Process**

The specific treatment measures selected for a given undertaking are negotiated between the pertinent agency(s), the Trust, the Advisory Council on Historic Preservation (if the project is subject to Section 106), and other involved parties (such as the project sponsor, applicant, property owner, etc.), as appropriate. The involved federal or state agency is ultimately responsible for determining an undertaking's treatment measures. The Trust and Advisory Council fill an advisory role in the consultation process. Often the negotiation process concludes with the consulting parties executing a formal Memorandum of Agreement (MOA) for the undertaking (pursuant to 36 CFR §§ 800.5 & 800.6). The MOA includes stipulations specifying the agreed upon treatment measures. Execution of the MOA demonstrates that the agency has provided the Trust and the Advisory Council (for Section 106) with an opportunity to comment and has taken into account the undertaking's effects on historic properties.

The agency should not proceed with implementing the treatment measures until the consultation process is complete and the MOA is signed, if applicable. Commencement of treatment in advance of review completion may foreclose the Trust's or Advisory Council's opportunity to comment on the undertaking's effects.

Treatment measures are decided on a case by case basis. In determining appropriate treatments for a given historic property, the consulting parties must thoroughly weigh the property's research value and characteristics which make it eligible for the National Register against the goals of the undertaking itself and other pertinent societal needs. The consulting parties must carefully consider the standards and principles contained in the sources of technical information listed below in reaching their treatment decision.

It is essential for agencies to evaluate a project's effects on historic properties early in project planning when the widest range of project alternatives is open. Early consideration and planning will allow adequate time to effectively evaluate all treatment measures, conclude consultation and implement the selected treatments well in advance of construction.

C. **Sources of Technical Information**

Additional guidance and technical information on treatment measures and the development of agreements may be found in the following sources:

- Treatment of Archeological Properties (ACHP 1980);
- Preparing Agreement Documents (ACHP 1989);
- Consulting About Archeology Under Section 106 (ACHP 1990);
- The Section 110 Guidelines (ACHP and NPS 1989);
- Secretary of the Interior's Standards and Guidelines for Architectural and Engineering Documentation (Dickenson 1983: 44730-34);
- Secretary of the Interior's Standards and Guidelines for Archeological Documentation (Dickenson 1983: 44734-37);
- Secretary of the Interior's Standards for Historic Preservation Projects (Dickenson 1983: 44737-42);
- The Archeological Sites Protection and Preservation Notebook (U.S. Army Corps of Engineers 1992).

The Advisory Council's course, "Preparing Agreement Documents", is a valuable source of information regarding treatment measures and documents.

D. **Preservation In Place**

Generally, the most desirable treatment option for archeological sites is preservation in place. Preserving the widest range of archeological properties will ensure the survivability of these non-renewable resources for future generations. It is impossible to predict what information will be considered valuable in the future or what new techniques will be available to retrieve and analyze data. Resources considered unimportant today may be of great value in the future. Therefore, when practical, preservation in place is the preferred treatment, and it is often the most cost effective measure. Furthermore, it safeguards the resource for future research, interpretation, and appreciation.

Preservation may be achieved in several ways — through avoidance, protection, and acquisition of protective easements. However, mere avoidance of an archeological property does not guarantee its long term protection and preservation. Preservation treatments should incorporate measures to protect the archeological property from natural deterioration, vandalism and other potential impacts, as appropriate, and include mechanisms to ensure its preservation in perpetuity (as feasible, given an agency's ownership, jurisdiction, or control of the archeological property). Generally, sites slated for preservation should not be extensively excavated, but only receive limited testing as necessary to determine the property's National Register eligibility and site characteristics.

The following sources, in addition to the Corps of Engineers' notebook listed above, contain further specific guidance regarding site avoidance, stabilization, and protection measures:

- Filter Fabric: A Technique for Short-term Site Stabilization. (Thorne 1988);
- Intentional Site Burial: A Technique to Protect Against Natural or Mechanical Loss. (Thorne 1989);
- Revegetation: The Soft Approach to Archeological Site Stabilization. (Thorne 1990); and
- Site Stabilization Information Sources. (Thorne 1991).

1. **Avoidance** One form of preservation in place is avoidance. It is often feasible to avoid impacting archeological properties through redesign of a project. It may be possible to reroute a proposed road or utility corridor alignment to bypass an archeological site. Projects may be redesigned to maintain archeological properties within protected open spaces (such as a wooded buffer, median, or recreational area). Changes in construction techniques may also achieve site avoidance, such as redesigning a shore erosion control project to entail fill and vegetative planting instead of bank grading and structural improvements. Figure 4 illustrates how a significant historic mill complex was avoided by realigning proposed transportation improvements.

In certain instances, it may be feasible to bury an archeological property using filter cloth and clean fill. For example, sites may be buried beneath the construction limits of a new parking lot or interchange. However, site burial methods should include exercising care to limit potential compaction and prevent changes in soil chemistry and structure. In addition, burial practices should include measures to provide potential access to the site for future research. For instance, installing a permanent datum or reference points in the site vicinity will facilitate the site's relocation for future study.

2. **Protection** Site protection and stabilization efforts may be employed to enable preservation in place by shielding the resource from future damage inflicted through natural and human forces. Protective measures may be temporary, during project construction, or may encompass permanent treatments. Such measures may include: fencing, routing of construction activities and staging areas to prevent inadvertent disturbance, explicit resource protection measures in contractor specifications, berms, site stabilization efforts to prevent erosion or deterioration of exposed features and elements, vegetative planting to screen soil exposure, signage, and routine law enforcement patrols to deter vandalism.

3. **Easements/Covenants** Although avoidance and protection enable site preservation in place, these measures do not guarantee the long term and perpetual safety of the resource. Acquisition of an historic preservation easement or protective covenant on an historic property is a positive legal tool to secure the property's maintenance and preservation in perpetuity, regardless of changes in property ownership. An easement is a legal instrument designed to protect and preserve a historic property in perpetuity without conveying or transferring ownership of the property. Easements offer the strongest protection for archeological sites. Such protection cannot be found on a permanent basis in any other programs, such as National Register listing or compliance.

Easements as a treatment measure are most frequently employed when a historic property is transferred out of federal or state ownership, and therefore no longer protected by the provisions of federal and state laws. A property that is transferred with appropriate easement/covenant language will be afforded protection and proper care in perpetuity.

The Trust has an active easement program and currently holds easements on over 350 historic properties throughout Maryland. Under easement terms, the landowner agrees to give up rights to develop most or all of the property and agrees to perform a minimum level of maintenance to the historic property. The Trust as easement holder agrees to monitor the property to ensure compliance with the terms of the easement. Each easement is negotiated between the Trust and landowner/donor and tailored to suit the specific needs and characteristics of the given historic property. For donations of gift easements, the property owner/donor may be eligible for certain federal income tax, estate, inheritance, gift and property tax incentives.

For additional information on the easement program or copies of the Trust's standard easement, contact the Trust's Office of Preservation Services at (410) 514-7628.

4. Owner-Request for Archeological Site Protection Under State Law Significant sites on private property can enjoy **all** the protections afforded to state-owned sites through an important provision of Maryland's historic preservation law. Article 83B, § 5-621, of the Annotated Code of Maryland allows owners of significant sites to request that all state laws for the protection of archeological sites on state-owned lands also apply to their land. For the state to grant this request, two tests must be met:

a. The owner must petition the Maryland Historical Trust in writing to apply the provisions of state law relating to the protection of historic properties on state land or in caves to that portion of the owner's land containing the site; and

b. The Trust must determine that the site is eligible for listing in the Maryland Register of Historic Properties and warrants such protection.

Once these requirements are met, the site enjoys all of the protections that any site on state property or in a cave would be afforded. The most important protections include:

- ◆ A site cannot be disturbed or excavated without a permit from the Trust's Office of Archeology.
- ◆ Only qualified persons may conduct archeological excavations at the site.
- ◆ Persons convicted of illegally disturbing or destroying the site can be subject to fines up to \$1,000 and imprisonment for a term of up to 30 days for each day a violation continues.
- ◆ Illegally obtained artifacts can be appropriated by the state and may be returned to the rightful owner.
- ◆ Because the land is protected the same as state-owned land, the owner has the full assistance of state law enforcement and other authorities in protecting sites and in prosecuting pothunters or other violators.

It is important to note that the owner of any site protected through the owner request mechanism of state law is **not** restricted or prevented in any way from personally developing or using the land, unlike easement protections. The owner is free to carry out activities that may affect the site and they do not need to obtain an archeological permit to do so. This may be considered an advantage to the owner. However, the owner will not realize the potential tax benefits that generally accrue from the donation of a preservation easement.

For further information regarding the owner request procedures, contact the Trust's Office of Archeology at (410) 514-7661.

E. **Acceptance of Loss**

In rare instances, preservation in place or recovery may not constitute viable treatment options for a given undertaking or archeological property. An undertaking which entails life-threatening or serious health/safety issues may be required to meet overriding public needs which supersede the project's preservation values. Also, if testing demonstrates that a significant archeological property does not have further data which may be used to address valuable research questions, then recovery is not an appropriate treatment option or justifiable expense.

Acceptance of loss is a serious decision and must be carefully considered by all the consulting parties. The parties exhaustively consider all possible research and interpretive values the property may possess, thoroughly evaluate all feasible treatment measures, and seek the views of outside experts in reaching a

conclusion. The decision for destruction without recovery must be well justified. If acceptance of loss is the selected option, the parties should consider implementing alternative treatment measures (see section IV.G) to mitigate the destruction of the resource.

F. **Data Recovery**

When in-place preservation is not feasible, the adverse effects to archeological properties generally may be mitigated by recovering the property's valuable information. ***The purpose of data recovery is to retrieve and analyze the maximum amount of information from an archeological property necessary to address important research topics.*** Recovery is accomplished through detailed archeological excavation, recordation, background research, analyses, and reporting, performed in accordance with a well defined and justified data recovery plan.

Data recovery should also contribute to broader historic preservation issues, such as: developing and refining historic preservation plans or predictive models; applying and testing of state-of-the-art methods; addressing professionally established research topics and priorities. As noted above, the various activities that comprise recovery in Maryland are grouped together under the designation Phase III Archeological Investigation/Data Recovery.

Data recovery involves a substantial commitment of time and funds, and should be firmly based on sound background data, planning, and a valid research design. Data recovery must be preceded by appropriate background research, identification and evaluation (usually accomplished during Phase I and II investigations), in order to understand the property's significant characteristics and data expectations. Efficient and cost effective measures should be employed to maximize retrieval of the data necessary to achieve the desired goals, yet minimize costs. The consulting parties determine the extent of recovery efforts on a case by case basis. Data recovery must be conducted in accordance with a comprehensive research design/data recovery plan, reviewed by the Trust, Advisory Council, and other involved parties, as appropriate. Completion of an approved data recovery plan generally fulfills an agency's compliance responsibilities for an undertaking, unless unexpected discoveries occur during construction (see Section IV.H below).

1. Research Design/Data Recovery Plan All data recovery efforts must be guided by an explicit and thorough research design/data recovery plan. Careful development of the Phase III research design is critical for the retrieval of significant information — the main goal of this phase of research. The Trust and Advisory Council (for Section 106 projects) review substantive contents of the plan to ensure that the proposed research questions are viable and answerable based on the site's data expectations, the methodology is appropriate, and the amount and areas proposed for investigation are reasonable for the given archeological property and undertaking. The Trust may also request peer review of data recovery plans through the Maryland Advisory Committee on Archaeology (established by Article 83B, § 5-624, of the Annotated Code of Maryland) or the Council for Maryland Archeology.

General aspects of research designs appear in Chapters II and III. Although the research design establishes a framework for the data recovery efforts, it must also include an element of flexibility to allow modifications to the testing and analytical strategies based on field and research results. More specific comments on research strategies for data recovery efforts follow.

The Objectives of Phase III archeological investigations must include:

- ***basic description of the archeological property under study and the characteristics which make it eligible for the National or Maryland Registers;***
- ***maximum retrieval of important data relevant to the defined research questions from the archeological property;***
- ***testing and addressing explicitly stated pertinent hypotheses and research questions (from the State Plan and other sources) that provide valuable information on the property's local or regional significance, with valid justification of the hypotheses' and questions' importance and relevance;***
- ***determining the property's characteristics and variability, including inter- and intra-site patterning; and***
- ***public education/interpretation of the data recovery results.***

The **Methods and Techniques** section of the plan should justify the research strategies planned to retrieve the maximum amount of data necessary to meet the study objectives. Discussion should address methods to be used in background research, fieldwork, analyses, data management and dissemination of results. Methods and Techniques should include a schedule and a justification of the proposed methodology's relevance to the research questions. Furthermore, the section should describe proposed treatment and disposition of the recovered materials and records, and provide evidence that a qualified repository has agreed to curate the collection. Finally, it should discuss the proposed methods for informing the interested public about the project, making the results of the research available to the public, and involving the interested public in the data recovery, if feasible. If human remains or associated grave goods are expected during recovery, the plan should include provisions for obtaining necessary permits and for consultation with relevant Indian Tribes, descendants, or other interested parties, as required under federal, state and local laws, regarding the treatment and final disposition of materials. For additional information or guidance regarding human remains' issues, contact the Trust's Office of Archeology at (410) 514-7661.

Expected Results should rely heavily upon previous research reports (Phase I and II investigations) and other readily available documents, in order to discuss the quantity, age, condition, and other general characteristics of the archeological materials and features anticipated in the study. The anticipated results must be applicable to the proposed research questions and hypotheses.

In addition to the above elements, the plan should also discuss provisions for regular status reports, meetings, and site visits to keep agency managers, the Trust, and other interested parties informed as work progresses.

Additional technical information for developing archeological data recovery strategies is available in the sources listed in Section IV.C.

2. **Archival and Background Research** For Phase III investigations, the main purpose of archival and background research is to augment information on a previously identified archeological property in order to address the desired research questions/hypotheses. Research should focus on summarizing previous work on the resource, analyzing existing collections from the property, refining the proposed research questions/hypotheses, and clarifying the methodologies necessary to address those research issues. As appropriate, investigators should conduct documentary research, informant interviews, and collection studies to achieve the desired study objectives, utilizing the sources listed in Chapters I and II and other materials.

3. Field Studies In order to achieve the goal of maximum data retrieval, Phase III fieldwork strategies generally employ excavation of a substantial portion or sample of the archeological property. However, total excavation of the property is generally not appropriate or advisable, except in extraordinary circumstances. The precise amount and type of Phase III archeological and ancillary field studies must be determined on a case by case basis, based on the nature of the archeological property under study, the geomorphological characteristics of the project location, the research questions, and the undertaking itself. There are no minimum sample sizes applicable to data recovery. If the undertaking will not totally destroy the archeological resource, field recovery should focus primarily on the site areas slated for impact, and establish a permanent datum and grid to facilitate future research at the site. However, limited sampling outside the impact area may be necessary for accurate site interpretation and analyses. Studies outside the area of potential effects may only be feasible if the property under examination falls within the ownership, jurisdiction, or control of the involved agency for a given undertaking. A well-reasoned sampling strategy will maximize data retrieval and minimize costs.

Fieldwork strategies generally utilize intensive excavation of close interval shovel test pits and test units, as described in Chapters I and II, and accompanying recordation and data retrieval techniques. Test unit excavations often focus on opening large block areas, in order to expose and examine activity areas, architecture, and patterns of site use. Figure 5 illustrates the testing strategy of Phase III excavation blocks at the Higgins site. Although excavation focused within the project area limits, one block excavation was located outside the impact area. In some cases, use of mechanical equipment (Gradall or backhoe) is acceptable and advisable to remove an overburden of deposits (such as fill, plowzone, alluvial soils) above desired test levels. However, heavy equipment should only be employed following adequate manual sampling of the deposits slated for mechanical removal. For example, a Gradall is sometimes used in rural settings to remove the plowzone, but only after the plowzone has been sampled, to expose features existing beneath the plowzone level. In a floodplain setting, it is often appropriate and necessary to remove levels of alluvial soils to reach deposits which contain the cultural materials. In an urban environment, mechanical equipment can be used to expeditiously remove modern strata (such as parking surfaces, fill, demolition debris). Use of mechanical equipment is decided on a case by case basis, taking into account site characteristics, location, and so forth. When mechanical equipment is utilized, it must be closely supervised by a qualified archeologist, in order to ensure that archeological resources are not inadvertently disturbed. Heavy equipment should only be used in dry and stable ground conditions, to prevent destruction of the archeological deposits.

Phase III fieldwork may also contain a formal recordation component for archeological properties which contain substantial structural or architectural remains (such as foundations, earthworks, ruins, industrial complexes). During the negotiation process, the consulting parties agree on who will determine the level and kind of recordation documentation necessary for the project. Generally the parties agree that the agency will contact the Historic American Building Survey/Historic American Engineering Record (HABS/HAER) Division of the National Park Service (for federal projects) or the Trust's Office of Research, Survey and Registration (for state projects) to determine the recordation efforts appropriate for the resource involved. Documentation may include recording significant historical information, architectural plans and features, engineering details, landscape elements, and acquiring significant oral historical information related to the historic property. Furthermore, the documentation results are deposited in a permanent repository such as the Library of Congress or the Maryland State Archives. Figure 6 represents a plan view drawing of the structural remains of the Wilson's Mill in Dorchester County. For further technical information on recordation, refer to the Secretary of the Interior's Standards and Guidelines for Architectural and Engineering Documentation (Dickenson 1983: 44730-44734).

