

Manassas Battlefields Viewshed Plan

THE PLAN

Prepared for

Prince William County

Prepared by

The Walker Collaborative

With

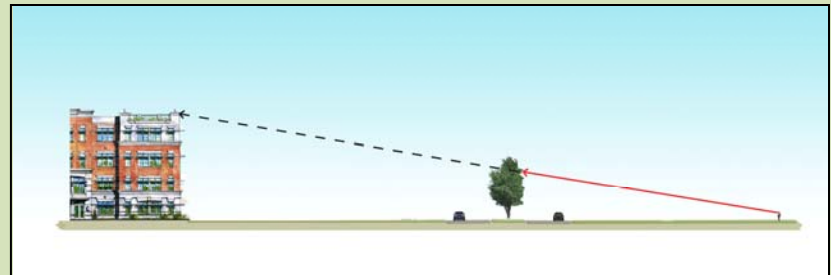
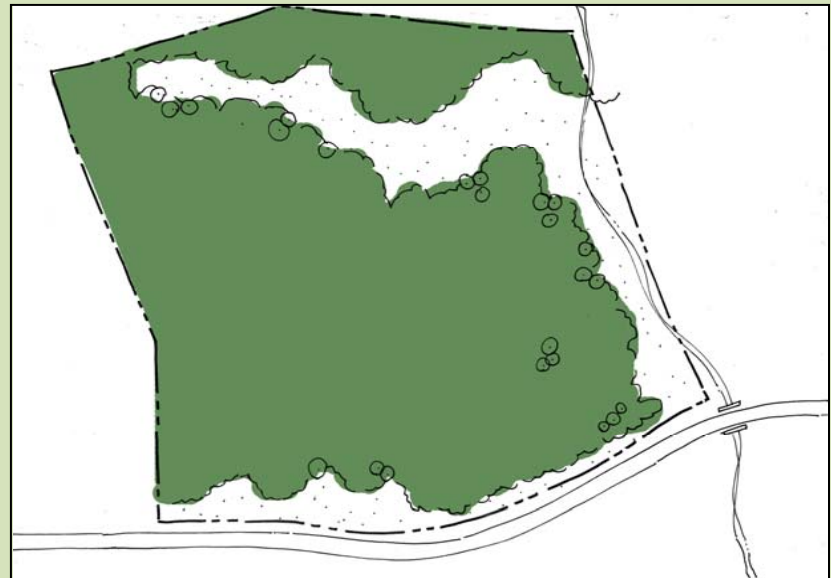
History Associates, Inc.

Land Planning & Design Associates

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I. Project Overview

Purpose

The First and Second Battles of Manassas, also known as “Bull Run,” were some of the most significant military engagements of the American Civil War. The first battle, fought on July 21st, 1861, involved nearly 70,000 men and resulted in a decisive Confederate victory. It was the first “major” battle in scale and it sobered up both sides to the realization that the war would last years rather than merely months, and at a high cost of lives. The second battle, fought on August 28-30, 1862, was extremely significant because it added to an important string of southern victories that kept lands between Richmond and Washington, DC, a contested region. It also gave Lee’s Army of Northern Virginia the confidence to launch its first campaign into northern soil, concluding with the army’s defeat at Antietam. Both battles resulted in significant casualty levels, particularly the second battle, and both resulted in the replacement of the Union commanders.

The Manassas National Battlefield Park, which is Prince William County’s single most important historic resource, encompasses 5,072 acres. However, the actual battlefield, as designated by the National Register of Historic Places, includes 6,400 acres of hallowed ground. Much of the privately-owned unprotected battlefield grounds, where both the First Manassas and Second Manassas battles were fought, are endangered by development that will forever

erase their historic value. Not only are unprotected lands threatened, but many of the viewsheds from within the protected lands are threatened by peripheral development. These viewsheds are critical to telling visitors the story of the two battles and for them to gain a full understanding and appreciation for the history. Similarly, protected viewsheds contribute substantially toward a positive visitor experience which, in turn, can be an important factor in future return trips. Not only is heritage tourism valuable for the sake of preserving and interpreting history, but numerous studies during the past decade have documented the tremendous fiscal and economic benefits to areas that attract heritage tourists. Battlefield tourism is clearly a key component of Prince William County’s regional economy. See the following page for more on the benefits of viewsheds protection.

Because of threats to viewsheds such as those surrounding the Manassas National Battlefield Park, Congress passed legislation in 1988 directing the Secretary of the Interior to cooperate with state and county governments to promote and achieve visual protection for both the First and Second battles for Manassas. Consequently, it is the purpose of this plan to: identify the key viewsheds associated with these battlefields, both within and external to the national park; measure and analyze their significance; determine the extent of their threats; and craft a strategy to protect these important viewsheds for future generations. It is the goal of this plan to preserve the viewsheds of this significant area while fostering economically sustainable development. **This plan is not part of the NPS’s**

landscape rehabilitation project, which began prior to this plan's preparation.

Benefits Related to Viewsheds Protection

The potential benefits of viewsheds protection can be split into two distinct categories: heritage tourism benefits and preservation benefits. Each topic is addressed below.

Benefits of Heritage Tourism

The National Trust for Historic Preservation has characterized heritage tourism as "traveling to historic and cultural attractions to learn about the past in an enjoyable way." Real places are important to understanding history and culture. They provide an understanding of the diverse lifestyles, culture, architecture, and industries that shaped our country's development. Through understanding the past, we enrich and evaluate the present, and plan for the future. It is usually more enlightening and pleasing to see these places as opposed to reading about them in history books. Heritage tourism is valuable for:

1. The historic preservation it generates,
2. The pride it instills in our communities, and
3. The economic opportunity and diversity it brings.

The relationship between preservation and tourism is a cycle. Preservation helps maintain a sense of place and gives a community

its distinct character. In today's world of "big box" stores and fast food restaurants, as can be witnessed on Interstate 66, communities struggle to retain their identity. Landmarks, commercial areas, neighborhoods, and farms that represent our history are lost to the "progress" of sprawling development. But communities can put their assets to work to attract visitors, new businesses and residents and to instill community pride. Heritage tourism creates a diversified resource and preserves the places that make a community "home." Interpretation tells the stories that are a community's heritage for the enjoyment and inspiration of residents and visitors.

Tourism is the largest industry in most states, and many communities have pursued heritage tourism to strengthen and diversify their economic bases. In focusing on tourism, they often take a fresh look at the value of their historic sites and the historic character of their communities. They see the potential for these to attract visitors who spend money on food, lodging, and attractions and support local businesses. According to the National Park Service, over the past few years, visitors to the Manassas National Battlefield Park have ranged from roughly 600,000 to 750,000 annually. The Prince William County / Manassas Convention and Visitors Bureau cites the following statistics for their most current data (Virginia Tourism Corporation - 2005):

- Traveler Spending: \$419+ million
- Travel Industry Employees: 6,000+
- Travel Industry Payroll: \$112 million

A 2004 study of four battlefields by the Civil War Preservation Trust determined that the average age of Civil War battlefield visitors is 50 years old and the average annual household income is \$67,914 (*Blue, Gray, and Green: Why Saving Civil War Battlefields Makes Economic Sense*). This study found that these visitors have visited an average of seven battlefields, and 75% of them traveled to the area specifically to see the battlefield. Furthermore, the average Civil War battlefield visitor spends \$51.58 per day. While in the area near the battlefield, 72% of them stayed in paid accommodations and, on average, spent 2 to 3 nights in the community.

Benefits of Battlefield & Viewshed Preservation

"The Dollar\$ and Sense of Battlefield Preservation: The Economic Benefits of Protecting Civil War Battlefields," the primer on this subject, documents the fiscal, cultural, and environmental benefits of preserving battlefields (Frances H. Kennedy & Douglas R. Porter, National Trust for Historic Preservation, *Information Series* - 1998). Whether preserved and open to the public or preserved by private owners dedicated to good stewardship, battlefields can contribute to the economic vitality, sustainability, and quality of life of a community in several key ways:

1. As income generators;
2. As open space; and
3. As fiscal assets.

As income generators, communities benefit from development of the site itself and required tourism infrastructure; new jobs and businesses created; visitor expenditures, including attractions, shopping, dining, gas, and lodging; the multiplier effect of secondary expenditures; and tax revenues. Open space benefits include preservation of farmland and the agricultural industry; opportunities for picnicking, walking, hiking, bicycling and other passive recreational activities at battlefield parks and along roads and trails in scenic areas; and the preservation of scenic areas and woods, meadows, wetlands and environmentally sensitive areas. As fiscal assets, battlefields may generate revenue and require relatively few services in return. In most communities, the cost/revenue comparison between new housing and open space illustrates that residential development is fiscally more expensive because the costs of services exceed the tax revenues generated. On the other hand, open space is typically a fiscal winner. Nevertheless, local governments often underestimate the costs of development and should carefully evaluate the costs.