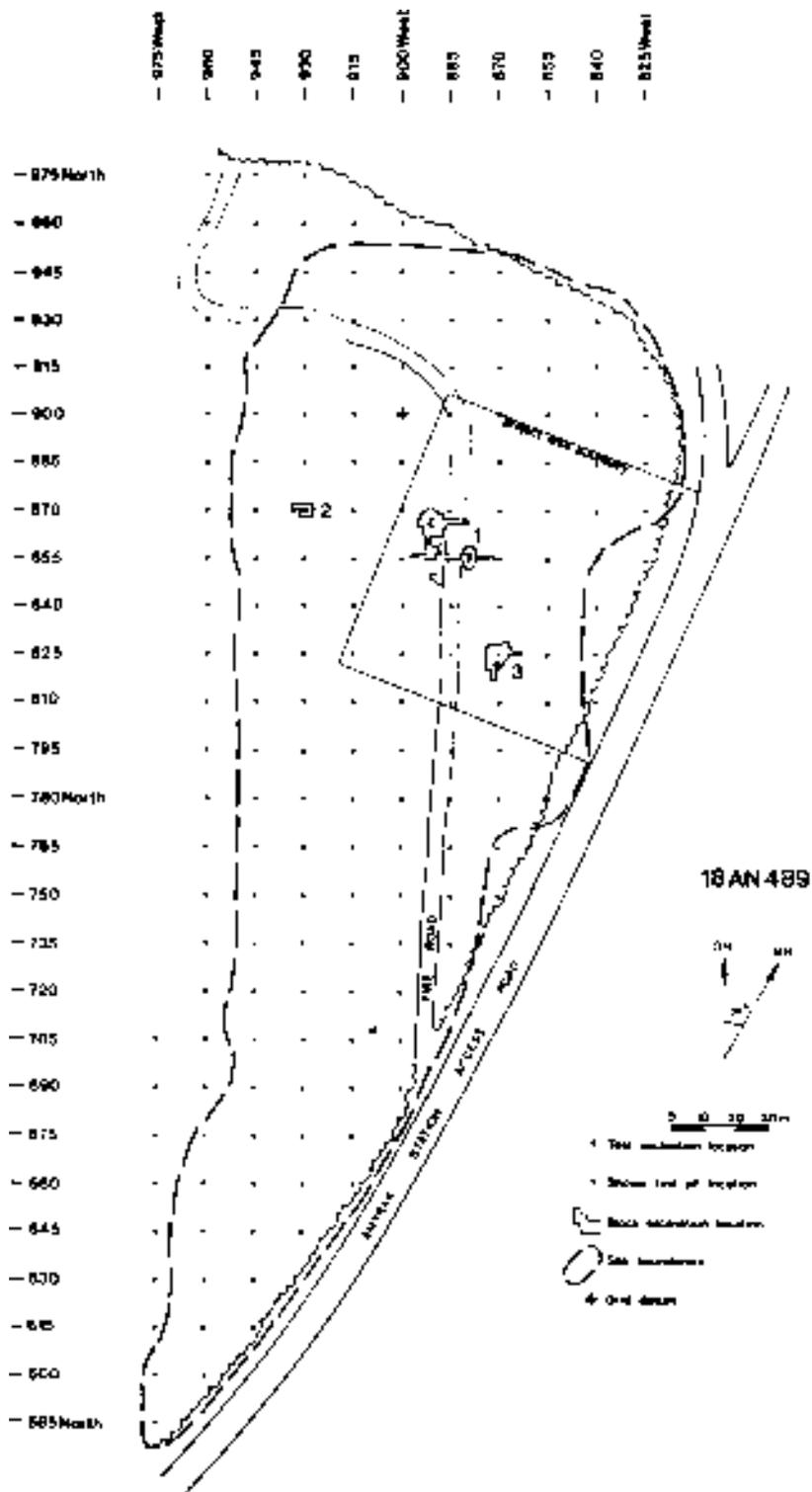


Figure 5. Placement of Phase III block excavations at the Higgins Site. (Used with the permission of the Md. State Highway Administration - Project Planning Division. Produced for or by the Archeology group.)

4. **Analysis** Analysis is an integral component of Phase III investigations and is essential for interpreting the fieldwork results and fulfilling data recovery goals. Phase III analytical studies should be directed towards maximum retrieval of information from excavated materials in order to address defined research questions. This work must entail: 1) the interpretation of site activities, functions, time span, and historic contexts; and 2) the study of the research questions/hypotheses addressing the resource's local, regional, or national significance. Initial analytical activities should involve the identification and classification of all artifacts and features according to explicit procedures and using the best current standards of professional knowledge. More detailed specialized analyses at the Phase III level should include the items discussed in Chapter II.E, as appropriate to the resource under study. Phase III analyses should also integrate the newly acquired data with the results of previous Phase I and II investigations, in order to reliably interpret the site as a whole.

5. **Public Education/Interpretation** Phase III investigations must include measures to inform the general public and interested parties about the results of data recovery efforts. Since Phase III investigations essentially mitigate adverse effects to a significant archeological property and are often undertaken at considerable public expense, the public should receive tangible evidence of the research results. Chapter VIII.E presents a more detailed discussion of public interpretation efforts. The appropriate public education program for a given project should be developed in consultation with the Trust.

6. **Reporting** Following the analysis of archeological resources, researchers must prepare complete draft and final reports on all of the Phase III activities. Chapter VII below contains standards and guidelines for these reports, copies of which must be submitted to the Trust's Office of Preservation Services. Additionally, Chapter VI discusses the requirements for processing and curation of the resulting collections (including artifacts and associated records).

G. **Other Treatment Measures**

Although preservation and recovery are the most common treatment measures employed to mitigate adverse effects on archeological properties, some undertakings may entail alternative forms of mitigation given the nature of the undertaking itself or the resources involved. The Trust encourages and welcomes innovative solutions to historic preservation problems, if they achieve the mitigation goals. Such solutions may be incorporated with more traditional treatment measures or employed alone, and may be used to mitigate "acceptance of loss" situations. Alternative treatment measures should be thoroughly considered and discussed with the Trust and Advisory Council (for federal projects) prior to implementation.

Examples of alternative treatment options include:

- development of an historic preservation plan/cultural resource management plan for a specific property, facility, or geographic region (see section V.B);
- development, testing, and refinement of a predictive model for site locations of a particular time period, type, or geographic region;
- initiating cultural resource sensitivity, educational, or interpretive programs for agency staff or the general public;
- acquiring a perpetual historic preservation easement on a significant archeological property to compensate for acceptance of loss of a similar site type;
- preparing a National Register nomination on an individual historic property, district, or a multiple resource nomination;
- synthesizing existing archeological data pertaining to a particular geographic region, time period, or resource type.

H. Planning for Unexpected Discoveries

Although completion of a data recovery program or other treatment measure performed pursuant to an MOA fulfills an agency's historic preservation responsibilities, it is advisable to develop a plan for addressing unexpected discoveries that may arise during construction. Construction may expose significant features that were not included in the data recovery program or were inaccessible for recovery. The discovery plan may be included as a stipulation of the MOA or a component of a data recovery program. Having an approved plan in place enables the agency to proceed with the undertaking in a discovery situation following the plan actions and avoids the need for additional consultation and potential delays. The Advisory Council's regulations (36 CFR § 800.11) include provisions for considering properties discovered during project implementation.

Discovery plans generally include provisions for promptly considering and recovering, if warranted, significant archeological properties discovered during construction. The plan may incorporate professional archeological monitoring during project ground disturbing activities with associated reporting, recording and recovery of major features or artifacts uncovered where practical. **However, monitoring does not substitute for proper identification, evaluation, and treatment of archeological properties during project planning.** The plan may also include provisions for expedited consultation with the Trust to determine an appropriate course of action for the discovered resource.

In the absence of an approved discovery plan, an agency must provide the Advisory Council (for federal projects) and the Trust (for state projects) with an opportunity to comment when a previously unidentified property that may be eligible for inclusion in the National or Maryland Registers is discovered during project implementation.

Federal and state historic preservation laws do not require the agency to stop all work on the undertaking during discovery situations. However, the agency should make a good faith effort to avoid or minimize harm to the historic property until it has completed consultation or implementation of the discovery plan provisions.

If human remains are discovered during construction, those resources warrant exceptional care and consideration. See Chapter VIII.C for a more detailed discussion regarding the treatment of human remains.

For discovery situations occurring on Trust grant, loan, or easement projects, the project sponsor or property owner should contact the Office of Preservation Services immediately for appropriate guidance on how to proceed. Construction should not continue in the area of the discovery until the Trust agrees to resumption of work.

V. OTHER CULTURAL RESOURCE INVESTIGATIONS

Phases I, II and III archeological investigations are the most frequently undertaken types of archeological study in Maryland. However, other types of cultural resource investigations exist which may be better suited to a particular project or archeological property under consideration. These other types of investigations include: archival studies and archeological assessments; historic preservation plans; studies for Trust grant, loan, or easement projects; and registration activities. Prior to initiating an alternative method of investigation, the study sponsor should consult with the Trust's Office of Preservation Services for guidance on the appropriateness of the proposed investigation and methodology. In general, all other cultural resource investigations should conform to the standards and reporting requirements presented in these guidelines, as appropriate. Furthermore, the Trust encourages individuals conducting academic and independent research on archeological properties to adhere to applicable sections of these standards and guidelines.

A. Archival Studies and Archeological Assessments

For certain projects, such as large scale or urban undertakings, an archival study or archeological assessment may be conducted as a separate investigation, in order to determine the necessity for subsequent archeological work. Assessments of archeological potential are often produced as part of preliminary project planning and may be incorporated within various environmental documents. The archival study and archeological assessment **may** provide a cost effective method for initial identification and evaluation of archeological properties in a project's area of potential effects and for determining additional actions necessary to complete a project's identification and evaluation efforts.

The following list provides examples of large undertakings that may be conducive to the preparation of an archival study or archeological assessment prior to initiation of Phase I identification studies:

- a major transportation project which involves multiple alternates covering extensive acreage;
- a large scale undertaking (such as a development, coal mine, or utility project) whose area of potential effects encompasses a broad expanse of land (several hundred acres or more);
- an undertaking which will entail multiple years of planning and will examine many potential alternates (such as 10 year planning for future dredge disposal sites).

Urban areas (such as Baltimore, Frederick, Annapolis) have witnessed intensive occupation and use throughout historic time periods, which may span nearly 300 years. Archeological research in urban areas has demonstrated that significant archeological resources do survive within an urban context. Often, later historic materials have accumulated above the earlier levels, sealing the older deposits in place. Therefore, archival research is an integral first step toward identifying the types of archeological resources expected in a project area. Figure 7 illustrates the locations of former structures dating from the nineteenth and early twentieth centuries within an urban project setting in Cumberland, Maryland. Background research is also useful for defining the most appropriate, subsequent testing strategies for the project area.

1. Goals *The goals of archival study or archeological assessments are to inventory, locate, and predict the location of prehistoric and historic archeological properties within a given area of potential effects, through the study of relevant archival documents, maps, and other sources.* Goals also include the development of justifiable recommendations on the nature and extent of additional investigations (such as Phase I or II work) warranted to identify and evaluate archeological properties in the project area.

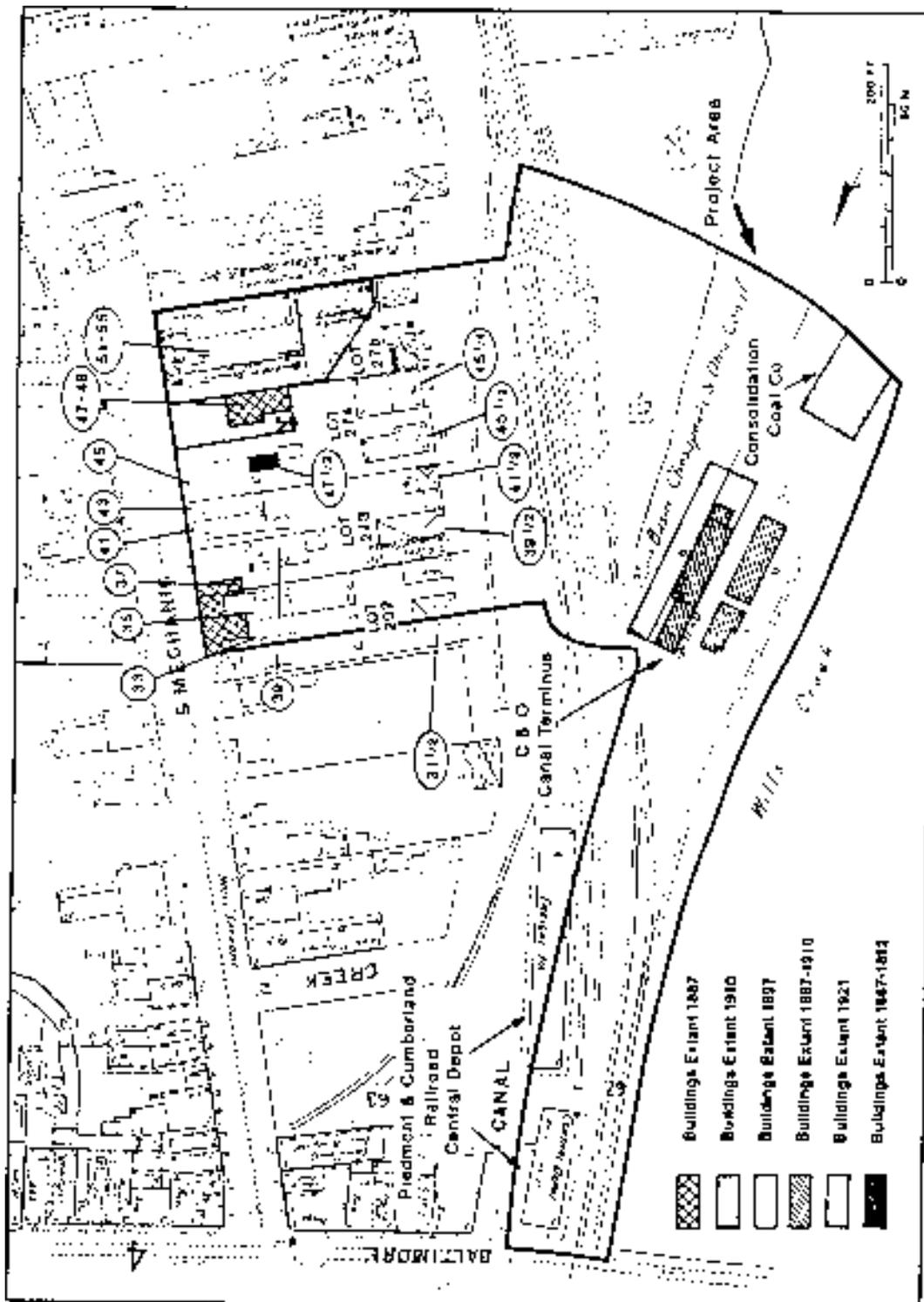


Figure 7. Locations of former urban structures identified through historic map research. (Used with the permission of the Md. State Highway Administration - Project Planning Division. Produced for or by the Archeology group.)

Archival studies or assessments may also include discussion of the project's potential effects on historic properties along with a description of recommended identification, evaluation, and treatment measures.

2. **Objectives** In order to achieve the desired goals, the background studies must address the following objectives:

- identify inventoried sites in the study area;
- describe the area's cultural history for prehistoric and historic time periods, with emphasis on settlement patterns and land use trends;
- describe the area's environmental characteristics and conditions;
- identify possible areas of ethnic and social diversity;
- identify industry, commerce, and growth in the study area and their relationships to regional patterns;
- develop a predictive model for historic sites based on maps, atlases, inventoried historic structures, and other sources;
- develop a predictive model for prehistoric sites based on environmental characteristics (e.g., geomorphology, lithic resource availability, and prior research results);
- describe the study area's land use history, current conditions, and evidence of prior disturbances which may have affected the archeological record; and
- develop defensible recommendations on whether or not additional archeological investigations are warranted along with a description of the nature and extent of any recommended work, based on the above factors.

For urban project settings, the objectives should also include the following items:

- determine the developmental growth of the area;
- identify the range of social and economic activities which have occurred in the study area and identify the social groups associated with each activity;
- identify the types of historic properties that may be associated with each social group and activity;
- identify past construction activities which may have impacted or buried the various types of predicted archeological resources in the study area;
- develop research questions that will assist in assigning significance to particular resource types once they are identified; and
- determine the types of archeological properties anticipated in the project area and their expected eligibility for the National or Maryland Registers.

3. **Methods** The methods employed for archival study or archeological assessments generally involve background research, informant interviews and resulting analyses to fulfill the desired goals. Background research should incorporate the sources discussed in Chapters I and II. Generally, detailed field investigations are not a component of these studies. However, a basic site visit is advisable in order to determine existing conditions in the project area and identify other factors pertinent for the development of appropriate recommendations.

4. **Analysis** The analysis phase of these investigations entails a careful review and evaluation of all the compiled background data, aimed at addressing the study goals and developing appropriate recommendations.

5. **Reporting Requirements** Resulting archival study reports should follow the standards outlined in Chapter VII, as appropriate. Archeological assessments may take a shorter form, depending upon the needs and requirements of the sponsoring agency. Reports should highlight the following information:

- statement of methodology and resources used;
- descriptive historic and prehistoric overviews;
- predictive models for prehistoric and historic site occurrence and for locations of sites eligible for inclusion in the National or Maryland Registers;
- assessment of the area's potential for containing archeological properties, with appropriate justification;
- detailed recommendations on the need and extent of further work; and
- detailed mapping (inventoried sites, areas predicted for site locations, areas slated for additional investigation, etc.).

Archival studies and archeological assessments intended for distribution to the general public should not disclose the precise locations of archeological properties, in order to protect those properties from potential disturbance and vandalism. See Section V.D.3 below for additional information regarding confidentiality of site information.

B. **Historic Preservation Plans**

Agencies with the responsibility of managing large installations or land tracts or with ongoing responsibilities for the administration of historic properties may benefit from the development of historic preservation plans (HPPs), also referred to as cultural resource management plans (CRMPs). These plans provide an overview of the project area's cultural background, describe inventoried historic properties and predicted resources, and present working management recommendations on the appropriate treatment and consideration of the area's historic properties (both known and predicted resources). Generally, HPPs are developed to address all historic property types on the facility (including architectural and archeological resources). Prior identification and evaluation investigations greatly enhance an HPP's usefulness for future planning and compliance decisions. However, facilities which encompass large acreage may find it impractical and cost prohibitive to undertake such investigations prior to plan development. The degree of prior investigation will influence the focus and research strategy for a given plan. In order to develop an effective plan, it is essential that the investigators have a working knowledge and understanding not only of the area's historic properties, but also of the agency's mission, programs, and processes.

As with other cultural resource investigations, the decision to undertake an HPP/CRMP and the proposed level of effort should be developed in consultation with the Trust and Advisory Council, as appropriate. The content and form of an HPP will vary depending upon the nature of the agency, project area, and historic properties involved. Investigators should be clear on the precise objectives of a particular HPP in advance of study initiation, in order to use the most appropriate methods and analysis.

HPPs can form the basis of a formal Programmatic Agreement (PA), to cover an agency's compliance responsibilities under state or federal law. The PA is negotiated between the agency, the Trust, and the Advisory Council (for Section 106 projects). These agreements may help streamline the agency's compliance responsibilities and eliminate the need for extensive project specific reviews.

Valuable **sources of technical information** regarding HPPs and PAs include the Advisory Council's publication Preparing Agreement Documents (1989) and the Secretary of the Interior's Standards and Guidelines for Preservation Planning (Dickenson 1983: 44716-44720).

1. **Goals** *The general goal of an HPP is to establish a process for agencies to integrate the administration and treatment of historic properties under the agency's ownership or control with the agency's programs and mission.* Implementation of the plan will enable the agency to fulfill its historic preservation responsibilities in a manner appropriate to the nature of the affected historic properties, the project area, and the agency itself.

2. **Objectives and Methods** As stated above, the exact objectives and methods for an HPP will vary from project to project. Investigators should seek clear guidance and direction from the agency prior to the start of investigations.

3. **Reporting Requirements** Reporting requirements and format will also vary depending upon the needs and priorities of the sponsoring agency. In general, reporting should incorporate the Trust's report standards in Chapter VII. Furthermore, the plan should be integrated with existing agency database management systems to facilitate the plan's use and effectiveness.

The Advisory Council (1989: 57-59) provides the following suggested outline and contents for an historic preservation plan:

- Foreword - explaining the basis upon which the plan is being prepared;
- Introduction - explaining the organization and use of the plan;
- Overview - describing the area's cultural background, history, prehistory, architecture, architectural history, landscape, ethnology, and surrounding environment; and presenting a context for evaluating treatment strategies for different historic property types;
- Inventory - descriptions of all the area's known cultural properties that are eligible or potentially eligible for inclusion in the National Register;
- Predictions - predicting the nature and distribution of the area's historic properties that have not yet been identified, based on the overview, along with a discussion of ways to verify those predictions;
- Identification System - establishing procedures for the identification and evaluation of historic properties that may be affected by the agency;
- Management System - establishing procedures for the agency's management and treatment of historic properties in the study area, including:
 - procedures for the use of historic properties in a way that does not cause significant damage or deterioration;
 - procedures for positively preserving historic properties;
 - procedures for maintaining historic properties;
 - procedures for avoiding or mitigating adverse effects on historic properties; and
 - procedures for consultation with relevant parties during implementation of the plan.

C. **Maryland Historical Trust Grant, Loan, and Easement Projects**

Recipients of grant and loan assistance from the Trust or owners of properties on which the Trust holds an easement may need to undertake archeological investigations to fulfill Trust funding requirements or easement provisions. Frequently these investigations are linked to the rehabilitation, alteration, or use of

a standing historic property. Recommended investigations may fall into the category of Phase I, II, or III investigation, as needed to meet project goals. However, in some instances, archeological work is conducted to fulfill specific project needs — for instance to determine dates of building construction or alteration, to locate and examine building elements no longer readily visible, or to identify landscape features and patterns of property use.

For all grant, loan, or easement projects, the Trust's Office of Preservation Services will determine the specific type and extent of investigations warranted. Close coordination with the Trust will ensure that the appropriate level of effort is attained for a given project. In all instances, the cultural resource investigations should follow the standards presented herein.

D. **Registration**

Historic properties identified in Maryland are recorded in the Maryland Inventory of Historic Properties maintained by the Trust. The Trust adds new properties on an ongoing basis, as a result of forms submitted by professionals conducting investigations for compliance or broader survey projects, by Trust staff, and by the general public. Significant historic properties worthy of preservation may also be nominated for listing in the National Register of Historic Places and Maryland Register of Historic Properties. Listing provides national and statewide recognition of an historic property's importance. However, listing itself does not restrict a private property owner's rights regarding the use of the land where the site is located. Both federal and state historic preservation laws afford equal consideration to properties that are listed, or eligible for listing, in the National or Maryland Registers.

For further information on the Trust's inventory and registration programs, contact its Office of Research, Survey and Registration at (410) 514-7644.

1. Maryland Inventory of Historic Properties The Trust compiles and maintains the Maryland Inventory of Historic Properties, under the authority of Article 83B, § 5-615, of the Annotated Code of Maryland. The Inventory is a broad-based catalog of information on districts, sites, buildings, structures, and objects of known or potential value to the prehistory, history, terrestrial and underwater archeology, architecture, engineering, and culture of Maryland. It is divided into two sections: standing structures/non-archeological sites, and archeological sites. There are separate inventory forms and official number designations for these two sections. As of 1994, the Inventory includes over 75,000 architectural properties, and 8,000 archeological sites. The Inventory is not an all-inclusive list, but represents a record of all historic properties recorded with the Trust to date. The Trust adds numerous new historic properties to the Inventory each year.

All newly identified archeological properties must be recorded on Maryland Inventory of Historic Properties Archeological Site Survey forms and submitted to the Trust for number assignment and entry into the Inventory. **The Trust does not issue new site numbers prior to submission of a completed inventory form.** Archeological site numbers consist of a trinomen, for example - 18BA25: 18 refers to Maryland, BA refers to the county (Baltimore County), and 25 represents the 25th site recorded in the county. The Trust generally issues new site numbers within 30 days after receiving complete inventory documentation. Subsequent research on a previously identified historic property requires completion and submittal of appropriate supplemental data sheets. To obtain copies of the Trust's current inventory form and data sheets for recording archeological properties, contact the Office of Research, Survey, and Registration at (410) 514-7644.

While there is general consensus about what constitutes an archeological site, occasionally cases arise which must be evaluated on an individual basis, taking into consideration the context of the resource (e.g., low density sites, recent vintage resources, questions about site limits). The Trust's Office of Research, Survey, and Registration will provide guidance in making a decision as to what constitutes a site and which resources warrant a site number.

For an archeological resource which does not qualify for official site designation, the Trust issues a Maryland Random Finds Number, or "X Number," a catalog number for artifacts whose provenience is (1) vague or unknown, or (2) known but consists of isolated finds. A vague or unknown site provenience often characterizes older collections or privately donated artifacts. On the other hand, many artifacts recovered during recent surveys have precise provenience, but they are isolated finds. (Of course, future investigation may eventually warrant site designation of a location where X-numbered specimens have been collected; the X-numbered objects would then be cross-referenced to the site.) **Trust X numbers are not to be confused with site numbers or to be considered quasi-site numbers.**

An X number can be assigned to a single artifact, or to a group of artifacts from one farm, project, etc. In the latter case, lot numbers can be assigned to individual specimens as appropriate. Provenience information for X-numbered lots is to be documented in project reports or catalogs. Collections being prepared for curation by the Trust that include non-site-specific artifacts must use the Maryland Random Finds Number (X Number) system. X numbers can be obtained by calling the Trust's Office of Research, Survey and Registration.

2. National Register of Historic Places and Maryland Register of Historic Properties The Trust also maintains the Maryland listings of the National Register of Historic Places and the Maryland Register of Historic Properties. These Registers include the official federal and state lists of historic properties worthy of preservation. The criteria for evaluation for the National and Maryland Registers are identical, and presented in 36 CFR § 60.4 and COMAR 05.08.05.07. Listing in the Registers requires a formal nomination process through the Trust.

The **National Register of Historic Places** is a list of properties acknowledged by the federal government as worthy of preservation for their significance in American history and culture. National Register properties include districts, buildings, sites, and objects of significance to the local community, state, or the nation. The National Register is maintained by the Secretary of the U. S. Department of the Interior and administered by the National Park Service. In Maryland, the National Register program is administered by the Trust. Certain state and federal regulatory protections, financial assistance, and tax benefits are available for resources listed in or determined eligible for the National Register.

The **Maryland Register of Historic Properties**, established by the Maryland legislature in 1985, is also a list of properties considered worthy of preservation for significance in Maryland history and culture. Also maintained by the Trust, the Maryland Register includes districts, sites, buildings, structures, monuments, and objects. Inclusion in the Maryland Register in most cases requires that the resource be listed in or determined eligible by the Director of the Trust for listing in the National Register of Historic Places. Certain state regulatory protections and grant and loan programs are available for resources listed in or determined eligible for the Maryland Register.

3. Confidentiality Both federal and state law provide for the confidentiality of information regarding the location and character of an historic property, if the federal agency or the Trust determines that disclosure of that information may create a substantial risk of harm, theft, or destruction for the property or area where the property is located (16 U.S.C. 470w-3 and Article 83B, § 5-615 [d], of the Annotated

Code of Maryland, and COMAR 05.08.05.10B).

Project planning documents, reports, and report abstracts intended for public use or distribution should withhold site-specific locational data, and provide only general descriptive information necessary for planning and review purposes. For further guidance on this issue, contact the Trust's Office of Preservation Services. Additional technical information is presented in National Register Bulletin 29, Guidelines for Restricting Information on the Location of National Register Properties.

E. Academic Research

As stated in Chapter I, the Trust does not desire nor intend to direct and oversee the research of academic archeologists and other scholars conducting archeological investigations outside the scope of applicable federal and state historic preservation statutes. However, the Trust strongly encourages academic and independent scholars to follow applicable sections of these standards and guidelines to ensure consistency of recording archeological properties and reporting research results in Maryland. At a minimum, the Trust requests investigators to:

- record archeological properties on standard MHT inventory forms and submit completed forms to the Trust for entry in the Maryland Inventory of Historic Properties;
- provide the Trust with copies of research reports, articles or other publications for the Trust's library; **and**
- submit to the Trust completed National Archeological Database (NADB) - Reports Recording Forms for all reports and publications (see Section VII.D).

The Trust's archeological collection facility and library contain valuable reference sources and materials for individuals conducting research on archeology, history, and related topics in the Middle Atlantic Region (see Chapter VI.C and VIII.F). Researchers are welcome and encouraged to use these facilities.

VI. PROCESSING AND CURATION OF COLLECTIONS (ARTIFACTS AND RECORDS)

Archeological investigations generally result in the retrieval of material remains (artifacts, specimens) and the production of associated records (notes, maps, photographs). Materials and records are an integral component of an archeological investigation. These irreplaceable items, frequently obtained with considerable public and private effort and expense, require professional processing and curation to ensure their stability, long term preservation, and accessibility for future research and public interpretation. Archeological collections should be deposited in a qualified repository which will safeguard and permanently curate the collection in accordance with current professional standards.

In 1990, the Department of the Interior/National Park Service issued federal curation regulations, entitled "Curation of Federally-Owned and Administered Archeological Collections" (36 CFR § 79). The federal regulations establish definitions, standards, guidelines, and procedures which federal agencies are required to follow, in order to preserve archeological collections. The regulations presented in 36 CFR § 79 must be followed for federal compliance projects, as appropriate. Although the regulations are legally applicable only to federal agencies and programs, they offer pertinent guidance that may be applied to the treatment of all archeological collections.

The federal curation regulations provide a useful definition of the term *collection*, which will be followed in this document.

Collection means **material remains** that are excavated or removed during a survey, excavation or other study of a prehistoric or historic resource, **and associated records** that are prepared or assembled in connection with the survey, excavation or other study. [36 CFR § 79.4(a); emphasis added].

In 1988, the Council for Maryland Archeology's Curatorial Committee issued a series of minimum standards for the processing and curation of archeological collections in Maryland. The 1988 standards form the basis for the principles presented in this chapter. However, the Trust has refined and expanded these minimum standards in consultation with the Council.

The standards presented in this chapter must be followed for all collections to be curated by the Trust. The Trust strongly recommends adherence to these requirements for all other archeological collections generated in Maryland, in order to standardize curation practices, ensure professionally acceptable treatment of archeological materials, and facilitate the availability of collections and documentation for future research. The Trust reserves the right to waive all or portions of these standards for extraordinary circumstances (for example, exceptional collections generated by non-professionals or from emergency salvage excavations).

This chapter presents the minimum standards and related discussion on the following items: the goal of the standards, disposition and curation of collections, the Maryland State Archeological Collections, processing material remains and associated records, the Trust's collection submittal requirements, and sources of technical information. To obtain copies of the Trust's catalog sheets, Deed of Gift, Transfer Deed, and other collection documentation forms, contact the Office of Archeology at (410) 514-7661.

A. **Goal**

The goal of the following minimum standards is to ensure that all archeological collections generated by professional or avocational archeologists in Maryland receive appropriate processing, packaging, documentation, and curation. Treatment of collections in accordance with these minimum standards will help provide for the long term preservation of these materials and records.

These standards outline overall procedures for the cleaning, labeling, cataloging, packaging, documentation, and curation of collections (including material remains and records). However, these standards are not intended to substitute for more detailed laboratory methods and procedures, which professionals are expected to have already learned through other sources. It is assumed that archeologists will employ the best applicable current standards of professional knowledge in their treatment of artifacts and records. The procedures presented herein are **minimum** standards. Professionals are encouraged to utilize additional professionally recommended procedures for the treatment and curation of archeological materials and records, whenever appropriate.

The disposition of a project's artifact and records collection should be decided prior to initiation of fieldwork and in consultation with the Trust. **Prior to processing** any collection, the archeologist should contact the selected repository for its procedures on appropriate labeling, cataloging, and packaging techniques.

B. **Disposition and Curation of Collections**

To ensure the long-term preservation of archeological materials and associated records, collections should be deposited with an appropriate curation repository. The federal curation standards provide a definition of the term *repository*:

Repository means a facility such as a museum, archeological center, laboratory or storage facility managed by a university, college, museum, other educational or scientific institution, a Federal, State or local Government agency or Indian tribe that can provide professional, systematic and accountable curatorial services on a long-term basis. [36 CFR § 79.4(j)]

The regulations also present detailed standards to determine whether a repository has the capability to provide adequate long-term curatorial services. Required factors include appropriate physical facilities, temperature and humidity controls, security, controlled access, fire protection and suppression, records maintenance and storage, routine inspection, and qualified staff (36 CFR § 79.9). Collections generated by federal agencies and programs **must** be curated by an appropriate repository.

In addition to considering a repository's professional qualifications, the federal standards offer further guidance on how to select a suitable repository for a collection. In general, it is advisable to curate a collection in a repository which is located in the same state where the collection originated, and which maintains other collections from the same site, project area, or broader geographic region. Collections should not be subdivided and stored in multiple locations, unless such storage is warranted due to conservation, research, exhibit, or other legitimate purposes. Finally, material remains and their associated records should be curated at the same repository in order to sustain the collection's integrity and research value (36 CFR § 79.6[b]).

The following facilities in Maryland currently meet the minimum federal standards for curation repositories:

- ◆ The Maryland State Archeological Collections;
- ◆ Historic St. Mary's City Archeological Laboratory;
- ◆ Baltimore Center for Urban Archaeology (BCUA), Archeological Laboratory;
- ◆ Museum and Archeological Regional Storage Facility (MARS, a National Park Service facility);
and
- ◆ Eastern Applied Archeology Center (EAAC, a National Park Service facility).

The Historic St. Mary's City Archeological Laboratory only curates collections recovered from sites within the St. Mary's City National Historic Landmark, ([301] 862-0973). The BCUA laboratory accepts collections from sites within Baltimore City and Baltimore County ([410] 396-3156). The MARS facility principally curates federally-owned collections ([301] 344-3523). The EAAC primarily curates National Park Service collections on a short term basis ([301] 344-6260). For other collections from Maryland, the Trust encourages their curation at the Maryland State Archeological Collections (see section C below), the principal repository for archeological materials recovered from sites in Maryland. Section G below explains the Trust's procedures and requirements for accepting collections for curation.

Situations may arise where a property owner requests to keep the material remains recovered from the owner's private property. Under these circumstances, the archeologist should strongly encourage the owner to donate the collection to a suitable repository by explaining the ethical reasons for appropriate curation and by providing information on incentives for such a donation (tax benefits, recognition, ensuring accessibility for future generations). A repository may be willing to accept the entire collection and then loan selected items back to the property owner for display or study purposes. If a property owner insists on retaining possession of the artifacts recovered from private property, the items must be returned to the owner.

Prior to transfer of material remains to requesting private property owners, the objects should be cataloged, processed, and packaged in accordance with professional minimum standards. In addition, the objects should be thoroughly recorded, including photographs and drawings of diagnostic artifacts and other objects critical to the interpretation of the archeological resources. The resulting documentation should be incorporated into any associated collection records, all of which should be deposited in a suitable repository along with a clear identification of the location of the transferred material remains in the owner's possession. Finally, the archeologist should provide the owner with written curatorial recommendations on how to store and handle the collection to avoid or minimize damage and deterioration of the items. The owner should also be supplied with information on incentives for the future donation of the collection to an appropriate repository, and sources for additional technical assistance and advice.