These economic benefits translate into fiscal benefits for state and local governments. According to the U.S. Travel Data Center, every dollar of business sales to visitors generates an average of 7.3 cents in state and local tax revenue (Kennedy and Porter, pg. 4). Unlike residential and even some commercial lands, open space typically generates more tax revenues than it demands in public expenditures. In Culpeper County, Virginia, farm, forest and open space lands generate \$1.9 million in annual public revenues, while

requiring only \$350,000 in public expenditures (Kennedy and Porter, pg. 5).

Study Area

The study area for this plan extends geographically far beyond the national park boundaries and even beyond the ABPP study area boundaries. It is a product of the specific viewsheds identified for documentation and planning. Based upon the ten (10) “Key Public Vantage Points” and the fifteen (15) “Historically Based Viewsheds,” both of which are defined and identified later in this plan, the map on the following page illustrates this project’s general study area. Specifically, it delineates the “core” combat areas and the broader “study area” of the NPS American Battlefield Protection Program (see page 7-9 of the Background Study for more detailed maps and definitions for these areas).

Project Funding & Management

Funding

This planning project was funded by a grant from the Department of the Interior, National Park Service, American Battlefield Protection Program (Grant No. GA-2255-06-007) to Prince William County. The County’s budget for the consultant services to perform the planning work was \$60,000, which included \$54,300 for professional fees and \$5,700 in expenses.

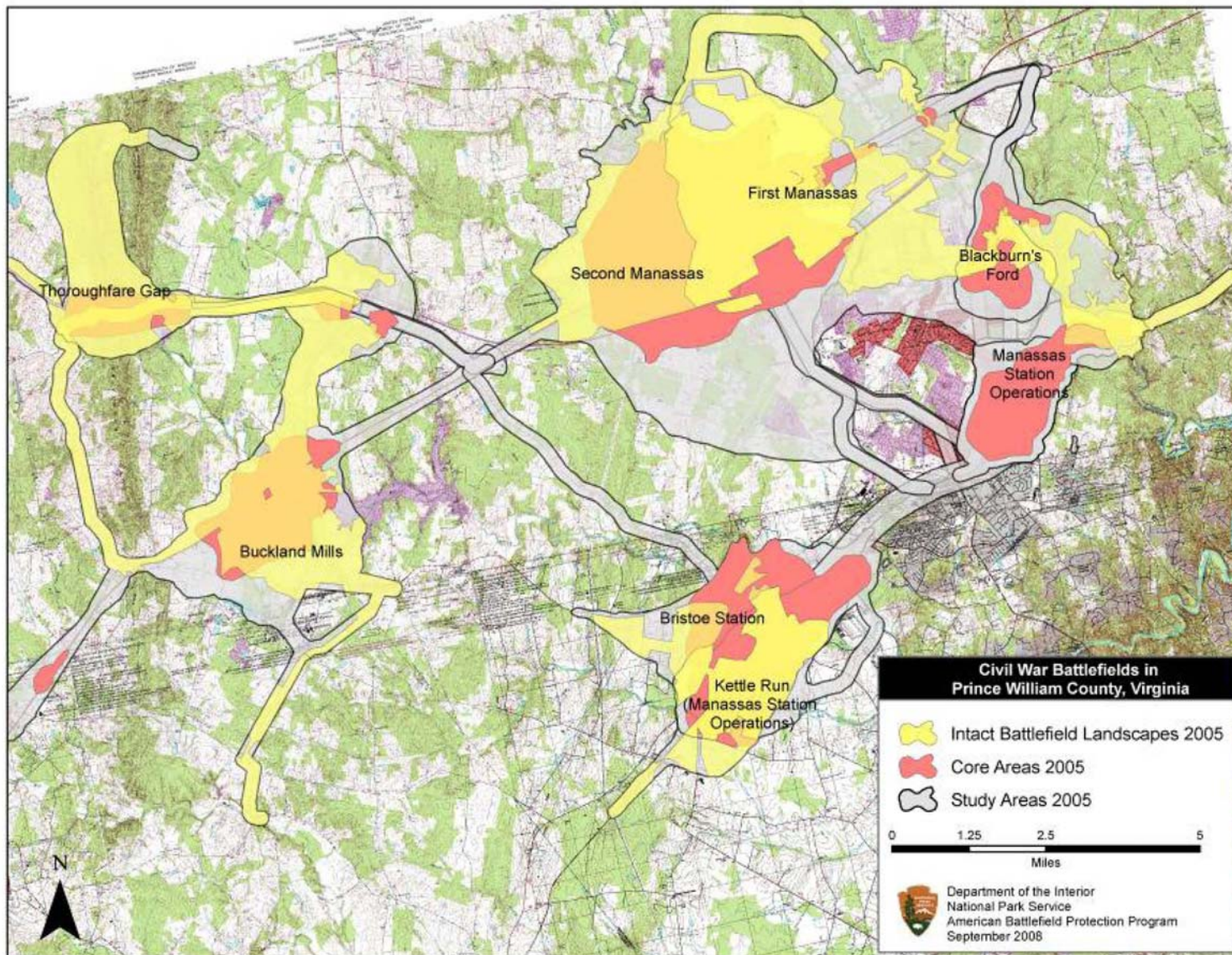
Management

This project was managed by Prince William County’s Planning Office and closely supported by key staff with the Manassas National Battlefield Park. Also, the NPS’s American Battlefield Protection Program was highly involved through its staff review of the project’s various work products.

Based on the recommendation of the County’s consultant and the ABPP staff, County and NPS staff consulted to form a project Steering Committee. This committee is comprised of representatives of public agencies and private organizations within the affected jurisdictions, including those having knowledge of the area’s Civil War-related historic resources and an understanding of historic preservation and land conservation strategies. The purpose of the Steering Committee is to:

- 1) Provide guidance to the consultant team
- 2) Assist in the identification of viewsheds for analysis
- 3) Review project products, and
- 4) Communicate with the members’ respective constituent communities.

Study Area Map



Source: National Park Service

The committee includes representatives from County agencies from Prince William, Fairfax, and Loudoun counties, as well as representatives from the park, ABPP, and local preservation and conservation-related organizations.

Methodology

Based upon the approved Work Plan for this project, the following is a summary of the seven (7) step process employed for this plan:

Task 1.0 Finalize the Project Work Plan

As the first step of the project, the consultant team finalized the project work plan. The work plan addressed the following issues:

- Statement of purpose
- Project tasks
- Expenses associated with each task
- Responsible parties for each work component
- Plan document outline
- Schedule for completion of each task

Task 2.0 Project Initiation

This task constituted the consultant team's first trip to the study area and included the following sub-tasks over the course of one (1) day:

Task 2.1 Steering Committee Kick-Off Meeting

The Project Team met with the County staff and project Steering Committee to get acquainted, review the project scope and schedule, and discuss the Committee's ideas and expectations for the project.

Task 2.2 Study Area Windshield Tour

Following the Task 2.1 meeting, the consultant team, County staff and interested Steering Committee members boarded vehicles and toured the study area. Periodic stops were made to examine key views.

Task 2.3 Follow-Up Preliminary Field Work

After the Task 2.2 tour was completed, members of the consultant team followed up with additional field work to map, photograph and otherwise begin documenting existing conditions as a prelude to the more rigorous Task 3.0 research.