C. **The Maryland State Archeological Collections**

Archeological collections curated by the State of Maryland consist of historic and prehistoric artifacts from throughout the state. The Maryland State Archeological Collections, maintained by the Maryland Historical Trust, include specimens from all periods of American prehistory and history, ranging in date from the Paleoindian period of 10,000 to 12,000 years ago through recent centuries. Some 4,000,000 artifacts — representing nearly 1400 archeological sites — comprise the collections. The artifacts were recovered from archeological surveys and excavations by state archeologists, consultants, amateur archeologists, and private donors. The artifacts and the contexts in which they were found constitute a major part of the surviving record of prehistoric Indians in Maryland, and supplement our understanding of the

written record of historic time periods. In addition to the artifacts, the state collections contain the associated records (field notes, photographs, maps, etc.) related to the curated material remains.

The archeological collections are currently stored in the stack area of the old Hall of Records building in Annapolis with climate control, security, and controlled access. A computerized box inventory facilitates retrieval and use of the collections. The repository meets the federal standards for a curation facility set forth in 36 CFR § 79.

Collections relating to Maryland's first permanent European settlement and capital, St. Mary's City, are curated by the Historic St. Mary's City Commission in southern Maryland. Jefferson Patterson Park and Museum also maintains collections recovered on the park and from elsewhere in southern Maryland. For information on the St. Mary's City or Jefferson Patterson Park collections, contact the Commission at (301) 862-0976 or the Park at (410) 586-0050. It is anticipated that all state archeological collections, except those curated at St. Mary's City, will be moved to a proposed new Maryland Archeological Curation Laboratory located at Jefferson Patterson Park and Museum within the next five years.

The Maryland State Archeological Collections are curated and made available for study, exhibit, and other appropriate uses. Agencies or individuals considering donation of their collections to the state, researchers desiring to study the collections, or those requiring further information regarding the collections should contact the Trust's Office of Archeology at (410) 514-7661.

All new collections slated for curation by the Maryland Historical Trust must meet the minimum standards presented herein prior to acceptance. The Trust may refuse to accept any new collections that fail to meet these standards.

D. **Processing Material Remains**

Archeological investigations often produce material remains from the area under study. The federal regulations provide the following definition of *material remains*:

Material remains means artifacts, objects, specimens and other physical evidence that are excavated or removed in connection with efforts to locate, evaluate, document, study, preserve or recover a prehistoric or historic resource. [36 CFR § 79.4(a)(1)]

Material remains may comprise a wide variety of items including: architectural elements, artifacts of human manufacture, natural objects used by humans, waste or debris resulting from the manufacture or use of human-made or natural materials, organic materials, human remains, elements of shipwrecks, components of petroglyphs or art works, environmental or chronometric specimens, and paleontological specimens recovered in direct physical association with a prehistoric or historic resource (36 CFR § 79.4 [a][1][i-x]). The nature and composition of the material remains will prescribe its specific handling and treatment. However, the following general procedures must be followed in the processing of material remains.

1. **Cleaning**

➤ **All artifacts must be cleaned.**

(Exceptions: Artifacts designated for special studies, such as blood residue analysis, can be curated in an unwashed state. These artifacts must be packaged separately from the rest of the collection. Containers with these special artifacts must be clearly marked, and any specific instructions must accompany the artifacts. The artifact inventory must note the artifacts' unwashed condition.)

2. **Labeling**

➤ a. **All artifacts must be permanently labeled with provenience information including, at a minimum, the official state site number (or X number for isolated finds) and official state lot number.**

The artifact label or catalog number is an essential designation which relates the individual object to its provenience of recovery. The horizontal location of an artifact in a site and its vertical position within the soil are critical factors for developing accurate site interpretation. Without an appropriate label, this provenience information may become lost and is very difficult, if not impossible, to reconstruct. If an artifact becomes separated from its bag or is removed for study or exhibit purposes, the label ensures that the object may be returned to its appropriate place.

The Trust's curation facility employs a lot number system for labeling and cataloging. The label consists of the official state inventory number, represented as a trinomen (for example 18BA25) and the official state lot number. For material remains not associated with an inventoried site, a Maryland Random Finds Number, or "X Number", should be used in place of the site number. The Trust's Office of Research Survey and Registration designates official site and X numbers. See Chapter V.D.1 for an explanation of the site and X number system.

Beneath the site or X number, a lot number is designated. Lot numbers may refer to one object or to a group of objects from one provenience unit (such as objects recovered from a level within an excavation unit, or one section of a surface collection). Each artifact or group of artifacts from a different provenience unit must have its own lot number. Lot numbers are assigned sequentially and are keyed to their collection's catalog (see sections D.2.h and F below). **The Trust's Archeological Research Services Manager must be contacted to obtain the next available lot number for any previously recorded site.** This requirement is essential, in order to ensure that lot numbers are not duplicated during subsequent work at the same archeological site.

Archeologists may add additional designations following the official site and lot numbers, if desired, to suit individual cataloging and analyses needs. However, the catalog must include a key translating the full provenience system utilized. The Trust recognizes that under certain circumstances, alternative procedures to the lot number system may be warranted. For example, federal agencies may require consultants to use an agency's own labeling practices. If an alternative system is proposed for collections to be curated by the Trust, **prior written concurrence of the Trust's Archeological Research Services Manager must be obtained before this option can be employed.**

➤ b. **Artifacts must be marked directly on their surface using permanent waterproof ink and a clear overcoat, such as Acryloid B-72.** Porous artifacts can receive a clear undercoat as a marking base. Dark artifacts can be prepared for marking with an undercoat (such as titanium dioxide in Acryloid B-72 or white gesso), or marked directly with contrasting waterproof ink. The Trust discourages the use of

gesso since it is not long lasting and may peel. Archeologists must employ the best current standards of professional knowledge in labeling artifacts with ink, sealant, and white backing - when needed. Contact the Trust's Archeological Services Manager for a list of acceptable marking materials and procedures.

➤ c. **Artifacts too small to be marked, or impractical to mark for other reasons (such as fragility or unwashed condition), must be placed in perforated polyethylene zip-lock bags (minimum thickness = 2 mil) or other acceptable packaging material (see item 3.a below).** Provenience information must be written in permanent black marker on the bag's exterior, and must be duplicated with permanent ink on an archivally stable tag (such as acid-free paper, mylar, or tyvek) enclosed in the bag.

➤ d. **For small collections (i.e., < 200 objects), all artifacts must be labeled, as feasible.**

➤ e. **For large collections (i.e., > 200 objects), certain classes of artifacts (e.g. shell, fire-cracked rock, flakes, window glass, nails, brick, slag, mortar, coal) need not be individually labeled.** These items may be grouped together by material type, within each provenience, and must be marked and bagged as specified in item D.2.c above. However, all diagnostic artifacts (for example, projectile points and ceramics) must be individually labeled, as feasible. **Prior written concurrence of the Trust's Archeological Research Services Manager must be obtained before this option can be employed.**

➤ f. **All non-human bone must be labeled, as feasible.** Non-human bones too small to be individually labeled should be processed following the procedures outlined in item D.2.c above. (See section D.4.c below for a discussion of processing human remains.)

➤ g. **All other classes of archeological material (for example processed floral and soil samples) must be assigned a lot number and appropriately labeled with provenience information.**

➤ h. **All collections must be accompanied by a catalog (see section F) which includes a key clearly translating the labeling system employed to record the provenience information.**

3. Packaging

➤ a. **Artifacts must be stored in perforated, permanently marked, polyethylene zip-lock plastic bags (minimum thickness = 2 mil), as feasible.** Tiny or delicate objects must be stored in archivally stable, acid-free materials with appropriate padding and protection (see item D.3.e below). Perforation of plastic bags or other airtight packaging is necessary to allow air exchange and avoid cargo sweat.

➤ b. **All plastic bags must be permanently labeled on the exterior and on an interior tag with appropriate provenience information.** Provenience information must be written in permanent black marker on the bag's exterior, and must be duplicated with permanent ink on an archivally stable tag (such as acid-free paper, mylar, or tyvek) enclosed in the bag.

➤ c. **Artifacts must be grouped and bagged by provenience, and separated by material type within the provenience.** (Exceptions may be warranted for small lot sizes and for legitimate research, conservation, and exhibit purposes. However, the documentation accompanying the collection must provide an explanation and justification for the organization system employed.)

➤ d. **All other classes of material remains (such as floral and faunal samples) must be placed in acceptable, sealed, perforated containers and permanently labeled with the provenience information (including site and lot numbers).**

➤ e. **Archivally stable, acid-free packing materials must be used for packaging all objects.** Fragile and delicate objects must be specially packaged to ensure proper protection during shipping and storage. The Trust recommends the use of small acid free boxes padded with acid free foam core or ethafoam blocks. For oversize items (such as mill stones, ship's timbers, or architectural elements), contact the Trust's Archeological Research Services Manager for appropriate packaging recommendations.

➤ f. **All artifacts must be placed in acid-free boxes (e.g., "Hollinger") for shipping and final storage.** (Use only the box type specified by the designated curatorial repository.) Artifacts should be packaged by sequential lot number, whenever possible. The Trust prefers, but does not require, the use of inert corrugated plastic (coroplast) boxes. The Trust accepts two standard box sizes:

- ◆ standard records box (12.5" wide x 15" long x 10" high), and
- ◆ a half-size box (12.5" wide x 15" long x 5" high).

➤ g. **Specialized storage containers or packaging materials may be utilized, if warranted.** However, use of alternative materials requires the prior written approval of the Trust's Archeological Research Services Manager.

➤ h. **All artifact containers must be permanently labeled to identify the containers' contents, provenience, and lot numbers.**

4. **Special Considerations**

➤ a. **Wet Material Remains:** Material remains recovered from submerged sites or water logged contexts (such as a marshy area or soil levels beneath the water table) require special handling and treatment to ensure the stability and long term preservation of the objects. Wet conditions often promote excellent preservation of certain materials, particularly organic remains (such as wood, leather, cloth, and botanical remains). However, once these materials are excavated and removed from their wet environment, rapid deterioration will occur unless the items are appropriately and promptly treated. Projects involving or anticipating the recovery of wet material remains must include provisions and funding for the appropriate treatment and conservation of those materials by a trained professional conservator.

The Trust may refuse to accept collections with unconserved material remains. For additional guidance on the treatment of wet material remains, contact the Trust's Chief Conservator at (410) 514-7661.

➤ b. **Conservation:** Like wet material remains, certain other types of materials also require professional handling and treatment to ensure their long term preservation. Such items may include metal objects (buttons, buckles, hardware) or organic materials (bone implements, leather) which will deteriorate without proper stabilization and treatment. The Trust strongly recommends professional conservation of unstable material remains prior to curation of the collection, whenever possible. Items which particularly warrant conservation include those objects recovered from a site that are critical to the site's interpre-

tation, as well as exhibit-quality objects. Projects which anticipate the recovery of unstable material remains (such as well and privy excavations or intensive historic site investigations) must include provisions and funding for the appropriate treatment of those materials by a trained professional conservator.

The Trust may refuse to accept collections with unconserved material remains. For additional guidance on the treatment of unstable material remains, contact the Trust's Chief Conservator at (410) 514-7661.

➤ c. **Human Remains:** In general, the Trust does not encourage the excavation and long term curation of human remains, unless those remains are imminently threatened by natural or human forces, or unless the remains have outstanding research potential. Procedures for the treatment of human remains and associated grave goods may vary depending on the anticipated final disposition of the remains and the wishes of descendants or culturally affiliated groups. Treatment procedures must be established **prior** to initiating any excavation of human remains or undertaking a project which anticipates their recovery. Any treatment decisions must conform with applicable federal and state legislation, regulations, and policies in addition to these standards and guidelines. Chapter VIII.C presents a more detailed discussion of special provisions related to human remains and cemeteries.

Contact the Trust's Office of Archeology for guidance and information on the appropriate handling and treatment of human remains and associated grave goods, at (410) 514-7661.

➤ d. **Selective Discarding of Material Remains:** Certain types of material **may** have questionable long term research value and thus may not warrant permanent curation with the collection. These materials **may** include: brick, mortar, slag, coal, shell, and recent 20th century debris (i.e., less than 50 years old). It may be more prudent to discard these items following analyses, rather than to permanently curate the materials with the collection. A project's principal investigator, in consultation with the Trust, should employ the best professional knowledge and judgement to decide the most appropriate disposition of these materials. Factors to consider in reaching the decision to selectively discard materials include: the archeological context of recovery, the items' research potential, the amount and manageability of the materials. The principal investigator should carefully consider the potential *future* research value of the items. Depending upon the situation, the selective discard may encompass all, none, or a portion of the materials. It may be prudent to retain a sample of the materials slated for discard for future study and analyses. Items slated for selective discard must still be analyzed and cataloged. The collection's catalog must specify the types and quantities of discarded materials, along with a justification for the selected disposition, and note that the items were discarded.

For further guidance or questions regarding the selective discard of material remains, contact the Trust's Archeological Research Services Manager at (410) 514-7661.

➤ e. **Other Types of Material Remains:** Other types of material remains (specimens, flotation and soil samples, etc.) must be appropriately processed before curation. Projects proposing or anticipating the recovery of these types of material remains should include adequate provisions in the budget for appropriate processing and specialized analyses. If sufficient funding is not available for analyses, the materials should be appropriately processed and packaged to ensure their long term preservation for future analyses. Only soil samples retained for back-up analyses should be curated without prior processing. However, soil samples will survive best if they are very dry or frozen for storage.

Contact the Trust's Archeological Research Services Manager for further guidance and assistance regarding the processing, storage and analyses of other types of material remains, at (410) 514-7661.

E. **Processing Associated Records**

Archeological investigations also generate important associated records, in addition to the materials recovered. Federal regulations define these *associated records*.

Associated records means original records (or copies thereof) that are prepared, assembled and document efforts to locate, evaluate, record, study, preserve or recover a prehistoric or historic resource. [36 CFR § 79.4(2)]

These records may encompass a broad variety of materials including: field notes, maps, drawings, photographs, slides, negatives, films, video and audio tapes, oral histories, artifact inventories, computer disks and diskettes, manuscripts, reports, remote sensing data, public records, archival records, and administrative records relating to the archeological investigations. The materials contain essential documentation of the archeological research and warrant appropriate treatment to ensure their long term preservation for future researchers.

The scope of a given archeological investigation will determine what kinds of associated records are produced for the project. The nature and composition of the resulting records will prescribe their specific handling and treatment. However, the following general procedures must be followed in the processing of associated records.

1. **Required Records**

➤ a. **Two archivally stable copies of all original project records must be prepared and submitted for curation with the collection.** The original on acid-free paper and one copy on acid-free paper by a heat fusion process (e.g. Xerox dry process) is acceptable, or two copies on acid-free paper. Records should be submitted unbound, unpunched, double-sided (if feasible), and on 8½" by 11" paper.

➤ b. **All associated photographic documentation (including transparency slides, negatives, and contact sheets) must be submitted for curation with the collection.** Photographic documentation must be prepared on an archivally stable medium using the best known archival processing. The American National Standards Institute (ANSI) periodically publishes standards related to photography. One complete copy of the photographic documentation is acceptable.

➤ c. **An inventory of all associated records and a catalog of photographic materials, along with an explanation of labels must accompany all collections (see section F below).**

2. **Labeling**

➤ a. **All project records must contain permanent labels.** Labels must identify, at a minimum, the project name, site number, and date of preparation. Labels should be written directly on the records or sleeves, as appropriate, and not on adhesive materials that may be subject to separation.

➤ b. **All photographic documentation must be clearly labeled.** Labels must contain, at a minimum, the site number, date the photograph was taken, the provenience within the site of the photograph (feature/square, layer/level), and the direction of view, as appropriate.

3. **Packaging**

➤ a. **All records must be packaged using archivally stable, acid-free materials.** Containers must be permanently labeled.

➤ b. **All photographic documentation must be stored in archivally stable, acid-free containers.** Contact the repository prior to packaging for a list of approved materials. Containers must be permanently labeled.

F. **Cataloging Material Remains and Records**

All collections, including the material remains and associated records must be inventoried. An itemized descriptive catalog(s) must accompany all collections. The catalog must provide a detailed description of the items, identifying and classifying the archeological materials and records according to best current professional standards. The catalog maintains an essential record of the objects represented; therefore, it should present as much information about the items as possible. Should an item ever become lost, stolen, or deteriorate beyond recognition, the catalog may be the only surviving record of that item. Catalogs are a means of obtaining information about a collection or specific items within the collection without handling the actual objects themselves. A detailed catalog will help minimize the need for subsequent handling of the objects. In addition to item-specific descriptions, the catalog should specify the collector or donor's name, project name, official Maryland site and lot numbers, and date of collection. To obtain samples of the Trust's standard specimen and photograph catalog, contact the Office of Archeology at (410) 514-7661.

Catalogs are frequently prepared and maintained in a computer database. The Trust strongly encourages submittal of a copy of the computer database on standard computer storage media, with appropriate labeling and identification of utilized software, with the collection for permanent curation. However, two archivally stable paper copies of the inventory also must always accompany the collection.

G. **Maryland Historical Trust - Collection Submittal Requirements**

To submit a collection to the Trust for permanent curation in the Maryland State Archeological Collection, the following procedures must be followed.