Task 2.4 Public Kick-Off Meeting

This meeting included the following components:

- Introduction of the consultant team, County staff and Steering Committee
- Overview of the project purpose
- Overview of the scope of work
- Solicitation of the public's ideas
- Summary of the project's next steps

Task 3.0 Research, Field Survey & Analysis

Task 3.1 Research

The research phase of this project was split into two segments, as follows:

HISTORIC RESEARCH

The consultant team secured maps, imagery, studies, and other relevant material pertaining specifically to “the prominent Public Vantage Points” selected by the National Park Service’s Manassas unit. Information collected included:

- Historic and contemporary maps
- Historic and contemporary photographs and illustrations
- Historic accounts of landscape features and battle events
- Inventories and studies of historical and archeological resources

The consultant team conducted research in several repositories with the aim of securing the most relevant documents for the most accessible repositories first. After a detailed internet foray and a brief round of telephone inquiries, the consultant team began its research within the holdings of the Manassas National Battlefield Park and Prince William County. The consultant team also worked with Virginia’s Department of Historic Resources, the Virginia Historical Society, and the Prince William County Library System to secure additional relevant materials and studies. To fill gaps in image and cartographic resources, the consultant team used The Library of Congress, The National Archives, and the National Park Service’s Harper’s Ferry Center. Additional images and battle documentation was found at the US Army Military History Institute,

The Western Reserve Historical Society, Dayton History, and other repositories as they were identified through inquiries.

PUBLIC POLICY & DEVELOPMENT TRENDS

In addition to historic research, the consultant team reviewed existing public policy that impacts growth and development near the battlefields, such as the local comprehensive plans, transportation plans, zoning, and development regulations. As a key Federal policy impacting the study area, the NPS General Management Plan for the park was reviewed. Real estate development trends were also researched using readily available quantitative data, as well as through interviews with County planning staff and local real estate professionals.

Task 3.2 Field Survey

The consultant team conducted multiple site visits to:

- Secure from the NPS the list of ten (10) prominent Public Vantage Points, and document and analyze their 360 degree viewsheds using photography, field notes and GIS mapping
- Visit, photograph, and GIS map fifteen (15) additional viewsheds considered historically significant (both within and external to the park)
- Further understand battle actions as needed

As part of the site visits described above and subsequent work, the consultant team assembled the GIS-based field survey according to the specifications and formats prescribed by Prince William County.

This survey was overlaid with historic and modern maps and finalized into a deliverable product. Rather than being a distinct task, analysis was an ongoing occurrence throughout the research phase of Task 3.0.

Task 4.0 Presentation of Findings

As part of a one (1) day trip by the consultant team to the study area, the following two meetings occurred:

Task 4.1 Steering Committee Meeting

The consultant team met informally with the County staff and project Steering Committee prior to the public meeting to discuss the project findings up to this point.

Task 4.2 Public Meeting

This evening meeting included the following components:

- Summary of the project purpose and scope
- Presentation of findings to date
- Public discussion
- Summary of the project's next steps

Task 5.0 Preparation of the Plan

As stated.

Task 6.0 Plan Presentation & Revisions

Following the draft plan's preparation and submission to the County for review, the following three steps occurred:

Task 6.1 Meeting with Steering Committee

The consultant team met with the Committee and County staff to discuss the details of the draft plan.

Task 6.2 Draft Plan Presentation

Using Powerpoint, the consultant team presented the plan in a single presentation targeting a broad range of stakeholders, as well as the general public. The presentation encouraged an in-depth discussion of the plan's contents for potential revisions.

Task 6.3 Plan Revisions

Following the Steering Committee meeting and the public presentation, final revisions were made that considered all comments. As with the initial draft produced in Task 5.0, the County submitted to the consultant team a single "red lined" mark-up of the plan that served as a composite of all comments.

Task 7.0 Compliance & Final Program Performance Report

Task 7.1 Compliance

In preparing this plan, the consultant team followed all standards contained in applicable Federal documents, such as the *Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation*, the *Secretary of the Interior's Standards and Guidelines for Cultural Landscapes*, and similar publications. The consultant team also provided necessary copies to Federal, state and local agencies

that were involved in the review process, and made itself available to answer any questions that such agencies had.

Task 7.2 Final Performance Report

At the conclusion of the project, the consultant team submitted a report describing the following:

- Project accomplishments
- Quantifiable project outputs and products
- Computations of the cost per unit of project outputs
- Reasons why any goals or objectives were not met
- Other pertinent information



Consultant team and public officials touring the study area

Viewsheds Selection Method

Although there are many scenic and aesthetically appealing views in the vicinity of the Manassas battlefields, not all views are historically significant and related to the Civil War battles of Manassas. This study focuses on those views that are demonstrably related to the battles, in that they contain Key Terrain, Obstacles, act as Cover and/or Concealment, provide Observation and/or Fields of Fire, and served as an Avenue of Approach and/or Retreat

As it is not feasible to preserve every historically significant viewshed, and given the finite amount of funding and time to study and document these viewsheds, the study team divided them into two classes to aid in prioritization: Public Vantage Points (PVPs) and Historically Based Viewsheds (HBVs). The primary distinction between these two classes of viewsheds is that the PVPs were subject to more detailed documentation and analysis than the HBVs, primarily because they generally shared a higher degree of integrity at the start of the study.

The viewshed selection process began in August 2007 when the consultants prepared some draft viewshed selection criteria. On August 28th the consultants tested out both the criteria and a preliminary viewsheds candidate list that substantially exceeded the 25 total viewsheds that would ultimately be selected for study. This testing was conducted with the Steering Committee during a morning meeting, as well as with the general public during the project “kick-off” meeting held during the evening. Final selection of the list of

Public Vantage Points was reviewed by the Steering Committee and approved by park staff in November 2007. The Steering Committee completed its review of viewsheds in December, during which it assigned a preliminary rank of weak, medium, or strong to each viewshed according to its integrity and historical significance. The location and proximity of viewsheds was also considered to avoid duplicating too much viewshed land. For example, it was realized that much of the viewshed associated with Buck Hill included large portions of Henry Hill and Matthews Hill viewsheds. The ranked list of 20 viewsheds was transmitted to the consultant, who inspected each viewshed, determined the final rank, and finalized the list of viewsheds included in the study. In all, 10 of the 20 viewsheds were recommended for inclusion in the study by the Steering Committee. A similar and parallel process was conducted to narrow down the list of Historically Based Viewsheds to 15, and many of those viewsheds included candidates not ultimately selected for the PVPs. The final list for both viewshed categories is presented at right. More information on the selection criteria is provided in this report's Background Study.

Studied Viewsheds

A detailed explanation of how the various viewsheds were selected for study is provided in Chapter II of the Background Study of this plan. The studied viewsheds were split into two categories: Public Vantage Points (PVPs) and Historically-Based Viewsheds (HBVs). The former category featured a more in-depth analysis for each

viewshed than the latter. Below is a list of all studied viewsheds, which are mapped on page 12.

Public Vantage Points

Matthews Hill
Henry Hill
Van Pelt
Brawner House
Deep Cut
Sudley
Stuart's Hill
Artillery Position
Chinn Ridge
Portici

Historically-Based Viewsheds

Stone Bridge Overlook
Stone Bridge
Pittsylvania
Robinson House
J. Dogan House
High Point along Sudley Road
Groveton
W. Lewis House
Pageland
Mayfield Fort
Centreville Heights
Signal Hill
Thoroughfare Gap
Battery Heights
Bristoe Battlefield

Use of Geographic Information Systems

"Geographic information systems are a special class of information systems that keep track not only of events, activities, and things, but also of where these events, activities, and things happen or exist." (Geographic Information Systems and Science by Paul A. Longley, Michael F. Goodchild, David J. Maguire and David W. Rhind. Published by John Wiley & Sons, Ltd; 2005).

The extent of the GIS data model used for this viewsheds project was developed as a result of the selection of the ten Public Vantage Points (PVPs) and the fifteen Historically Based Viewsheds (HBVs). The study area includes Prince William County and portions of three adjacent counties. With the exception of the point layer associated with the locations of the PVPs and HBVs, the data layers included in the model were obtained from county and Federal sources. The GIS format was prescribed by Federal geodatabase requirements per standards of the NPS.

The PVP and HBV point layer was obtained by “GPS’ing” the sites with a Trimble Geo XH unit. “GPS - Acronym for Global Positioning System; A system of geosynchronous, radio-emitting and receiving satellites used for determining positions on the earth. The orbiting satellites transmit signals that allow a GPS receiver anywhere on earth to calculate its own location through triangulation. Developed and operated by the U.S. Department of Defense, the system is used in navigation, mapping surveying, and other applications in which precise positioning is necessary.” (A to Z GIS An Illustrated Dictionary of Geographic Information Systems; ESRI Press; 2006).