1. **Transfer of Ownership** Prior to acceptance of a collection, the Trust requires a signed Deed of Gift transferring ownership of the materials to the Trust. The consulting archeologist is responsible for informing the project sponsor or property owner about the necessity for executing the Deed of Gift prior to transmitting the collection. The Trust may make exceptions to the signed Deed of Gift requirement, in unusual circumstances. However, prior written consent of the Trust's Chief, Office of Archeology, is required before acceptance of a collection without a Deed of Gift. In the case of federally owned collections, a signed Memorandum of Understanding for Curatorial Services must accompany the collection. For collections owned by State of Maryland agencies other than the Maryland Historical Trust, a signed interagency Letter of Agreement and Transfer Deed is required. The Trust recognizes that federal and state collections agreements may take considerable time to execute; and it will agree to take temporary custody of a government-owned collection, without a signed agreement, only upon written confirmation from the

agency that the agreement is forthcoming.

2. **Collection Documentation** Certain documentation must accompany each collection submitted to the Trust for curation. The Trust's Office of Archeology ([410] 514-7661) may provide the sample forms mentioned below. Comparable forms may be used, **provided** that those forms contain the same information in a similar format. All documentation must be submitted on acid-free paper. The following items constitute the required documentation which must be submitted with each collection.

➤ a. A completed document which transfers ownership of the collection to the Trust or authorizes the Trust to provide curatorial services:

- ◆ **DEED OF GIFT** (for collections from non-state or non-federal ownership)
- ◆ **MEMORANDUM OF UNDERSTANDING FOR CURATORIAL SERVICES** (for federally-owned collections)
- ◆ **LETTER OF AGREEMENT and TRANSFER DEED** (for state-owned collections).

➤ b. **Two copies of a typed and complete MHT ARCHEOLOGICAL SPECIMEN CATALOG**, or an MHT-approved equivalent. These must be submitted on acid-free paper as an original and one copy. Standard catalog forms and instructions are available from the Trust's Archeological Research Services Manager.

➤ c. **A list of all associated records** (see item E.1.c above).

➤ d. **A list of conserved objects, along with the conservator's report of conservation treatment(s) and photographic documentation.**

➤ e. **A list of those objects needing conservation treatment, with a justification of why the material was not conserved by the current project.**

➤ f. **A complete MHT ARTIFACT COLLECTION BOX INVENTORY FORM.** This inventory lists the sites, lot numbers, and general contents of each individually-numbered box, and is necessary to incorporate collections into the MHT computerized collection control system.

➤ g. **A completed COLLECTION AND RECORD TRANSMITTAL FORM.**

3. **Inspection** Acceptance of any collection is subject to inspection and approval by the Trust's Archeological Research Services Manager. Through inspection, the Trust strives to ensure adequacy of artifact and record processing, packaging, and documentation. Collections not meeting the minimum requirements stipulated herein will be returned to the donor at the donor's expense. For this reason, close coordination with the Trust's Archeological Research Services Manager is required. For large collections (more than 10 boxes), pre-shipment inspection by the Trust's Archeological Research Services Manager at the donor's facility is recommended.

4. **Shipping/Transmittal**

➤ a. **Shipment/transmittal of collections is the responsibility of the donor** Collections should be packaged using inert material and sufficiently secured to avoid any in-shipment damage. Collections will not be accepted unless the Trust's Archeological Research Services Manager receives notification at least 48 hours prior to delivery and issues written or verbal approval for the transmittal.

➤ b. **For large collections (more than 10 boxes), actual placement of the collections on assigned shelves in the MHT facility is also the responsibility of the donor:** This **must** be coordinated with the Trust's Archeological Research Services Manager.

H. **Sources of Technical Information**

Additional guidance and technical information on the appropriate processing and curation of collections may be found in the following sources:

- Preserving Field Records (Kenworthy et al. 1985);
- A Conservation Manual for the Field Archeologist (Sease 1987);
- Curation of Federally-Owned and Administered Collections; Final Rule (36 CFR § 79);
- National Park Service Museum Handbook Part I: Museum Collections (NPS 1990B); and
- National Park Service Museum Handbook Part II: Museum Records (NPS 1987).

The American National Standards Institute (ANSI) periodically issues various technical publications, including standards relevant to the processing and storage of associated records (paper and photographic documentation). Public libraries generally maintain the current catalog of ANSI publications. For further information on ANSI, contact the American National Standards Institute, 11 West 42nd Street, New York, New York 10036, (212) 642-4900.

The Trust periodically issues fact sheets which provide guidance and recommendations on acceptable collection processing and packaging materials (inks, markers, boxes, sealants, etc.), as well as lists of suppliers for those materials. To obtain copies of the current fact sheets and for additional information and assistance regarding processing and curation, contact the Trust's Office of Archeology or the Trust's Chief Conservator at (410) 514-7661.

VII. REPORTS AND DOCUMENTATION

The preceding chapters have described standards and guidelines for identification, evaluation, and resource treatment. Written reports are required products for the three types of archeological investigations, and these documents need to contain specific kinds of information to allow agency personnel (at the SHPO, the governmental agency sponsoring an undertaking, and the Advisory Council) to make informed decisions regarding the identification and treatment of significant sites. **The submittal of reports which lack key information may cause project delays.** For this reason, the Trust accepts only complete reports — not management summaries — for review. This chapter indicates the essential components of compliance reports. Individuals conducting research outside of the compliance field also can refer to these discussions to learn of several standard documentary procedures (e.g., submittal of official site inventory forms and National Archeological Database forms [see section VII. D], etc.).

With respect to compliance projects, it is necessary to submit complete draft reports to the Trust's Office of Preservation Services for review. Due to the SHPO's workload, a response with comments may take up to 30 days from the receipt of a document. Authors of reports should address all SHPO comments and should prepare final, revised documents for resubmittal to the Trust.

Contractors should discuss with their employing agencies or other clients which party will submit draft and final reports — with cover letters containing agency contract numbers/names — to the Trust's Office of Preservation Services for review. This action can eliminate confusion and prevent delays. Clear prose and illustrations will also permit reviewers to more readily interpret the methods and results presented in reports. Contractors should refer to the latest American Antiquity style guide for technical questions of style; supplementary guidance on the citation of historical records is available in the latest publication instructions for Historical Archaeology. Valuable resources for other aspects of composition include the most recent edition of the Chicago Manual of Style and Harrison (1945). The Advisory Council's course, "Introduction to Federal Projects and Historic Preservation Law," is recommended for increasing competence in preparing compliance documents; and periodic examination of recent final versions of cultural resource reports in the Trust library will reveal the level of work acceptable to Maryland's reviewers.

In order to augment the quality of the State's compliance archeology, staff of the Office of Preservation Services may send copies of draft data recovery proposals and data recovery reports out for additional peer review. Archeological contractors need to be aware then, that two copies of Phase III proposals (budgetary information not required) and Phase III reports must be submitted to the MHT for comment. For other compliance reports, it is sufficient to send the Trust single copies of draft and final documents. **Beyond the submittals to the Trust's Office of Preservation Services, archeologists must ensure that one extra copy of all final compliance reports is sent both to the Southern Maryland Regional Center Archeologist and the Archeology Group of the Maryland State Highway Administration at the following respective addresses:**

Jefferson Patterson Park and Museum
10515 Mackall Road
St. Leonard, MD 20685;

Archeology Group
Project Planning Division
State Highway Administration
707 North Calvert Street
Baltimore, MD 21203-0717.

Wider dissemination of the results of investigations is an important professional responsibility; and it is recommended that contractors and other researchers submit copies of their final reports to other appropriate regional archeologists (e.g., county archeologists, depositories suggested by the Council for Maryland Archeology).

Addressing agency comments by revision is essential to improving reports (which are available for limited public inspection) and preventing project delays. To increase report quality and to reduce the need for revision, Appendix I contains a current Trust checklist for the review of reports. It includes the most critical items which should be included in these documents; the remaining sections of this chapter describe other important elements of reports in Maryland. The Trust reserves the right to drop from its list, "Sources of Consultant Services in Maryland Archeology," the names of contractors whose reports do not meet the State's Standards and Guidelines.

Reports submitted to the Trust for review should consist of bound, 8½" x 11" typed pages. Figures may be larger in size for clarity, if they can be folded to fit in the bound report as pages or inserts in a pocket. In order to facilitate storage of the reports in the Trust library, the use of bulky three-ring binders should be avoided. Contractors should also prepare final reports which are typed single-spaced and double-sided; this practice will conserve more library space. The final report submitted to the Trust must be prepared on acid-free paper.

A. **Suggested Outline**

1. **Title Page**

- title of report which includes the name, nature, and location (with county) of the project (including descriptions of "Phase I, II, or III," as appropriate) and which is identical to the title on any report cover
- clear designation of report's author(s) with complete mailing address
- clear designation of project's principal investigator(s) with complete mailing address
- names and complete mailing addresses of the lead government agency and of the government agent (e.g., engineering firm, developer, or project sponsor, if appropriate)
- date of current version of report (i.e., latest production date)

2. **Abstract**

- a summary — at most one half page long — of the purpose of the historic preservation work, nature of the given governmental undertaking, location of the undertaking with name and number of the Maryland Archeological Research Unit (from the Council for Maryland Archeology map in Appendix II), findings, and recommendations

3. **Table of Contents**

- entries for all report chapters and headings/sub-headings
- lists of figures (one list for all forms of illustrations [e.g., line drawings, plates]), tables, and appendices
- page numbers for all entries

4. **Introduction**

- brief statement on the purpose of the historic preservation work
- identification of the lead governmental agency (or project sponsor, if appropriate) and description of its proposed undertaking with:
 - a. anticipated direct and indirect project impacts
 - b. agency contract or project numbers/names
 - c. specific law calling for the current historic preservation work
 - d. any governmental agents directly involved with the historic preservation project
- locator maps:
 - a. copy of the Council for Maryland Archeology's map of Maryland Archeological Research Units (Appendix II) with project location
 - b. copy of U.S. Geological Survey 7.5' quadrangle (1"=24,000', generally) showing the area of potential effects (as defined in 36 CFR § 800.2[c] and determined by the governmental agency)
- dates when background research and field investigations were conducted
- acres and hectares examined
- numbers and titles of historic preservation personnel
- description of the organization of the report

5. **Research Design**

- detailed statement of objectives, including applicability of the work to regional research questions
- methods and techniques of archival and background research, field studies, analysis
- expected results
- final disposition of artifacts and field records

Nota bene. If a formal scope of work or proposal was prepared, authors may refer to this document, when it is located in an appendix, to avoid lengthy repetition.

6. **Results of Archival and Background Research**

- past and present natural environments: factors relevant for consideration of historic property potential, integrity, and significance
- cultural setting:
 - a. synopsis of best current professional knowledge of prehistoric and historic contexts with appropriate level of detail
 - b. discussions of prior investigations should include a table of known archeological properties — and of documented historic structures, if pertinent to the study — in the vicinity (e.g., within a 2-mile radius of project site); a figure should illustrate the locations of archeological resources only when they are in or adjacent to the current area of potential effects
 - c. critical examination of the previous archeological research and revision of project expectations in context of predictive modeling

- modification (if needed) of the proposed methods and techniques for field and laboratory investigations, based on the review of natural environmental and prior archeological studies

7. Results of Field and Laboratory Investigations

- field conditions and constraints
- qualitative and quantitative description and analysis of the archeological resources with reference to published comparable studies and employing official Maryland inventory numbers (Archeological site numbers issued by the Trust's Office of Research, Survey, and Registration must be utilized in the text and the figures of both draft and final reports.)
- maps depicting locations of identified resources along with boundaries of area of potential effects, positions of survey transects/test pits or units/surface collection quadrats, artifact distribution/density maps, permanent datum points
- illustrations of representative soil profiles and of all diagnostic artifacts that are important for the interpretation of a site
- interpretations that refer to historic contexts; research questions; and integrity/significance (eligibility for the Maryland and National Registers), when possible and appropriate

8. Summary and Recommendations

- summary of results and evaluation of methods and techniques employed
- assessment of impact of governmental undertaking on identified cultural properties
- need for additional investigations or resource treatment
- discussion of the study's public interpretation measures, if applicable

9. References Cited

- listing of all references according to the latest American Antiquity format

10. Appendices

- relevant project correspondence
- scope of work or proposal, if appropriate
- state antiquities permits (projects on state lands) or federal Archeological Resources Protection Act permits (projects on federal lands)(see Chapter VIII.B)
- full copies of ancillary studies (e.g., faunal or soil analyses)
- artifact inventory
- conservation report
- Maryland Inventory of Historic Properties update forms for archeological sites (reports should only include the update forms, not the longer forms for the initial reporting of sites to the Trust's Office of Research, Survey, and Registration)
- qualifications of principal investigator(s): maximum resume length of 2 pages per individual; needs to clearly demonstrate that the person meets National Park Service requirements published in the Code of Federal Regulations (36 CFR § 61) and in Dickenson (1983:44738-44739) (see Chapter VIII.A)
- National Archeological Database - Reports Recording Form (accompanying the final report as a separate attachment; see section D, in this chapter, and Appendix III)

B. **Standards for Illustrations**

The following elements must characterize all report illustrations (maps, drawings, photographs, etc.), which shall be called “figures” and numbered in a single running series:

- informative title (including location and orientation of the camera for all landscape photographs) with any necessary citations
- scale (or indication that an historic source lacks a scale)
- north arrow
- key
- clarity (e.g., original photographs, halftones, or clear photocopies)
- utility (i.e., illustrations providing useful information which cannot readily be transmitted in written form)

C. **Special Considerations for Phase I and Phase II Reports**

1. **Phase I Reports** This section highlights several of the essential elements of compliance reports for Phase I identification surveys; the more general requirements for reporting on archeological compliance projects are found in the previous outline. Reports should begin with clear statements on the goals and objectives of the project. Since archeologists often work in jurisdictions where identification surveys are called by different names, it is essential that researchers working in Maryland define the level of survey being performed. In other words, it is insufficient to declare only that a “Phase I survey” was conducted; one must describe briefly what purpose the survey fulfilled. In this regard, one also needs to explain: what type of governmental undertaking is proposed; what governmental agency is responsible for considering historic properties for the project; what particular historic preservation law mandates the archeological work; and what form of investigation — for example, intensive survey — is being performed.

In addition to the project’s research design, reports must contain other substantive sections, including one which describes the kinds of archeological resources, from each cultural/temporal period, that are likely to occur in the study area (cultural background). Discussions should incorporate relevant information on current and past environments and land use; and statements on archeological potential need to relate quantified areas of potential effects (in acres and in hectares) to available data on site density. Here, one should prepare a table of the archeological properties previously recorded for the area of potential effects and its vicinity. In order to reduce the threat of vandalism to archeological resources, illustrations should depict only those sites that are either within or immediately adjacent to project boundaries.

A section on research methods and techniques should be explicit and carefully justified. For example, it is insufficient just to describe the kinds of sampling strategies employed, the spacing of survey transects, and the analytical procedures used. One must discuss why these particular research methods and techniques were considered the best for the job, relating them to archeological expectations (e.g., known site, feature, or artifact sizes) and research questions.

Chapters dealing with results and recommendations need to incorporate official Maryland inventory numbers, when archeological properties are found (with copies of state inventory form updates included as an appendix). Maps should clearly depict the locations of identified resources along with boundaries of areas of potential effects and positions of test pits or survey transects. Finally, the recommendations need to discuss site integrity and significance, as possible, and to justify the call for more research or the termination of study in the context of project impacts and potential effects.

2. **Phase II Reports** This section highlights several of the essential elements of compliance reports for Phase II evaluative studies; the more general requirements for reporting on archeological compliance projects are found in the previous outline. As with Phase I reports, documents describing evaluations must begin with a statement of the purpose of the work. It is insufficient to declare only that a "Phase II project" was conducted. One must also explain: what type of governmental undertaking is proposed; what governmental agency is responsible for considering historic properties for the project; and what particular historic preservation law mandates the archeological investigations.

In addition to the project's research design, reports must contain other substantive sections, including one which describes, according to cultural/temporal periods, the kinds of archeological resources that occur in the area of potential effects (cultural background). Discussions should incorporate information on current and past environments and land use which may be important to evaluations of resource significance. The description of research methods and techniques should be explicit and carefully justified (see Chapter III). Project maps must show the locations of excavation units and other field investigations. Other maps need to clearly depict the boundaries of archeological properties, the distribution of artifacts and other cultural materials, site features, and the undertaking's area of potential effects. Drawings of representative soil profiles must show the vertical limits of archeological components. Concluding chapters also are to contain a detailed discussion of resource integrity and significance. There should be a summary of: 1) information provided by the archeological property; 2) future information potential with respect to the estimated quantity of data and the ability to address specific research questions; 3) comparisons of the subject property with other local and regional resources from similar historic contexts. Finally, there must be a definitive statement on resource eligibility for the National Register or Maryland Register with explicit designation of evaluative criteria, as well as a consideration of project effects and the need for further site treatment.

D. **National Archeological Database**

The Trust possesses the Reports section of the National Archeological Database (NADB) for the state of Maryland. NADB is a computerized informational system dealing with archeological investigations across the United States; it concentrates on cultural resource management. The National Park Service, together with consultants, developed NADB in the 1980s with funding from the United States Congress (NPS 1990A). One goal of this project was the improved coordination of federal archeological activities by providing agencies with quicker access to a comprehensive listing of archeological reports and project data. The Reports section of NADB records annotated bibliographical information about reports and other documents that summarize archeological and related studies. As of 29 June 1994, Maryland's Reports database contains entries on 2,286 documents on file at the Trust.

In addition to the federal utilization of Maryland's contribution to NADB, Trust staff archeologists plan to use the Reports database for a variety of tasks. For example, NADB will improve the SHPO's capacity: 1) to manage data on archeological survey coverage according to geographical area; 2) to address specific research problems in different areas of the State; 3) to review compliance projects in a timely manner; and 4) to retrieve bibliographical information in the Trust library. While there currently is no public access to NADB at the Trust because of a lack of computer hardware and the preliminary nature of the system's configuration, the Trust envisions providing limited public use of NADB in the future. Presently, researchers may gain access to NADB-Reports through a telecommunications link; information on this procedure is available through the National Archeological Database Coordinator (Archeological Assistance Division, National Park Service, P.O. Box 37127, Washington, DC 20013-7127).

The success of NADB depends upon the continual updating of the basic system elements, i.e., the

inclusion of bibliographic information from new archeological reports submitted to the SHPO. In order to provide for the future utility of the system, all authors of archeological reports submitted to the Trust for compliance review must simultaneously send a completed copy of the brief **NADB-Reports Recording Form** (Appendix III). Revised compliance reports require new NADB forms only when any of the changes would be reflected in the forms (e.g., new year of publication/production). The Trust encourages all other authors of publications on Maryland archeology to send copies of their written work together with completed NADB forms to its library. A noteworthy change in the instructions for the forms is the need to record the acreage of field projects as a keyword (Category 4; see Appendix III).

VIII. SPECIAL PROVISIONS

This final chapter provides expanded discussions on several topics mentioned earlier and applicable to archeological investigations in Maryland. These topics include: professional qualifications, permits for archeological work, treatment of human remains, considerations for multidisciplinary investigations, curation of artifacts and documentation, public education/interpretation, and the Trust's library facility.

A. Professional Qualifications

All archeological investigations should be conducted by or under the direct supervision of individuals meeting appropriate professional qualifications for archeology. The Secretary of the Interior's "Professional Qualifications Standards" (Dickenson 1983:44738-44739) establishes the following minimum professional qualifications in archeology:

The minimum professional qualifications in archeology are a graduate degree in archeology, anthropology, or closely related field plus:

1. At least one year of full-time professional experience or equivalent specialized training in archeological research, administration or management;
2. At least four months of supervised field and analytic experience in general North American archeology; and
3. Demonstrated ability to carry research to completion.

In addition to these minimum qualifications, a professional in prehistoric archeology should have at least one year of full-time professional experience at a supervisory level in the study of archeological resources of the prehistoric period. A professional in historic archeology should have at least one year of full-time professional experience at a supervisory level in the study of archeological resources of the historic period.

These minimum qualifications must be met for all archeological work conducted to fulfill compliance with Section 106 (36 CFR § 800.4[b]) and the state historic preservation law (Article 83B, § 5.618 [g]). The Trust strongly recommends adherence to these standards for all other archeological investigations in Maryland as well.

Agencies and project sponsors are not prohibited from using non-professionals (such as students, volunteers, avocational archeologists) to assist with aspects of archeological projects. Volunteer assistance may augment the amount of work accomplished for a project, help reduce total project costs, and fulfill public education requirements. Use of volunteer assistance must be weighed against other project needs and priorities to ensure that desired schedules are met and quality data are retrieved. Finally, all volunteers must be supervised by a qualified professional archeologist in order for the investigations to meet professional standards.

B. Permits

Archeological investigations conducted on federal or state-owned property may require a permit, as

outlined below. Project sponsors should obtain any necessary permits **before** initiating archeological investigations on federal or state-owned land.

The purpose of federal and state archeological permit legislation is to deter looting and vandalism of archeological properties as well as to prevent unauthorized and unprofessional site excavation. The recovery of artifacts from their original context (through casual artifact collection, metal detecting, or intentional pot hunting) removes and destroys valuable archeological information which contributes to a full knowledge and understanding of a site. In addition, archeological testing itself is destructive by nature and should only be conducted by qualified professionals and in accordance with appropriate professional standards. The recovery and investigation of archeological resources is generally not desirable or advisable, unless the resources are threatened or unless there is a justifiable reason for investigation. Archeological permit legislation helps ensure the safety, survivability, and appropriate investigation of archeological resources located on lands (or waters) owned or controlled by Maryland or the federal government.

1. **Federal Permits** The Archeological Resources Protection Act of 1979 (16 U.S.C. 470aa -470mm) requires a permit for any excavation or removal of archeological resources located on federally owned property or Indian lands. The Act also includes both civil and criminal penalties for any violations of permit requirements, as well as for unauthorized removal, damage, or vandalism of archeological resources located on public lands.

The land manager for the federal agency which owns or manages the public land to be investigated is responsible for issuing permits. In order to qualify for a permit, the proposed investigations must comply with the following criteria:

- a. The research must be conducted by a qualified professional.
- b. The investigations must advance archeological knowledge in the public interest.
- c. The resources removed will remain the property of the United States. The recovered resources plus any associated records and data must be delivered promptly to a qualified repository for curation.
- d. The research must not be inconsistent with any land management plan, policy, objectives, or requirements applicable to the property under consideration.

Permit procedures may vary depending on the policies of the particular federal agency which owns or controls the property slated for investigation. Some agencies do not require a permit for investigations conducted to fulfill the agency's own responsibilities under Section 106 for a proposed undertaking. Project sponsors should contact the land manager of the appropriate federal agency to determine if a permit is required and initiate the application process, if necessary.

2. **State Permits** Article 83B, §§ 5-620, 5-625, 5-626, and 5-628, of the Annotated Code of Maryland generally require that a permit be obtained from the Trust **prior** to conducting any archeological investigation or other activity that may affect archeological resources on state-owned or controlled land, including submerged lands; or in any cave, including caves located on private as well as state-owned or controlled land. There are three exceptions to this requirement: 1) projects conducted by or for the Maryland State Highway Administration (SHA) do not require a permit; 2) projects conducted by or under contract to the Maryland Historical Trust do not require a permit; and 3) landowners of properties protected under § 5-621 do not need a permit (see Chapter IV.D.4).

These provisions of Maryland law are principally intended to prevent pothunting and looting. However, the Trust requires researchers and consulting archeologists wishing to conduct investigations on state-owned or controlled lands, or in public or privately-owned caves to obtain permits prior to initiating the investigations, except as noted above. Failure to obtain required permits can result in prosecution, the imposition of substantial fines, imprisonment, and the confiscation or forfeiture of all excavated materials and recorded information (Article 83B, § 5-630).

It is the Trust's policy to require the project sponsor or applicable state agency to be the permit applicant, rather than the consulting archeologist hired to perform the work. Permit applications are reviewed by the Trust and by the state agency administering the land for which the permit is requested. Since several individuals and agencies are involved in this process, applicants should anticipate that permit approvals may require several weeks. Generally, the Trust will issue a permit within 30-60 days of receiving complete application materials. Additional time may be needed for processing by the land managing agency.

To qualify for a permit under Maryland law, an applicant must demonstrate that the proposed project will be of public benefit. Examples of the type of public benefit that would fulfill this requirement include: survey and data recovery investigations to comply with state or federal historic preservation laws; investigations leading to publications disseminating significant new archeological data or interpretations; recovery of important artifact collections necessary for research and interpretation that will be of major public benefit; providing college-level education and training in archeology; and salvage and appropriate preservation of archeological information and resources threatened with imminent destruction.

For further information about permits for archeology on state-owned or controlled terrestrial land or in public or privately-owned caves, contact the State Terrestrial Archeologist at (410) 514-7665. For information about permits for archeology on submerged lands, contact the State Underwater Archeologist at (410) 514-7662.

C. Human Remains and Cemeteries

The archeological investigation or treatment of any human remains and burial sites must be undertaken with sensitivity for the wishes of descendants and groups culturally affiliated with the deceased, and must be conducted in full compliance with applicable federal and state law. Any excavation of burials should be preceded by careful consideration, thorough planning, and extensive consultation. If a proposed project area contains or is likely to contain human remains (e.g., based on the proximity of known burials, historical records, oral accounts, or the results of previous investigations), the project sponsor or archeologist should consult with the Trust to determine an appropriate course of action. The consultation process is likely to include the participation of the Maryland Commission on Indian Affairs for prehistoric burial sites, descendants, culturally affiliated groups, and other interested parties as pertinent to the human remains concerned.

The Federal Native American Graves Protection and Repatriation Act (NAGPRA) (25 U.S.C. 3001-3013) establishes protection and procedures for the treatment of Native American human burials located on federally-owned property or Indian lands. NAGPRA gives certain rights regarding the treatment and disposition of human remains, funerary objects, sacred objects, and objects of cultural patrimony to lineal descendants and to federally recognized Indian tribes when these groups demonstrate cultural affiliation. The law encourages the avoidance and preservation of archeological sites which contain Native American

burials on federal lands. NAGPRA requires federal agencies to consult with qualified culturally affiliated Indian Tribes or lineal descendants prior to undertaking any archeological investigations which may encounter human remains or upon the unanticipated discovery of human remains on federal land. The consulting parties decide the appropriate treatment and disposition of human remains and other cultural items recovered. This consultation may be a lengthy process and should occur early in project planning.

Current Maryland burial law, Article 27, §§ 265 and 267, of the Annotated Code of Maryland, requires authorization from the State's Attorney of the appropriate county or Baltimore City for the removal of any human remains, monuments, gravestones, or other markers from a cemetery. The law also stipulates that any remains or materials removed must be relocated in an accessible place in a permanent cemetery. The law provides penalties for unauthorized removal of human remains and the willful destruction/injury to any cemetery structures (such as a tomb, monument, gravestone, building, wall, fence, railing) or vegetation (trees, shrubs, plants). In addition, if a burial is to be disinterred and then reinterred in a different cemetery, a permit must be obtained from the County Health officer or the State Department of Health and Mental Hygiene (Health - General Article, § 4-215).

In general, the Trust does not encourage the excavation of human remains, unless those remains are imminently threatened by natural or human forces, or unless those resources have outstanding research potential. However, cemeteries and burials should be located, recorded, and evaluated as archeological properties when discovered through archeological investigations.

During a Phase I identification survey, archeologists should record cemeteries on a Maryland Inventory of Historic Properties - Archeological Site Survey form. A Phase II site evaluation should examine the significance of the cemetery/burial applying the National/Maryland Register criteria. Phase I and II efforts should utilize non-destructive techniques to determine boundaries, age, cultural affiliation and significance of the cemetery/burial. Such techniques may include extensive background and historical research, informant interviews, thorough visual examination, careful probing, and ground penetrating radar. Excavation of cemeteries and burials is only appropriate for Phase III investigations, and must occur in full compliance with applicable federal and state law and following appropriate consultation with all relevant parties.

Generally, cemeteries and human remains are not considered eligible for the National or Maryland Registers (36 CFR § 60.4; COMAR 05.08.05.07). However, cemeteries/burials may be eligible if they are integral parts of a larger historic district or site; if they derive primary significance from graves of persons of transcendent importance, age, association with historic events, or distinctive design features; or if their principal significance is their ability to yield important information. For further guidance on assessing the significance of cemeteries, see the National Park Service's National Register Bulletin 41, Guidelines for Evaluating and Registering Cemeteries and Burial Places.

If identification and evaluation efforts determine that a cemetery or burial is not eligible for the National or Maryland Registers, the project sponsor/agency should comply with appropriate federal and Maryland law in further treatment of the resource. Furthermore, if human remains are discovered during construction, all work should halt in the vicinity of the discovery until the appropriate authorities (Maryland State Police, State's Attorney of the county, and the Maryland Historical Trust) have been notified and the relevant parties have agreed upon a course of action.

Maryland is considering revisions to its cemetery and burial laws and may be developing revised policies on the treatment of Native American burials. For any project which may entail cemetery or burial investigation, the sponsor should contact the Trust's Office of Archeology at (410) 514-7661 for

guidance.

D. **Multidisciplinary Investigations**

Certain projects may entail multidisciplinary investigations to identify and evaluate a project area's full range of historic property types — including architectural resources, terrestrial and submerged archeological sites. Although different disciplines are involved in the examination of these varying resources, all cultural resource investigations entail similar types of background research, analysis, and reporting. The Trust strongly encourages project sponsors to integrate these multidisciplinary investigations and results. Such integration will result in a more cost effective and meaningful product and avoid unnecessary duplication of research and reporting efforts. Many consulting firms employ staff who are qualified in multiple disciplines.

For further guidance on successful incorporation of diverse cultural resource investigations, contact the Trust's Office of Preservation Services at (410) 514-7628.

E. **Public Education/Interpretation**

The establishment and implementation of federal and state historic preservation laws have clearly demonstrated that protection and consideration of archeological properties are in the public interest. Thus, it is important that investigations conducted to comply with such laws include a public interpretation element to inform a large audience about the study results and provide opportunities for public participation. Public education is a required part of all Phase III archeological investigations. However, it should also be implemented, as appropriate, for other types of investigations.

Public education/interpretation may encompass many varied mechanisms and mediums. The measures appropriate for a given project will depend upon the nature of: the project itself, the archeological property under study, the resource's location, and the priorities and interests of the involved agency, project sponsor and interested public. Public interpretation programs should be developed in consultation with the Trust. Upon request, the Trust may provide guidance on measures best suited to a particular project and resource. Public interpretation may be implemented during fieldwork or upon completion of analysis and reporting. Consulting parties must consider what methods will be most effective and efficient for a given project without impeding project schedule and implementation. Public education should be aimed at increasing public awareness and sensitivity to archeological resource protection and include means to safeguard the archeological property from any potential vandalism which increased public attention could inadvertently cause. Finally, agencies and project sponsors should take advantage of the positive public relations benefits which will be generated by a successful public education program.

The following list includes a sample of various public education/interpretation efforts:

- public open house to view fieldwork results;
- on-site press conference;
- press releases;
- popular publications (brochures, booklets, fact sheets);
- poster;
- volunteer opportunities for field and lab work;
- tours for school groups;

- slide talks to schools and special interest groups;
- video productions; and
- exhibits or displays.

F. **Maryland Historical Trust Library**

The Trust's library is the state's principal repository for information regarding Maryland's architectural, archeological, and cultural resources. The holdings of the library currently include:

- inventory forms for 75,000 historic structures and 8,000 archeological sites;
- National Register nomination forms;
- map collections, including copies of historical maps and atlases;
- photographs, negatives, and slides;
- books, plans, and other publications;
- professional journals; and
- site, survey, and research reports.

The library is open to the public by appointment on Tuesdays, Wednesdays and Thursdays. However, all material relating to Maryland's archeological sites is accessible only to legitimate researchers with prior approval from the Trust's Office of Archeology. All reference materials must be used at the library; materials are not available for loan. Appointments to use the library may be made by calling the librarian at (410) 514-7655.

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ADDITIONAL SOURCES OF TECHNICAL INFORMATION

The following sources, in addition to the materials referenced in the text and listed in References Cited, provide technical information on various issues related to the investigation, evaluation, treatment, and consideration of archeological properties.

◆ Advisory Council on Historic Preservation:

- 1985 Protection of Historic Properties: 36 CFR Part 800.
- 1986 Section 106, Step-by-Step.
- 1988 Identification of Historic Properties: A Decisionmaking Guide for Managers.
- 1989 Public Participation in Section 106 Review: A Guide for Agency Officials.

Advisory Council on Historic Preservation and National Park Service:

- 1989 The Section 110 Guidelines: Annotated Guidelines for Federal Agency Responsibilities under Section 110 of the National Historic Preservation Act.

Advisory Council publications, fact sheets, and information about their training courses are available from: Advisory Council on Historic Preservation, 1100 Pennsylvania Avenue, N.W., #809, Washington, D.C. 20004, (202) 606-8505.

◆ Maryland Historical Trust:

Weissman, Peggy B.

- 1987 How to Use Historic Contexts in Maryland: A Guide for Survey, Registration, Protection and Treatment Projects. Preservation Policy White Paper #9.

Trust publications are available from its Planning and Educational Outreach Office, 100 Community Place, Crownsville, Maryland 21032, (410) 514-7616.

◆ National Clearinghouse for Archaeological Site Stabilization:

The Clearinghouse serves as a central repository for information on site stabilization techniques and effectiveness. It maintains a bibliography of references on stabilization. The Clearinghouse facilitates information exchange and promotes communication among government, professionals, and the private sector to improve technologies applied in the protection and stabilization of archeological sites. To obtain or exchange information, contact the National Clearinghouse for Archaeological Site Stabilization, Center for Archaeological Research, University of Mississippi, University, Mississippi 38677.

◆ National Park Service:

- 1981 36 CFR 60: National Register of Historic Places.
- 1990 36 CFR 79: Curation of Federally-Owned and Administered Archeological Collections: Final Rule.
- 1990 Secretary of the Interior's Standards and Guidelines for Architectural and Engineering Documentation: HABS/HAER Standards.

Materials regarding HABS/HAER are available from: HABS/HAER Division - National Park Service, P.O. Box 37127, Washington, D.C. 20013-7127.

◆ **National Park Service Archeological Assistance Program Technical Briefs:**

- 7 Federal Archeological Contracting: Utilizing the Competitive Procurement Process. (Jameson, Ehrenhard, and Husted 1990)
- 9 Volunteers in Archeology. (Davis 1990)

To obtain copies of the Technical Briefs, contact the Archeological Assistance Division, P.O. Box 37127, Washington, D.C. 20013-7127, (202) 343-4101.

◆ **National Register of Historic Places Bulletin Series:**

- 12 Definition of National Register Boundaries for Archeological Properties.
- 15 How to Apply the National Register Criteria for Evaluation.
- 16A How to Complete the National Register Registration Form.
- 16B How to Complete the National Register Multiple Property Documentation Form.
- 21 How to Establish Boundaries for National Register Properties.
- 23 How to Improve the Quality of Photos for National Register Nominations.
- 24 Guidelines for Local Surveys: A Basis for Preservation Planning.
- 28 Using the UTM Grid System to Record Historic Sites.
- 30 Guidelines for Evaluating and Documenting Rural Historic Landscapes.
- 32 Guidelines for Evaluating and Documenting Properties Associated with Significant Persons.
- 35 National Register Casebook: Examples of Documentation.
- 36 Historical Archeological Sites: Guidelines for Evaluation. (in preparation)
- 39 Researching a Historic Property.
- 41 Guidelines for Evaluating and Registering Cemeteries and Burial Places.