The viewshed maps were produced with ESRI’s Arcmap 9.2 using the Spatial Analyst extension Viewshed tool. Both vegetation and non-vegetation viewshed maps were produced for each site. The

point locations of each viewshed were those obtained from the GPS field study using an altitude of 1.778 meters (5’10”) above the ground based upon the average height of a modern man. The raster used to produce both the vegetation and non-vegetation viewsheds was a National Elevation Dataset (NED) raster downloaded from the USGS National Map Seamless Server. The vegetation viewsheds were obtained from a vegetation layer Shapefile that combined vegetation layers from the four counties and edited to include some of the most recent battlefield alterations per the NPS landscape rehabilitation project. Only forest areas were selected from the vegetation Shapefile. The forest areas were converted to a raster with a value representing the average 40-foot height of the surrounding forest areas. The resulting raster was summed with the NED raster and used to produce the vegetation viewsheds. The maps were exported in jpeg format for inclusion in the report.

In short, the GIS and GPS were used in combination to produce visibility maps for each of the PVPs. The areas highlighted on the maps as being visible are based upon the view of a 5’10” person and an average vegetation height of 40’. The visible areas indicate the surface of the land as is. Thus, if a building were placed on some areas not presently indicated as being visible, the additional height might cause them to become visible.

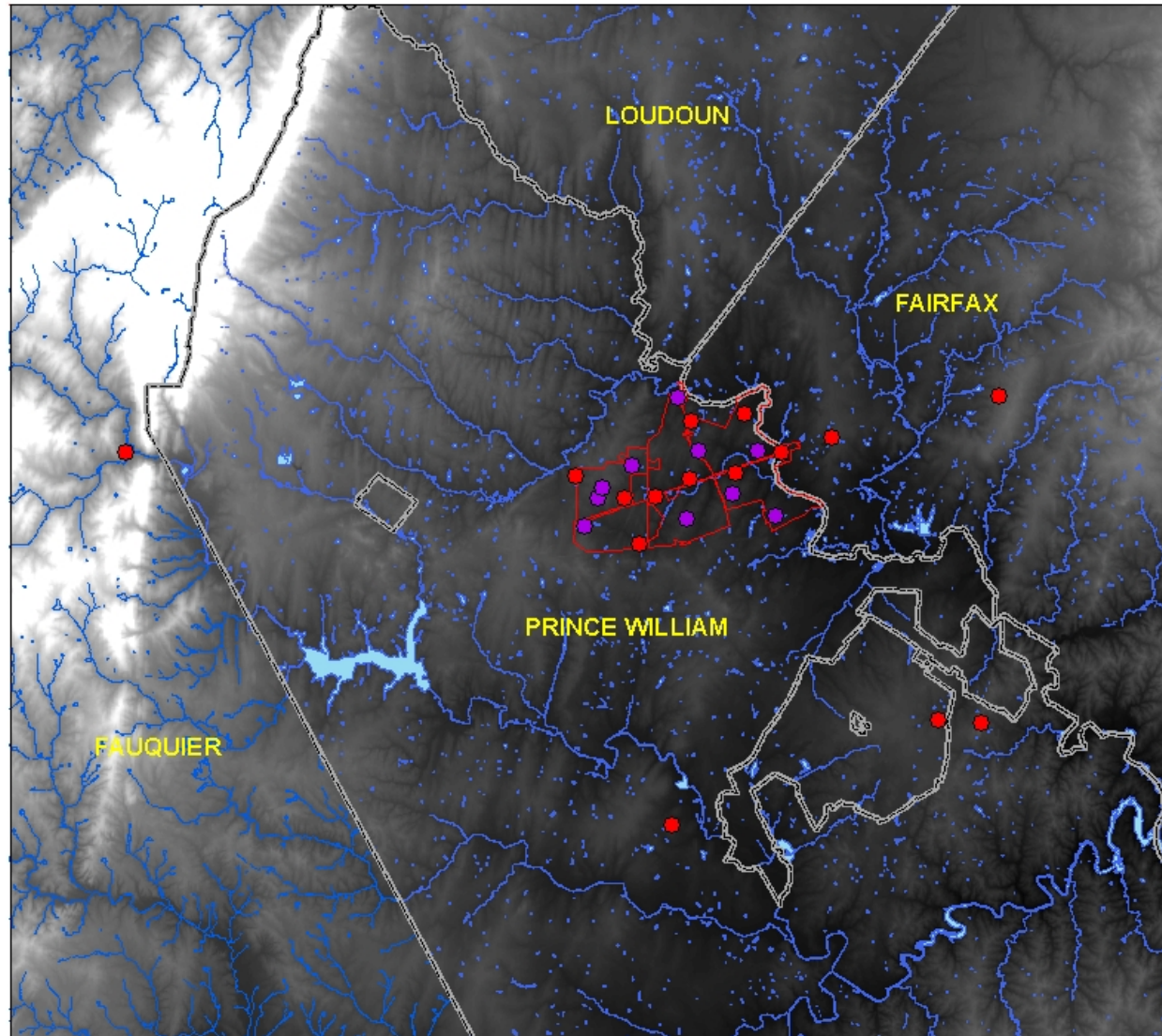
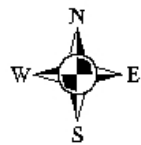
Legend

- MNBP Boundary
- County Boundaries
- Lakes & Rivers

Viewsheds

Type

- Historically Based Viewsheds
- Public Vantage Points



Map by TM Danninger, May 28, 2008

0 2 4 8 Miles

Project Time-Line

Although the schedule for this project has been periodically pushed back, the updated time-line is provided on the following page per the November of 2009 revisions. In addition to the various meeting dates

indicated in this time-line, the Prince William Board of County Supervisors was updated on the project during public meetings on May 13 and June 8, 2008 and a work session was conducted with the Board on November 24, 2009. Deliverables are shown below in parenthesis ().

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<u>Task</u>	<u>Time-Frame</u>	<u>Dates</u>
<i>1.0: Finalize the Project Work Plan</i> (Project Work Plan)	<i>Weeks 1-2</i> Week 2	<i>Aug. 1 – 10, 2007</i> Aug. 10, 2007
<i>2.0: Project Initiation</i>	<i>Weeks 3-5</i>	<i>Aug. 13 – 31, 2007</i>
2.1: Steering Committee Kick-Off Mtg.	Week 5	Aug. 28, 2007
2.2: Study Area Windshield Tour	Week 5	Aug. 28, 2007
2.3: Follow-Up Preliminary Field Work	Week 5	Aug. 28, 2007
2.4: Public Kick-Off Meeting	Week 5	Aug. 28, 2007
(GIS Base Map / PowerPoint Pres.)	Week 5	Aug. 28, 2007
<i>3.0: Research, Field Work & Analysis</i>	<i>Weeks 31-44</i>	<i>Feb. 25 – May 30, 2008</i>
3.A: Review of Project Sched. by ABPP	Weeks 31-44	Feb. 25 – May 30, 2008
3.1: Research	Weeks 31-44	Feb. 25 – May 30, 2008
3.2: Field Work	Weeks 31-44	Feb. 25 – May 30, 2008
(Historic Summaries / Digital Images / Elec. Files / Sum. of Policies & Trends)	Week 44	May 30, 2008
<i>4.0: Presentation of Findings</i>	<i>Weeks 45-47</i>	<i>June 2 – June 20, 2008</i>
4.A: Submission of PowerPoint for Review	Week 45	June 5, 2008
4.1: Steering Committee Meeting	Week 47	June 19, 2008

<u>Task</u>	<u>Time-Frame</u>	<u>Dates</u>
(PowerPoint Presentation)	Week 47	June 19, 2008
<i>5.0: Preparation of the Plan</i>	<i>Weeks 48-59</i>	<i>June 23 – Sept. 12, 2008</i>
(First Draft Plan)	Weeks 48-51	June 23 – July 18, 2008
5.A: 60-Day Review Period by Client	Weeks 52-59	July 21 – Sept. 30, 2008
5.B: 30-Day Revision Period by Consultants	Weeks 60-63	July 21 – Sept. 30, 2008
5.C: Submission of Revised Draft Plan	Weeks 73-74	December 8-19, 2008
<i>6.0: Plan Presentation & Revisions</i>	<i>Weeks 123-149</i>	<i>November 2009 – May 2010</i>
6.1: Draft Plan Presentation to PWC Board	Week 123	November 24, 2009
6.2: Submission of PowerPoint for Review	Weeks 124-128	December 2009
6.3: Meeting with Steering Committee	Weeks 129-130	January 4-15, 2010
6.4: Draft Plan Presentation to the Public	Weeks 129-130	January 4-15, 2010
6.5: Plan Revisions	Weeks 133-136	February 2010
6.6: 30-Day Review Period by Client	Weeks 137-141	March 2010
6.7: 30-Day Revision Period by Consultants	Weeks 142-145	April 2010
(Final Copies of the Plan, GIS Data, PowerPoint Presentation, Etc.)	Weeks 146-149	May 2010
<i>7.0: Compliance & Final Program Report</i>	<i>Weeks 146-149</i>	<i>May 2010</i>
7.1: Compliance	Weeks 146-149	May 2010
7.2: Final Program Report	Weeks 146-149	May 2010
(Copies of the Report)	Weeks 146-149	May 2010

II. The Plan

This plan's Background Study has identified and evaluated the various key viewsheds associated with both Battles of Manassas and other related Civil War activity, it has analyzed the legal and economic context of the various viewsheds, and it has highlighted key threats to viewsheds. This plan section will offer specific recommendations for preserving viewsheds. The final section of the plan will then prioritize viewsheds for subsequent plan implementation efforts. There are three general types of strategies recommended for viewshed preservation: 1) public policy tools, 2) private sector land control tools and funding sources, and 3) physical enhancement approaches. Each of these issue categories is addressed here.

PUBLIC POLICY TOOLS

Public policy tools for viewshed preservation exist at the local, state and Federal levels, although local level policies tend to have the greatest potential to be truly effective given the extraordinary level of control that local governments have over land use and development. A distinction between battlefield preservation and battlefield viewsheds preservation is worth noting here, as the majority of written materials on the topics focus on battlefield preservation. Most battlefield preservation plans do not recommend local land use regulations as the primary tool for land preservation. The reason is that, in most jurisdictions, it is unpopular to zone privately-owned

lands to a low enough density to effectively protect its historic character and integrity. Thus, strategies such as the acquisition of land, both in fee simple terms and through conservation easements, are typically the primary strategies.

However, battlefield viewshed preservation efforts are different. First, assuming that most of the land incorporating the core battlefield is already protected, as in the case of Manassas, the focus is primarily on lands peripheral to the core battlefield. "Core" battlefield lands refer to those areas where combat occurred (see page 5 of this plan for a map of these areas). Such peripheral lands can include hundreds and even thousands of acres of land. Preservation efforts based primarily on controlling privately-owned property through acquisition or easements may be cost prohibitive. Secondly, there tends to be greater flexibility in allowing certain uses and levels of development to occur on battlefield viewshed lands relative to actual battlefield lands. For example, a 100-acre property in which 40 percent of the land is developed with clusters of residential lots may constitute enough of a visual intrusion to substantially impact the character and integrity of battlefield lands in a negative manner. However, when viewed from a distance, that same property and development scenario may be able to peacefully coexist within a battlefield viewshed if the lot pattern is carefully located and designed so as to not be visible. One way to achieve that scenario is to mandate or create incentives for clustered development through regulatory means. In short, while public

policies are often a second tier tool for preserving battlefield lands, they are considered a primary tool for preserving battlefield viewsheds within the context of this plan.

This section on public policy tools for viewshed preservation is organized into three categories: 1) the recommended policy tools and financial incentives; 2) other policy tools that have the potential to come into play in certain instances; and 3) tools considered and sometimes used elsewhere, but not recommended here.

Recommended Policy Tools & Financial Incentives

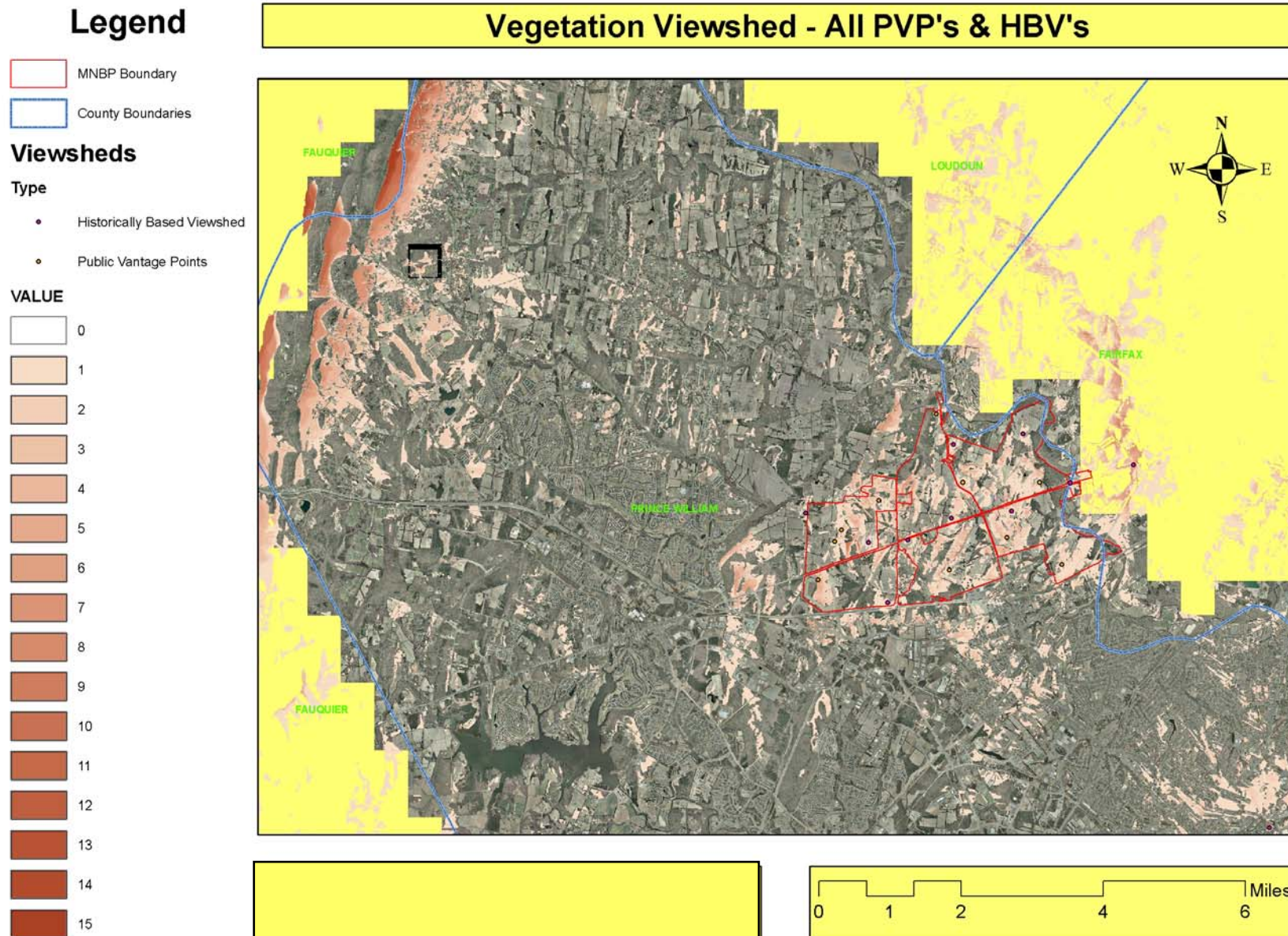
Because the policy tools and financial incentives recommended here would all need to be tied to specific applicable properties, the first step in addressing such approaches is to delineate a Battlefields Viewshed Protection Area (BVPA). Utilizing the map on the following page, one method for delineating the BVPA would be to focus on where the greatest concentration of land visibility exists based upon the various studied viewsheds. Below are the criteria that might be used to delineate the boundaries of the BVPA:

- 1) The BPVA shall include areas having the greatest concentration of lands visible from Public Vantage Points (PVPs) and Historically Based Viewsheds (HBVs). The boundary line shall trace the outer most extent of such areas, and these areas are generally located within two miles of the National Battlefield Park authorized boundaries.