The National Register Bulletin Series may be obtained from the National Register of Historic Places, National Park Service, U.S. Department of the Interior, P.O. Box 37127, Washington, D.C. 20013-7127.

APPENDIX I

**MARYLAND HISTORICAL TRUST REVIEW CHECKLIST
FOR ARCHEOLOGY SITE AND SURVEY REPORTS**

**ARCHEOLOGY SITE & SURVEY REPORTS
REVIEW CHECKLIST**

TITLE: _____

AUTHOR: _____ **DATE:** _____

REVIEWER: _____ **DATE:** _____

Report Components	Y/N	Comments
<p>I. Research Design that describes:</p> <p>A) objectives B) survey area C) methodology D) expected results</p>		
<p>II. Site Evaluations</p> <p>A) utilize NR criteria B) reference appropriate historic context C) sufficient information to document decision</p>		
<p>III. General Content:</p> <p>A) level of effort appropriate B) summarizes results C) interprets resulting data D) assesses project effects E) provides appropriate recommendations</p>		

ARCHEOLOGY SITE & SURVEY REPORTS
 REVIEW CHECKLIST
 PAGE 2

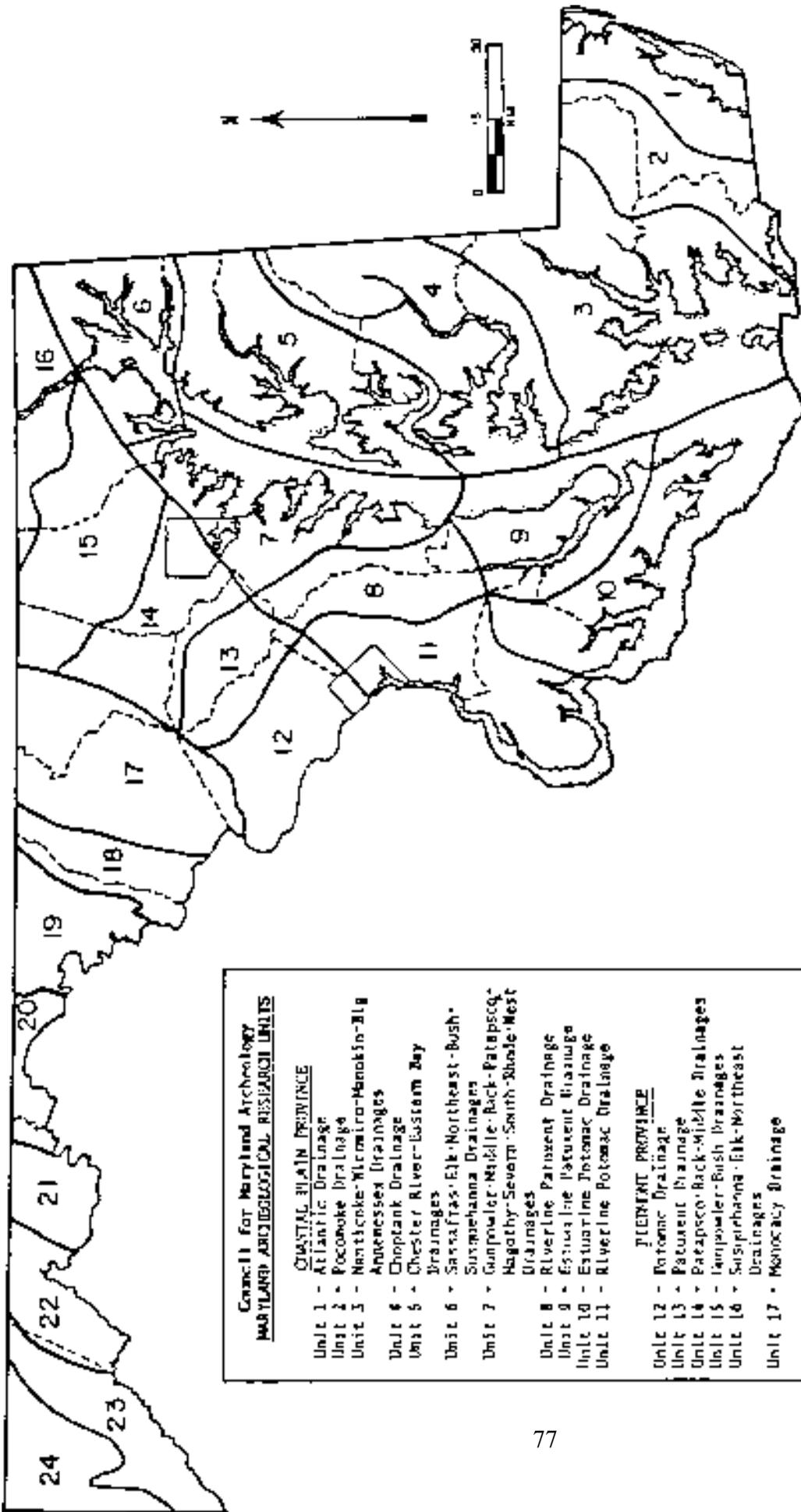
Report Components	Y/N	Comments
IV. State Plan: A) incorporates appropriate historic contexts/themes		
V. Misc. Items Included: A) standard site forms and numbers B) map of project area on USGS 7.5' topo. quad C) states disposition of records and artifacts D) principal investigator meets 36CFR61 qualifications (resume provided) E) NADB form F) artifact inventory		
VI. Report Meets: A) MD Guidelines B) Secretary of Interior's Standards		
VII. Concur with Recommendations:		

ADDITIONAL COMMENTS:

APPENDIX II

MARYLAND ARCHEOLOGICAL RESEARCH UNITS: MAP

PREPARED BY THE COUNCIL FOR MARYLAND ARCHEOLOGY



Council for Maryland Archeology
MARYLAND ARCHEOLOGICAL RESEARCH UNITS

COASTAL PLAIN PROVINCE	
Unit 1 - Atlantic Drainage	
Unit 2 - Pocomoke Drainage	
Unit 3 - Nantuxke-Wicomico-Hancock-Big Annessex Drainages	
Unit 4 - Choptank Drainage	
Unit 5 - Chester River-Custum Bay Drainages	
Unit 6 - Sassafras-Elk-Northeast-Bush-Susquehanna Drainages	
Unit 7 - Gunpowder-Middle-Back-Patapsco-Nagathy-Severn-South-Rhode-West Drainages	
Unit 8 - Riverline Patuxent Drainage	
Unit 9 - Estuarine Patuxent Drainage	
Unit 10 - Estuarine Potomac Drainage	
Unit 11 - Riverline Potomac Drainage	
PIERMENT PROVINCE	
Unit 12 - Potomac Drainage	
Unit 13 - Patuxent Drainage	
Unit 14 - Patapsco-Back-Middle Drainages	
Unit 15 - Gunpowder-Bush Drainages	
Unit 16 - Susquehanna-Elk-Northeast Drainages	
Unit 17 - Monocacy Drainage	
APPALACHIAN PROVINCE	
Unit 18 - Carrollin Creek Drainage	
Unit 19 - Antietam Creek-Conococheague Creek Drainages	
Unit 20 - Licking Creek-Tomotoway Creek-Freemile Creek Drainages	
Unit 21 - Town Creek Drainage	
Unit 22 - Swifts Creek Georges Creek Drainages	
Unit 23 - Potomac-Savage Drainages	
Unit 24 - Yorkhoughen-Casselton Drainages	

Maryland Archeological Research Units.

APPENDIX III
NATIONAL ARCHEOLOGICAL DATABASE
(NADB) REPORTS RECORDING FORMS

Instructions for Completing
NADB - Reports Recording Forms ¹

1.-4. The Maryland Historical Trust will complete these items.

5. AUTHORS

This item contains the complete author reference in American Antiquity style (Appendix A).

If the report is edited, add editor in parentheses after the name of the author or authors: (editor) or (editors).

If there are two authors, the second author's name is entered as FN M. LN (where FN = First Name; M. = Middle Initial; LN = Last Name)

Garner, Louise N. and William D. Strong
or
Williams, Terrance C., Jr. and Elizabeth Coates

If there are more than two authors, all authors' names but the first author are entered as FN M. LN, separated from one another by commas and a space. The last author's name is preceded by ", and "; no period is placed at the end of the last author's LN unless the author's name ends in a Jr. or Sr. For example:

Smith, Anne L., Robin K. Sawyer, and Frank W. Keyes III

6. YEAR

This item records the year the report was published. If no date is available for a document, enter "0".

7. TITLE

Record the complete title without abbreviations, unless the original title contains abbreviations. Do not end with a period. Use American Antiquity style (Appendix A).

If an unpublished document comprises more than one volume, each volume should be considered a separate document with the volume number included after the title.

If there is no title for a report, use keywords from the introduction of the report to reference the subject matter.

If the document is an unpublished or letter report, and no title exists, enter "**Letter Report: subject**", where subject contains information about the project area and resources.

For example:
Letter Report: Survey, Spring Valley, Southeast Iowa

¹ Adapted from the National Park Service (National Archeological Database. NADB - Reports. Version 2.01 [1989] and Version 2.02 [1992]).

8. PUBLICATION TYPE

Circle the appropriate kind of document.

1 **Monograph or Book**

The document is a monograph or book.

2 **Chapter in a Book or Report Series**

The document is a chapter in a book or report series. In this case, a NADB-REPORTS record should first be entered for the book or report series itself. Then, separate NADB-REPORTS records for individual chapters within the book/series should be entered with references to the larger book/series.

3 **Journal Article**

The document is published as an article in a journal.

4 **Report Series (annual, multivolume sets)**

The document is printed in a report series.

5 **Dissertation or Thesis**

The document is a Ph.D. dissertation or a Masters Thesis (also used for a Honor's Thesis or Paper).

6 **Paper Presented at a Meeting**

The document is printed in the proceedings of a meeting or was presented at a meeting or conference.

7 **Unpublished or Limited Distribution Report**

The document is an unpublished report; an unpublished or published limited distribution report; or a letter report. This choice represents the majority of contract archeology reports.

8 **Other**

The document is of a type other than those identified above. The document may be an article in a titled volume of an edited series, or an article in a newspaper or magazine.

9. INFORMATION ABOUT PUBLISHER/PUBLICATION

Complete this item using American Antiquity style (Appendix A). For example, the contracted report by Quilty and Versaggi in Appendix A.17 would have the following entry here:

Department of Anthropology, State University of New York at Binghamton, Public Archeology Facility Report. Submitted to V.O. Shumaker/Calocerinos, and Spina, Vestal, New York

10. STATE/COUNTY

Begin by entering the two character U.S. Postal Service code for the state(s) to which the report refers. (For example, "Maryland" has the code "MD".) Next, for each state referenced by the report, list the county or counties discussed in the document. Additionally, record the name of a town when the report describes resources within corporate limits; otherwise, do not record town names.

If the report discusses a county that no longer exists, enter “uncoded county” in the county data field and list this county name in Keyword Category No. 4 (see item 12 below). When a report treats all counties within a state, enter “all counties” in the county data field. If a report pertains to all of the United States, enter “US” for the state code.

11. WORKTYPE

Circle all appropriate study types. Definitions of some common worktypes follow and are from NPS 28: Cultural Resources Management Guideline, Technical Supplement 1985:

CULTURAL RESOURCE MANAGEMENT PLAN

The document is used as a planning document to identify priorities and appropriate responses for the preservation of cultural resources when developmental or operational issues are raised.

ARCHEOLOGICAL OVERVIEW AND ASSESSMENT

The report summarizes and evaluates existing archeological data derived from previous work.

ARCHEOLOGICAL IDENTIFICATION STUDY [Phase I]

The report describes fieldwork to locate and describe the extent and nature of archeological resources in a specified area. The procedures for identifying the resources may involve sampling designs and methods to detect buried or submerged resources.

ARCHEOLOGICAL EVALUATION STUDY [Phase II]

The report or publication provides sufficient data from field and laboratory investigations that could be or have been used to determine the likelihood that identified resources or properties are eligible for the National Register of Historic Places.

ARCHEOLOGICAL DATA RECOVERY [Phase III]

The publication documents the data recovery procedures, including fieldwork and laboratory analysis, and so forth, undertaken when significant properties cannot be avoided and developmental activities will adversely disturb them; or for any archeological excavation project.

If you select 999 (“OTHER”), be sure to enter the description of the type of study in **Keyword Category No. 1** (see item 12 below).

12. KEYWORDS AND KEYWORD CATEGORIES

Keywords are descriptive terms that describe important aspects of the research discussed in a report. For the purposes of NADB, keywords should not be identical to entries already in other sections of the NADB - Reports Recording Form. Enter keywords for each of the applicable keyword categories:

Category 0: Types of Resources and Features

These keywords refer to general descriptions about the types of resources and features described and discussed in the report. The keywords should include explanatory or functional descriptors, for example, sherd-and-lithic scatters; quarry sites; village sites; stratified sites; architectural sites; kill sites; submerged sites, and so forth.

“No resources” should be entered where no resources were identified in the area covered by a specific project assessment.

This category is meant as a general summary of the information contained in the site report and should not be used to enter site specific data, unless only one resource is discussed in the report. General tabulations of types of resources would be appropriate; individual site names or numbers should not be entered.

Category 1: Generic Terms/Research Questions/Specialized Studies

These keywords describe analytical research emphases, for example, historical archeology, lithic or ceramic analysis, chronology, settlement-subsistence studies, trade, osteology, predictive models, or any other identifier that might prove useful to archeologists or cultural resource managers.

If you selected “Other Non-Archeological Studies” in Worktypes, be sure to identify the type of study in this keyword category.

Category 2: Archeological Taxonomic Names

This category includes the formal taxonomic names as defined in the archeological literature and as presented in the report. Examples: South Platte phase, Big Game Hunting Tradition, Fort Ancient Aspect, etc. This category also includes cultural affiliation (e.g., Basketmaker III) and time periods (e.g., Middle Archaic period) (see Category 5, Time Period for comparison).

Category 3: Defined Artifact Types/Material Classes

The inclusion of defined artifact types should be restricted to those pertaining to the major research emphasis of a report, for example, Clovis points, Marcey Creek pottery.

If no artifact types are defined, include the material classes of artifacts. Avoid nonspecific descriptors in favor of functional or classificatory attributes. For example, Hopi ceramics, shell-tempered ceramics, or cord-marked ceramics are more informative than ceramics. Other examples include mammal bones, pollen, metal artifacts, marine shell, and so forth.

Category 4: Geographic Names or Locations

These keywords refer to archeological culture areas or physiographic regions, for example, Coastal Plain, Piedmont, Southeast, Animas-La Plata drainage basin, and so forth. Whenever appropriate, also record the number (integer) of acres studied in a document.

Former county designations and/or historic names should also be entered.

DO NOT ENTER UTM COORDINATES IN THIS OR ANY OTHER KEYWORD CATEGORY.

Category 5: Time Periods

Enter any dates as they appear in the publication. The only exceptions to actual dates are the following four terms: prehistoric, protohistoric, historic, or no dates.

Category 6: Project Name/Study Unit

This category is used for the names given to the projects and/or study units. Consistent use of the same project name will allow you to retrieve a list of reports pertaining to that project.

Use this category to enter additional contract numbers of sponsoring agencies that do not appear elsewhere.

Category 7: Other Keywords

Keywords that do not seem to fit any of the above categories can be entered in this category.

Additional suggestions for keywords may be found in The History and Prehistory in the National Park System and the National Historic Landmarks Program, 1987, History Division, National Park Service, Washington, D.C. 20013-7127 (U.S. Government Printing Office 1987-186-490/60733).

13. FEDERAL AGENCY CODE

Enter the lead Federal Agency which required or sponsored the preparation of the report. The name of the agency should be abbreviated, as indicated in APPENDIX B. If additional Federal agencies are involved, record the agency names into Keyword Category No. 6 (see item 12). Where documents and reports have no federal involvement, use the following codes: ACA = Academic; STA = State; PRI = Private; NA = Not Applicable; and UNK = Unknown.

14. CONTINUATION/COMMENTS

This item records any information for which space was unavailable in the previous data fields. Also, note any essential comments about the report not treated elsewhere on the NADB - Reports Recording Form.

FORM COMPLETED BY

Finally, recording the name and location of the person who completes the form will permit the quick resolution of any questions.

An example of a completed NADB - Reports Recording Form is included as Appendix C; Appendix C also contains a blank NADB form which can be photocopied for submittal with archeological reports.

APPENDIX A. AMERICAN ANTIQUITY FORMAT

The following has been reproduced by permission from the Society for American Archaeology: excerpt from the Style Guide in *American Antiquity*, Vol. 48, pp 438-441, 1983.

[438]

1. Book, single author.

Brown, Rachel

1978 *The Weaving, Spinning and Dyeing Book*. Knopf, New York.

Gardin, Jean-Claude

1979 *Une archeologie theorique*. Hachette, Paris.

Note: Use appropriate format for foreign language titles, in respect to capitalization, accents, etc. For titles published in nonroman alphabets (e.g., Chinese, Cyrillic, etc.), give title in romanized transcription when possible, with English translation of the title following immediately in brackets.

2. Book, multiple authors.

Hampton, David R., Charles E. Summer, and Ross A. Webber

1978 *Organizational Behavior and the Practice of Management*. 3rd ed. Scott, Foresman, Glenview, Illinois.

Note: Place only the first author's name in reverse order. This example also illustrates how to treat a later edition. For ordinal number of edition, use 1st, 2d, 3d, 4th, 5th, etc. and set off numbered edition information with periods. Also, note whether edition is revised as in 1st rev. ed., 2d rev. ed., etc.

3. Edited book (editor as "author").

Graburn, Nelson (editor)

1971 *Readings in Kinship and Social Structure*. Harper & Row, New York.

4. Translated book.

Semenov, S. A.

1964 *Prehistoric Technology*. Translated by M. W. Thompson. Barnes and Noble, New York.

5. Reissued or reprinted book.

Willoughby, Charles C.

1973 *Antiquities of the New England Indians*. Reprinted. AMS Press, New York. Originally published 1935, Peabody Museum of Archaeology and Ethnology, Cambridge, Mass.

6. Book, no author.

Michigan Basin Geological Society
1973 *Geology and the Environment: Man, Earth, and Nature in Northwestern Lower Michigan*. Annual Field Conference, Michigan Basin Geological Society.
U.S. Government Printing Office
1967 *Style Manual*. U.S. Government Printing Office, Washington, D.C.

[439]

7. Multivolume sets.

Biggar, H. P. (editor)
1929 *The Works of Samuel de Champlain*, vol. III. The Champlain Society, Toronto.
Thwaites, Reuben G. (editor)
1896-1901 *The Jesuit Relations and Allied Documents*. 73 vols. Burrows Brothers, Cleveland.
Beals, Ralph L., and Joseph A. Hester, Jr.
1974 *Indian Land Use and Occupancy in California*. 3 vols. Garland, New York.

Note: The name of the set is italicized, and the volume number follows, set off by a comma, to specify reference to a single volume. The reference must be unequivocal about whether a particular volume or the entire set is referenced, and which volume in each case. ...

8. Titled volume in a series.

Madsen, David B., and James F. O'Connell (editors)
1982 *Man and Environment in the Great Basin*. SAA Papers No. 2. Society for American Archaeology, Washington, D.C.
Plog, F. (editor)
1978 *An Analytical Approach to Cultural Resource Management: The Little Colorado Planning Unit*. Anthropological Research Paper No. 13. Arizona State University, Tempe.
Montet-White, Anta
1968 *The Lithic Industries of the Illinois Valley in the Early and Middle Woodland Period*. Anthropological Papers No. 35. Museum of Anthropology, University of Michigan, Ann Arbor.

Note: The volume title is italicized, the series title is given in full, and the publisher and place of publication is given unless that information is in the series title.

9. Article in journal.

Wilke, Philip J.
1978 Cairn Burials of the California Desert. *American Antiquity* 43:444-448.

Note: Issue number is not used when the journal is paginated continuously throughout the volume (see next example). Note also that *American Antiquity* employs all digits in page references under all circumstances.

Shepard, Eugene

1965 Tecopa Burial Customs. *Pacific Coast Archaeological Society Quarterly* 1(4):26-27.

Note: If each issue of a journal begins with page 1, the issue number must be included, in parentheses, following the volume number.

10. Article, group author.

The Royal Society Conference of Editors

1968 Metrication in Scientific Journals. *American Scientist* 56:159-164.

11. Article in magazine, no author.

The Puritans

1978 *Time*. October 9:64-65.

Note: For an authored article in a magazine, follow the format for article in a journal, but use with issue number with month and page numbers as specified here.

[440]

12. Article in edited book.

Fritz, John M.

1978 Paleopsychology Today: Ideational Systems and Human Adaptation in Prehistory. In *Social Archeology: Beyond Subsistence and Dating*, edited by Charles L. Redman, Mary Jane Berman, Edward V. Curtin, William T. Langhorne, Jr., Nina M. Versaggi, and Jeffery C. Wanser, pp. 37-59. Academic Press, New York.

Note: Multiple editors are listed in full: "et al." is not used here.

13. Article in edited volume in a series.

Tuck, James A.

1978 Regional Cultural Development, 3000 to 300 B.C. In *Northeast*, edited by Bruce G. Trigger, pp. 28-43. Handbook of North American Indians, vol. 15, William G. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

Browman, David L.

1981 Isotopic Discrimination and Correction Factors in Radiocarbon Dating. In *Advances in Archaeological Method and Theory*, vol. 4, edited by Michael B. Schiffer, pp. 241-295. Academic Press, New York.

Note: When the volumes are individually titled, the volume title is italicized; otherwise, the series title is italicized. The name of the editor of a volume follows the volume title or series title and volume number, and is followed by the inclusive page numbers. The series editor's name may be given following the series name and volume number.

14. Article in proceedings, transactions, or annual reports series.

Gruhn, R., and A. L. Bryan

1977 Los Tapiales: A Paleoindian Site in the Guatemalan Highlands. *Proceedings of the American Philosophical Society* 121(3):235-273. Philadelphia.

15. Paper presented at a meeting.

Carter, George

1973 A Hypothesis Suggesting a Single Origin of Agriculture. Paper presented at the IXth International Congress of Anthropological and Ethnological Sciences. Chicago.

Note: Use Roman or Arabic numerals for the number of the conference, congress, etc., as is used in the name and be sure to include location.

16. A book review.

Clark, Geoffrey A.

1978 Review of *Spatial Analysis in Archaeology*, by Ian Hodder and Clive Oton [sic]. *American Antiquity* 43:132-135.

17. Contracted and proprietary reports.

Note: Use the following format only for reports that are not published as parts of any series (e.g., Arkansas Archeological Survey, Research Series, etc.). When a series is identified, follow the format for Series, given above (numbers 8, 13). Cite by editor(s) or author(s) as appropriate, date of completion or submission, and title. Follow that with the name of the institution or office through which the report was prepared, and then the agency or institution that paid for the report. Occasionally these will be the same; if so, indicate that clearly. Contract number should be given when available, and NTIS number when appropriate. Indicate where copies may be obtained, if known. Authors should make special efforts to obtain all the listed information for their citations, even when some is not given in the publication. However, when the information is not available, supply what is given on the title page, at least:

[441]

Cordell, Linda

1979 *Cultural Resources Overview: Middle Rio Grande Valley*. University of New Mexico. Submitted to USDA Forest Service, USDA Bureau of Land Management. Copies available from Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Elston, Rober, Johnathon O. Davis, and Gail Townsend

1976 *An Intensive Archeological Investigation of the Hawkins Land Exchange Site*. Nevada Archeological Survey. Submitted to USDA Forest Service, Contract No. 39-5320. Copies available from Nevada Archeological Survey.

Green, Dee F., and Polly Davis (compilers)

1981 *Cultural Resources Law Enforcement: An Emerging Science*. 2d ed. USDA Forest Service, Albuquerque, New Mexico.

Quilty, Kenneth, and Nina M. Versaggi (editors)

1979 *Binghamton 201 Facilities Plan, Cultural Resources Reconnaissance Survey*.
Department of Anthropology, State University of New York at Binghamton, Public
Archaeology Facility Report. Submitted to V. O. Shumaker/Calocerinos, and Spina,
Vestal, New York.

18. Dissertation or thesis.

Dunnell, Robert C.

1967 *The Prehistory of Fishtrap, Kentucky: Archaeological Interpretation in Marginal
Areas*. Unpublished Ph.D. dissertation, Department of Anthropology, Yale University,
New Haven.

Hevly, Richard H.

1964 *Pollen Analysis of Quaternary Archaeological and Lacustrine Sediments from the
Colorado Plateau*. Ph.D. dissertation. University of Arizona. University Microfilms, Ann
Arbor.

Note: For a master's thesis, use the designation "Master's thesis" in place of "Ph.D. dissertation." Be sure
to indicate where the thesis or dissertation can be located.

19. Manuscript for book or journal in press.

Daniels, Steve, and Nicholas David

1981 *The Archaeology Workbook*. University of Pennsylvania Press, Philadelphia, in press.

Whalen, Michael E.

1983 Reconstructing Early Formative Village Organization in Oaxaca, Mexico. *American
Antiquity*, in press.

Note: Use this form only if the manuscript *has been accepted* for publication. For book, cite the publisher
as well as the place of publication. When the date of publication cannot be determined, use date of
manuscript submission. Material submitted but not yet accepted for publication should be referenced in
manuscript form (below).

20. Unpublished manuscript.

Adams, R. E. W.

1968 *Maya Highland Prehistory: New Data and Implications*. Ms. on file, Department
of Anthropology, University of Minnesota, Minneapolis.

Note: Cite the year in which the manuscript was written. Give complete information about where a copy
may be obtained, including university department name, university and city branch if more than one, and
city and state names if they cannot be determined from university name. Do not use n.d. for "no date
available," unless that is in fact the case. When manuscript is in possession of the author this should be
stated as "Ms. in possession of author."

APPENDIX B. AGENCY CODES

Code	Agency Name
ACA	ACADEMIC INSTITUTION
AF	AIR FORCE
ARMY	DEPARTMENT OF THE ARMY
BIA	BUREAU OF INDIAN AFFAIRS
BLM	BUREAU OF LAND MANAGEMENT
BRCL	BUREAU OF RECLAMATION
CEQ	COUNCIL ON ENVIRONMENTAL QUALITY
CG	COAST GUARD
COE	ARMY CORPS OF ENGINEERS
COMM	DEPARTMENT OF COMMERCE
CPD	COMMUNITY PLANNING AND DEVELOPMENT DEPARTMENT
DOD	DEPARTMENT OF DEFENSE
DOE	DEPARTMENT OF ENERGY
DOL	DEPARTMENT OF LABOR
DOT	DEPARTMENT OF TRANSPORTATION
ED	DEPARTMENT OF EDUCATION
EDA	ECONOMIC DEVELOPMENT ADMINISTRATION
EPA	ENVIRONMENTAL PROTECTION AGENCY
FAA	FEDERAL AVIATION ADMINISTRATION
FCC	FEDERAL COMMUNICATIONS COMMISSION
FED	FEDERAL COMPLIANCE - STATE & LOCAL
FERC	FEDERAL ENERGY REGULATORY COMMISSION
FHA	FEDERAL HIGHWAY ADMINISTRATION
FMHA	FARMERS HOME ADMINISTRATION
FS	FOREST SERVICE
FWS	FISH AND WILDLIFE SERVICE
GS	GEOLOGICAL SURVEY
GSA	GENERAL SERVICES ADMINISTRATION
HHS	HEALTH AND HUMAN SERVICES DEPARTMENT
HUD	HOUSING AND URBAN DEVELOPMENT DEPARTMENT
IBWC	INTERNATIONAL BOUNDARY AND WATER COMMISSION
ICC	INTERSTATE COMMERCE COMMISSION
JUST	DEPARTMENT OF JUSTICE
MC	MARINE CORPS
MINE	BUREAU OF MINES
NA	NOT AVAILABLE
NASA	NATIONAL AERONAUTICS & SPACE ADMINISTRATION
NAVY	DEPARTMENT OF THE NAVY
NCPC	NATIONAL CAPITOL PLANNING COMMISSION
NPS	NATIONAL PARK SERVICE
NRC	NUCLEAR REGULATORY COMMISSION
NSF	NATIONAL SCIENCE FOUNDATION
OSM	OFFICE OF SURFACE MINING

PRI PRIVATE
RDS RURAL DEVELOPMENT SERVICE
SBA SMALL BUSINESS ADMINISTRATION
SCS SOIL CONSERVATION SERVICE
SI SMITHSONIAN INSTITUTION
STA STATE, COUNTY, AND LOCAL GOVERNMENT
STAT STATE DEPARTMENT
TVA TENNESSEE VALLEY AUTHORITY
UMTA URBAN MASS TRANSPORTATION ADMINISTRATION
UN UNITED NATIONS
UNK UNKNOWN
USDA U.S. DEPARTMENT OF AGRICULTURE
USDI U.S. DEPARTMENT OF THE INTERIOR
USDT U.S. DEPARTMENT OF THE TREASURY
USPS U.S. POSTAL SERVICE
VA VETERANS ADMINISTRATION
WPA WORKS PROGRESS ADMINISTRATION

APPENDIX C.

NADB - REPORTS RECORDING FORMS: EXAMPLE OF A COMPLETED FORM; BLANK FORM

NADB - REPORTS RECORDING FORM

Complete items 5 through 14. Refer to the "Instructions for Completing NADB - Reports Recording Forms." The Maryland Historical Trust will record information for items 1 through 4.

1. DOCUMENT NO. _____

2. SOURCE _____ AND SHPO - ID _____

3. FILED AT _____

4. UTM COORDINATES

Zone _____	Easting _____	Northing _____
Zone _____	Easting _____	Northing _____
Zone _____	Easting _____	Northing _____
Zone _____	Easting _____	Northing _____
Zone _____	Easting _____	Northing _____
Zone _____	Easting _____	Northing _____

Continuation, see 14.

5. AUTHORS _____

6. YEAR __ __ __ __

Year published.

7. TITLE _____

8. PUBLICATION TYPE (circle one)

- 1 Monograph or Book
- 2 Chapter in a Book or Report Series
- 3 Journal Article
- 4 Report Series
- 5 Dissertation or Thesis
- 6 Paper presented at a Meeting
- 7 Unpublished or Limited Distribution Report
- 8 Other

9. INFORMATION ABOUT PUBLISHER/PUBLICATION

Follow the American Antiquity style guide published in 1983, Vol. 48, pp. 438-441, for the type of publication circled.

10. STATE/COUNTY (Referenced by report. Enter as many states, counties, or towns, as necessary. Enter all, if appropriate. Only enter Town if the resources considered are within the town boundaries.)

STATE 1	___	COUNTY	_____	TOWN	_____
			_____		_____
			_____		_____
			_____		_____
STATE 2	___	COUNTY	_____	TOWN	_____
			_____		_____
			_____		_____
STATE 3	___	COUNTY	_____	TOWN	_____
			_____		_____

Continuation, see 14.

11. WORKTYPE (circle all code numbers that are appropriate)

- 0 General Management Plan/Environmental Document
- 1 Cultural Resources Management Plan
- 2 Cultural Resources Research Plan
- 3 Statement for Management
- 4 Outline of Planning Requirements
- 5 Cultural Resources Preservation Guide
- 6 Development Concept Plan
- 7 New Area Study/Reconnaissance Study
- 8 Boundary Study
- 9 Interpretive Prospectus
- 10 Special Planning/Management Study
- 11 Historical Study
- 12 Primary Document - Original
- 13 Primary Document - Translation
- 14 Advertisement
- 15 Popular Culture/History Document
- 16 Journal/Periodical
- 20 Historical Resource Study

21	Historical Base Map
22	Historical Handbook Text
23	Park Administrative History
24	Special History Study
30	Archeological General Considerations
31	Archeological Overview and Assessment
32	Archeological Identification Study (Phase I)
33	Archeological Evaluation Study (Phase II)
34	Archeological Data Recovery (Phase III)
35	Archeological Collections and Non-Field Studies
36	Socio-Cultural Anthropology Study
37	Social Impact Statement
38	Ethnohistory Study
39	Special Archeology/Anthropology Study
40	Field Reconnaissance, Sampling
41	Field Reconnaissance, Intensive
42	Paleo-environmental Research
43	Archeometrics
44	Archeoastronomical Study
46	Remote Sensing
47	Archeozoological Study
48	Archeobotanical Study
49	Bioarcheological Study
50	Historic Buildings Report-Beginning February 1956
51	Historic Buildings Report-After February 1957-Part I
52	Historic Buildings Report-Part II
54	Historic Buildings Report-After March 1960-Part III
56	HSR-Administrative Data-After December 1971
57	HSR-Historical Data
58	HSR-Archeological Data
59	HSR-Architectural Data
61	Historic Structures Preservation Guide-After December 1971
62	Historic Structures Report-After October 1980
63	Cultural Landscape Report (Historic Grounds Report)
64	Ruins Stabilization and Maintenance Report
65	Special Historic Architecture Study
70	Scope of Collection Statement
71	Historic Furnishings Report-After October 1980
72	Collection Condition Survey
73	Collection Storage Plan
82	Collection Management Plan (Collection Preservation Guide)
83	Special Curatorial Study
84	Archeological Field Work, Indeterminant
85	Archeological Survey, Indeterminant
86	Field Reconnaissance, Minimal
87	Underwater Survey
88	Resource/Site Based Work, Indeterminant
89	Minimal/Informal Site Visitation

- 90 Oral History
- 91 Subsurface Activity, Indeterminant
- 92 Testing/Limited Excavation
- 93 Major Excavation
- 94 Underwater Resource/Site Based Work
- 95 Artifact/Collection Based Study/Report
- 96 Literature Synthesis/Review/Research Design
- 97 Intensive Determination of Surface Characteristics
- 98 Environmental Research
- 99 Geomorphological Study
- 100 Geological Study
- 101 Paleontological Study
- 102 Population Reconstruction
- 103 Rock Art Study
- 104 Architectural Photography
- 105 Architectural Site Plan
- 106 Architectural Floor Plan
- 107 HABS Drawing
- 108 Physical Anthropology Study
- 109 Boat Survey
- 999 Other (Furnish a Keyword in Keyword Category 1 to identify the nature of this study.)

12. KEYWORDS and KEYWORD CATEGORIES

- 0 Types of Resources (or "no resources")
- 1 Generic Terms/Research Questions/Specialized Studies
- 2 Archeological Taxonomic Names
- 3 Defined Artifact Types/Material Classes
- 4 Geographic Names or Locations
- 5 Time
- 6 Project Name/Project Area
- 7 Other keywords

Enter as many keywords (with the appropriate keyword category number) as you think will help a person (1) who is trying to understand what the report contains or (2) who is searching the database for specific information. Whenever appropriate, record the number of acres studied in a document.

_____	[]	_____	[]	_____	[]
_____	[]	_____	[]	_____	[]
_____	[]	_____	[]	_____	[]
_____	[]	_____	[]	_____	[]
_____	[]	_____	[]	_____	[]
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_____	[]	_____	[]	_____	[]

Continuation, see 14.



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