- 2) The BVPA boundaries shall be delineated in a manner that results in as cohesive of an area as is possible. Consequently, there may be areas of low visibility lying within the BVPA in order to achieve a more cohesively shaped BVPA.
- 3) In delineating the boundary, one consideration will be the number of viewshed anchors from which a particular area is visible. Thus, some areas having visibility from a small number of viewshed anchors may be outside of the BVPA, while those visible from more anchors will be within the BVPA.
- 4) The BVPA may include other concentrations of visible land.

The greatest limitation of this approach to delineating the BVPA is that it is not able to identify lands not visible per the viewshed analysis, but that would yield visible buildings if developed. While a computer program is available to test the visibility of various building heights at specific locations on an individual basis, it cannot test numerous sites with varied building heights in a single effort. Until such a computer program can be developed, a solid, fair and defensible BVPA boundary cannot be delineated.

The following regulatory tools are recommended for battlefield viewshed protection:



Designation of a Battlefields Viewshed Protection Area

It is proposed that each relevant local government adopt a Battlefields Viewshed Protection Area (BVPA). Based upon the concepts contained in “CR Policy 7” of the Cultural Resources element of Prince William County’s Comprehensive Plan, this designation would not constitute zoning – neither “base” zoning nor an “overlay” zoning. Instead of applying to all land use and development proposals, including those permitted “by right,” it would only be triggered when a comprehensive plan amendment, rezoning or Special Use Permit (SUP) is sought. In that case, it might be linked to the relevant local government’s proffer system, which would require amended language within the local government’s policies regulating their proffer program.

Overview of CR Policy 7

This policy applies specifically to the Bristoe Station Historical Area, but it could apply equally well to the subject area surrounding Manassas Battlefield Park. This policy’s stated “Action Strategies” include the following:

- Require Phase I archeological/cultural resource studies and, if warranted, require Phase II and III studies.
- Require the submission of plans for comprehensive plan amendment, rezoning or Special Use Permit (SUP) applications incorporating the results of the Phase I study.
- Encourage property owners to dedicate lands or provide protective easements to save historic resources and/or their

interpretation. Such land dedications or easements should not lessen the owner’s development density or intensity otherwise permitted.

- Locate, design and buffer development in accordance with a viewshed analysis of the site to minimize the visual impacts of new development.
- As part of any permit for a rezoning or special use, incorporate provisions relating to densities/intensities at the lower end of the range per the Long-Range Land Use Map, cluster development if beneficial, a development plan, an architectural concept plan, and landscaping and buffering requirements.
- Maintain existing vegetation where appropriate.
- Reserve open space for interpretive settings.

It is recommended that, for the purposes of this proposed BVPA for the Manassas Battlefields, less of an emphasis be placed on architectural character and more of an emphasis be placed on building heights when impacting specific viewsheds. High voltage power lines and cell towers also need more stringent regulations within the BVPA. Power lines are regulated through the State Corporation Commission (SCC). However, there is no mandate that the SCC require its applicants to mitigate adverse effects on historic properties. Cell towers are reviewed under federal preservation law, as well as local government ordinances and comprehensive plans.

Application of the Battlefields Viewshed Protection Area

It is proposed that the boundaries of the proposed BVPA be consistent with the criteria on page 16. However, not every property within the BVPA would be subject to the BVPA's provisions. Those properties actually visible within one of the 25 studied viewsheds, as determined by the maps produced in this study, would be subject to the provisions. Likewise, properties not currently visible, but that would become visible once developed, would also be effected. This approach, based upon computer generated GIS and GPS data, would avoid perceptions of subjectivity in determining to which properties the BVPA provisions would apply. However, computer modeling to determine which lands would become visible once developed must still be developed.

Recommended BVPA Provisions

As a supplement to the concepts contained in the previous page regarding "CR Policy 7" of the Cultural Resources element of Prince William County's Comprehensive Plan, below are more specific recommendations for BVPA provisions. It is proposed that the viewshed visibility map produced as part of this study be applied on a site-specific basis to negotiate development characteristics for those cases in which the BVPA provisions would be triggered. Negotiated characteristics could include building height, orientation, color, screening and or buffering, signage, landscaping, entrance features, etc. It is noteworthy that a uniform set of standards, such as building height limits, would not be

effective if applied consistently throughout the proposed BVPA. While a five-story building height limit applied to one particular property may be effective for protecting the integrity of one particular viewshed, the same standard may not work for another property within the same viewshed or another viewshed.

Buildings & Signage

Both the location and height of buildings and signs should be regulated within the proposed BVPA. In addition to the viewshed visibility map mentioned previously, another tool resulting from this project is a computer program that determines at what height a structure will become visible from a particular PVP (see page 54 in the plan section on implementation for a description of this tool and a sample application). Counties can use this program to determine appropriate height and siting recommendations when reviewing rezoning, special use permits, and variance proposals.

Screening

In addition to regulating the location and height of buildings and signage, provisions for screening undesirable views should also be part of the BVPA provisions. It must be kept in mind that, while screening can be an effective way to hide modern features that negatively impact the historic character of a battlefield, they can also obstruct historically important views. Thus, they should be used thoughtfully. Also, screening should consist of native vegetation that will create a complete and year-round screen, and

existing vegetation should be preserved where appropriate. See pages 32-40 for more on screening.

New Utility Lines & Cell Towers

The battlefield park is already negatively impacted by high voltage power lines that traverse its western edge. It is proposed that new high voltage power lines be prohibited altogether within the proposed BVPA. The Park and Prince William County should partner and consult with state and Federal agencies. High voltage power lines tend to range in the 100 to 115 foot height range, while cellular monopoles can go as high as 199 feet (the maximum height permitted per Prince William County regulations). In Prince William County, there are specific provisions regulating cell towers, so that language would need to be revised to accommodate these recommendations. Because new cell towers would not fall under the category of a comprehensive plan amendment or rezoning, such provisions would need to be contained directly within the separate ordinances regulating cell towers. Another approach to new cell towers within the proposed BVPA worth pursuing would be a programmatic agreement between the Federal Communications Commission, the State Historic Preservation Officer (Virginia Department of Historic Resources Director), and telecommunications companies on a cell tower height lower than those typically found as a means of mitigating negative impacts on battlefield viewsheds. See Chapter IV pages 133-136 within this report's Background Study for more information on utility lines and cell towers.

Other Structures

It is difficult to envision other types of structures that might potentially impact battlefield viewsheds that would not fall under the categories just reviewed (buildings, signage, utility lines and cell towers). While bridges having tall structural components are possible, they are highly unlikely here because of the lack of a large body to cross (river, etc.). However, given that Gettysburg recently ridded itself of a huge observation tower that blighted their battlefield viewsheds, such a privately-developed tower is a remote possibility for any major battlefield that draws a lot of tourists.

Open Space Development (OSD) Zoning

This approach to residential development, often referred to as "clustering," consists of concentrating smaller parcels, while leaving protected open space rather than the conventional approach of subdividing all land into larger parcels. Some communities mandate OSD zoning where they desire to preserve open space, but most that use this tool make it an option that is encouraged through incentives. An example of how such incentives are used in some communities is to require at least 50% of a site to be deed restricted or similarly preserved in return for a density bonus above the site's base lot yield (i.e., 25%). Such incentive-based regulations typically include specific design standards, such as the requirement that:

- Open spaces be as contiguous as possible within the subject site;
- Open space systems adjoin those of adjacent properties;

- Environmentally and historically sensitive resources be included within the open space; and
- Minimum buffer areas occur along important historic roads, streams and similar features.

It is noteworthy that OSD zoning only applies to residential development, as commercial and mixed use development lacks the characteristics that make clustering of development viable. See the concept plans on this page that illustrate a pre-development site, a conventional development site, and the OSD option that preserves open space.



Conventional development example site.



Pre-development example site.



Open Space Development (OSD) example site

Existing Policies

Sections 32-300.40-43 and 32-300.50-53 of the Prince William County Zoning Ordinance allow for OSD development within the Rural and Semi-rural areas of the County, respectively. Rural-cluster development is permitted on properties 50 acres or greater in size, and at least 50% of the property must be preserved as open space. It requires a minimum lot size of three acres and a maximum density of one unit per ten acres. The Semi-rural cluster development has similar requirements, but a minimum of only 35% open space is required. For both types of clustering options, there are additional requirements that must be met regarding buffering, lot sizes and related issues, as well as the preservation of historic and cultural resources. Unlike some communities with OSD zoning, there are not density bonuses for the clustering option.

Recommended Policy

It is recommended that local governments adopt new OSD regulations that are either mandated within the Battlefields Viewshed Protection Area (BVPA) or have stronger incentives if they remain an option. It is recommended that a minimum of 50% open space be required, and that open space be designed with battlefield viewshed visibility in mind. Thus, developed lots should be located to have the minimal visual impact within the viewshed. If OSD regulations are not mandated and only incentivized, density bonuses should be considered to make them attractive enough to be a viable option. Also, where public sewer and water exist, developed lot sizes within the strategically-placed housing clusters

should be allowed to be relatively small (less than a half acre in size).

Tree Regulations

Section 32-250.40 of Prince William County's zoning ordinance addresses landscaping requirements. This section's stated goal is "to require the replacement and planting of trees and credit the preservation of trees on sites and in subdivisions to provide a minimum percentage of tree canopy cover in ten years that will contribute to the quality of life." It lists a variety of good reasons for tree preservation and planting. It is recommended that historic preservation and viewshed protection be added to the list of reasons. The requirements apply only to development approvals requiring the submission of site plans and subdivision plans, and they are specifically not required for agricultural properties, protected wetlands, and a wide range of institutional uses. Division 5 of the same ordinance regulates the grading of land and requires a permit for doing so, which typically involves approved development. Section 32-250.53 of the County's ordinance regulates the harvesting or clearing of timber and prohibits tree removal "within 50 feet of any property lines adjoining areas or other properties which are zoned to a different classification than A-1, Agricultural or whose primary use is residential." The other counties within the battlefield area have very similar regulations regarding trees.

As already indicated elsewhere, the regulation of trees is an important consideration with respect to battlefield viewshed

protection. While the battlefield park's General Management Plan features maps depicting the historic landscape and proposed landscape alterations within the national park, similar maps beyond the park are not known to exist. Regardless, the proposed removal or planting of new landscaping can likely be evaluated for their impacts upon battlefield viewsheds on a case-specific basis. In some cases existing vegetation should be preserved and/or additional landscaping provided to screen new development (see pages 32-40), while in other cases the removal of vegetation might open up important views. It is recommended that landscape alterations be among the various factors considered within the proposed Battlefields Viewshed Protection Area (BVPA) for applications for a comprehensive plan amendment, rezoning or Special Use Permit. This approach is consistent with the Cultural Resources Element of the County's Comprehensive Plan (see page 18 of this plan section).

Purchase or Transfer of Development Rights

Purchase of Development Rights (PDR) and Transfer of Development Rights (TDR) was approved in Virginia only a few years ago. The TDR concept involves two defined areas – *sending areas* and *receiving areas*. The sending area is an area for which it has been determined that minimal development (or even no development) is consistent with the public good, so extensive development is prohibited. However, as compensation to the property owner, development rights are credited to that owner which can then be applied in a receiving area or sold on the open market.

The rights are used by those who can apply them to properties within the designated receiving areas, thereby allowing that person to develop at a density greater than the underlying zoning would normally permit. PDR/TDR is most commonly used to protect environmentally sensitive lands, and receiving areas are typically existing or planned urbanized areas. In accordance with Virginia statutes, the implementation of this tool can only be initiated by property owners within the sending and receiving areas. Also, Virginia laws allow residential development rights in the sending area to be converted into non-residential development rights within the receiving area, such as commercial uses. Furthermore, if the designated receiving area is located within another municipality, that municipality must adopt its own PDR/TDR ordinance and designate the same receiving area as proposed by the local government of the sending area.

Recommended Policy

It is recommended that a PDR/TDR program be adopted by the relevant local governments and utilized by willing land owners and developers. The sending areas would be lands within the proposed Battlefields Viewshed Protection Area (BVPA). There are numerous options for the receiving areas so long as they are consistent with the comprehensive plan, have sufficient infrastructure capability (particularly access), and meet other capacity demands.

Although it would not technically be considered PDR/TDR, the idea of shifting density from one part of a site to another part of the same site is certainly a likely scenario in order to preserve battlefield lands. In fact, a similar scenario was recently achieved at the Chancellorsville Battlefield at the Toll Brothers housing development in which 75 acres of land at Lick Run were sold to the Civil War Preservation Trust in return for additional density being allowed by the County to be shifted to the balance of the property. Closer to home, a density shift was allowed in Prince William County for a residential development on the Bristoe Station Battlefield, in addition to the creation of a heritage park. Moreover, the Cultural Resources element of the County's comprehensive plan addresses the mitigation of negative impacts on Bristoe Station caused by future economic development (CR Policy 7 - page CUL-13). On-site density transfers, such as those at Chancellorsville and Bristoe Station, should be approved by the other relevant local governments if that option does not already exist.

Development Proffers

According to the definitions section of the Prince William County zoning ordinance (Article 1. Terms Defined, Part 100. Definitions – adopted 1991 as amended through 2007) “Proffers shall mean a condition voluntarily offered by the applicant, and accepted by the board of county supervisors, for a rezoning that limits or qualifies how the property in question will be used or developed.” Proffers can come in the form of cash or in-kind dedications as part of a

rezoning or Special Use Permit. Based upon State enabling legislation, the purpose is to offset the costs of population increases caused by residential development within designated “high growth communities”. According to Section 32-700.30 (Conditional zoning) of the Prince William County zoning ordinance, “Proffered conditions adopted by the board of county supervisors shall be in addition to the regulations provided for the zoning district by the text of this chapter. Except as standards that are specifically permitted to be modified or waived by the board of county supervisors, as part of a rezoning or special use Permit approval, development shall conform to mandatory standards in effect at the time of final plan approval if such standards exceed proffered conditions accepted at the time of rezoning.”

Recommendation

As presently written, Prince William County's development proffers policy is unclear as to whether battlefield viewshed preservation efforts can qualify for proffers. It is recommended that the proffer policies of local governments be amended to include battlefield viewshed preservation as an option.

Use Value Taxation

As in the case of other neighboring jurisdictions, Prince William County has a “Use Value Assessments Program” that encourages the preservation of land by providing a tax deferral. Under this program, the assessment of land is based upon its current use rather than the fair market value. However, if and when the land

use changes, the deferred amount of tax payments will be repaid with interest. This provision is in accordance with Virginia “roll-back tax” statutes. The four categories of land use qualifying for this program include agricultural uses, horticultural use, forest use and open space, each of which has very specific qualifying criteria, including a minimum property area of 5 acres for the agricultural category and 20 acres for the open space category. Of the four categories, most of the undeveloped privately-owned lands near the Manassas Battlefield would qualify under the open space category.

Recommendation

Use value taxation programs can be used as both an incentive for private viewshed preservation and as a funding source for the local government. The incentive is that land owners would not be penalized by the taxation system for keeping their land out of development. This incentive should be strongly promoted. The potential funding source, on the other hand, could derive from the rollback assessment that occurs if such lands are eventually developed. Given the clear relationship (“rational nexus” in land use law terminology) between the loss of historic lands and the increased property tax revenue generated by that loss of land, the tax revenue (or a percentage of it) could go towards a funding pool earmarked for the acquisition of endangered historic lands, including battlefield viewshed lands. Such acquisitions could be either in the form of fee simple purchases or the

purchase of conservation easements. Such a program should be explored and pursued by each of the battlefield’s relevant local governments.

Other Public Policy Tools Having Potential

There are a limited number of state-level regulations for protecting historic resources, in part, because of the variety of such regulations at the Federal level. In fact, in some cases, full or partial responsibility for enforcing Federal regulations and implementing associated processes is delegated to the Commonwealth of Virginia. In general, however, most Federal laws currently existing are designed to prevent the Federal government from damaging historic resources, so preservation is an issue integrated into its planning and review processes. There are several existing regulations at the Federal level that could benefit battlefield viewshed preservation efforts at Manassas should certain events occur, such as proposed road expansions or development within environmentally sensitive lands. Below is a summary of the most significant such policies.

National Environmental Policy Act

The National Environmental Policy Act (NEPA) and its various allied laws constitute a wide variety of regulations to protect the natural environment with respect to air, land and water pollution, and the protection of ecologically valuable resources from disturbance. Examples of key environmental laws which might inadvertently protect battlefield viewshed lands are those which prohibit development within floodplains and/or wetlands. While these laws

are not related directly enough to battlefield viewshed protection to serve as a major component of a preservation strategy, it is important that they not be overlooked in those instances when they may be the only means for saving viewshed properties.

National Historic Preservation Act

Section 106 of the National Historic Preservation Act (NHPA) requires that a process be followed intended to offer protection to any historic resources either listed on, or determined eligible for, the National Register of Historic Places. This process is designed to identify and avoid, or at least mitigate, adverse impacts on historic resources. Unfortunately, "Section 106 Review" is limited to those projects involving Federal funds or licensing, such as Federal transportation funding, Community Development Block Grant (CDBG) funding, or an Army Corps of Engineers permit. Compliance with Section 106 is the responsibility of the Federal agency. Section 106 requires consultation, with the Virginia Department of Historic Resources (DHR), local governments, and other interested parties. When an adverse effect is determined the Advisory Council on Historic Preservation is notified and given the opportunity to participate. The Federal agency leads the consultation process and makes the final determination on whether to proceed with the undertaking and how adverse effects will be mitigated. While it offers little help for private sector activities not involving Federal funding or licensing, Section 106 Review can be a potentially valuable tool with regard to Federally licensed and funded projects. While it cannot always save an historic site or viewshed, Section 106

Review usually, at a minimum, allows for the documentation of the resource for future generations. Examples of conceivable activities that could potentially impact Manassas Battlefield viewsheds and would be required to undergo Section 106 Review include roadway expansions (Pageland Lane, Route 29, Route 234, etc.), new road expansion, and new cell towers. The fact should never be overlooked that the greatest threat to battlefield viewsheds within the national park is road expansions, while the greatest potential ally against such expansions is Section 106 Review.

Department of Transportation Act of 1966

Section 4(f) of the "DOT Act" stipulates that the Federal Highway Administration (FHWA) and other DOT agencies cannot approve the use of land in publicly owned parks, recreational areas, wildlife and waterfowl refuges, or public and private historical sites unless the following conditions apply: 1) There is no feasible and prudent alternative to the use of the land, and 2) The action includes all possible planning to minimize harm to the property resulting from the use. This law could greatly benefit the battlefield and its associated viewsheds should new roads or the expansion of existing roads be proposed if such actions would trigger the 4(f) provisions.

Cooperative Agreements with Property Owners

Although cooperative agreements would not technically be considered "regulatory tools," because they are a potential public policy vehicle for resource preservation, they have been included in this plan section. Cooperative agreements between the National

Park Service (NPS) and private individuals and entities are one of the most cost-effective methods for protecting historic resources and associated viewsheds, but also the least safeguarding. A typical scenario would be a farmer who will agree to preserve open space on his property and accept technical assistance from the NPS on its preservation in return for limited public access to the property. The greatest limitation is that such written agreements can generally be terminated on relatively short notice.

Public Policy Tools Not Recommended

Since there are some candidate policy tools for viewshed preservation that were contemplated for this plan, but ultimately rejected for various reasons, a brief review is in order.

Low-Density Zoning

Low-density zoning requires large minimum lot sizes that limit the number of housing units a developer can build on a tract of land. Prince William County presently has multiple zoning districts that require large lots for development, as do the other relevant jurisdictions. “Down zoning” is the process of reducing the zoned density of land from its previous density, thereby potentially reducing its value. In theory, the application of low-density zoning or down zoning will reduce development pressures and may help preserve the rural character of an area containing battlefield viewshed lands. However, given the area’s growth pressures, the current designation of lands within their respective comprehensive plans and zoning, and

the development expectation levels of area land owners, low-density zoning and down zoning were not considered as viable options.

Overlay Zoning

Overlay zoning is a mechanism that does not impact the underlying “base zoning” that dictates permitted land uses and the density/intensity of development. Instead, it typically regulates design and similar issues. Regulated design issues might include those addressed by base zoning, such as building setbacks and heights, as well as design issues not addressed through base zoning, such as building materials and façade design. Overlay zoning is permitted by Virginia’s state legislation, and Prince William County already has adopted overlay zones.

Although it can be an effective tool for many preservation issues, overlay zoning is not recommended here for battlefield viewshed preservation. Overlay zoning would control any type of development application within the designated overlay zone, which would likely be met with resistance. Also, the area south of I-66 is within the Prince William County development area and is planned Industrial and Regional Employment Center. Instead, a special district has been recommended that would only be triggered by a proposed comprehensive plan amendment, rezoning or Special Use Permit (see pages 18-19 of this plan section).

Special Corridor Zoning

In planning terminology, special corridors are those linear areas along important transportation routes which either lead to a key destination, such as a downtown, or traverse a special area, such as a Civil War battlefield. The quality of a special corridor's appearance is important in making an impression upon heritage tourists. It is one of the many factors that shapes visitors' experience, determines the duration of their stay, and influences their desire to return. The character of a corridor can also be critical for historic interpretation. In the case of rural corridors, such as the roads traversing Civil War battlefields, the objective is to retain a pastoral and open landscape. Overlay zoning provisions typically address building setbacks, signage placement and size, and buffering requirements. While corridor zoning can be a useful tool for overall battlefield preservation and interpretation efforts, it was deemed to have limited benefits for viewshed preservation relative to other potential regulatory tools.

Special Taxes

The primary factor impacting tax rate increases lies in public sentiments. The approval of any sort of special tax for battlefield viewshed protection would rely on a favorable preservation climate. Nevertheless, examples of potential taxes include:

- A *"dedicated"* tax for battlefield viewshed preservation would entail an increase in local property taxes in which the increased revenues would be earmarked for purchasing easements or acquiring viewshed lands.
- *Real Estate Transfer Taxes* consist of a tax levied for any real estate transaction based upon a percentage of the purchase price. When used as part of a battlefield viewshed protection program, such tax revenues would go towards the acquisition of fee simple ownership or conservation easements. Because studies have shown that communities with aggressive open space programs typically experience greater property value increases than communities without such programs, there is a relationship (rational nexus) between the tax and those benefiting from the value of open space. Real estate transfer taxes are most commonly employed by state and local governments for a specific earmarked fund, such as an open space acquisition program. Real estate transfer taxes have fueled the State of Maryland's \$60 million annual Program Open Space (POS), which acquired easements on hundreds of acres of farmland at Antietam. Should real estate transfer taxes ever become a viable tool, they might be applied to some broader program of open space preservation and/or environmental protection (of which battlefield viewshed preservation would be only one component) to build broader public support.
- A *Hotel/Motel Tax*, often referred to as an "occupancy tax," is frequently used to fund activities related to tourism. Most occupancy taxes range between roughly 4% and 8%, depending upon the community and their tax structure.

Because of the heritage tourism aspect of Civil War viewshed protection, local occupancy taxes would be a reasonable way to fund preservation at the local level.

Despite their respective merits, the concept of adopting special taxes for viewshed preservation around Manassas was eliminated from further consideration. The dedicated tax would be unpopular among “the masses” of citizens, while the real estate transfer tax would meet stiff opposition from the highly-organized real estate community, and the hotel/motel tax would meet similar resistance from the hospitality industry.

Condemnation

Condemnation is based upon the concept of “eminent domain,” which asserts that it is acceptable for a government to take private property, or specific property rights, from property owners if: 1) the taking is in the best interest of the public welfare, and 2) the owner is fairly compensated. The most common forms of condemnation are for road building and utility easements. Assuming a funding source is available, it could also be used for acquiring battlefield viewshed lands, although the Federal government would likely be limited to only those lands within the national park’s authorized boundaries. Regardless, whether done at the Federal, state or local level, condemnation is generally very unpopular and is not proposed as part of this plan.

PRIVATE LAND CONTROL TOOLS & FUNDING SOURCES

Within the realm of preserving core battlefield areas, private sector land control tools and land acquisition funding sources are an extremely important subject because such lands are typically relatively finite and the acquisition of key parcels is often a realistic goal. However, because viewsheds peripheral to the Manassas Battlefield involve thousands of privately-owned acres, making regulatory measures a more fruitful strategy, the subject of private land control tools and funding will only be listed here in summary form. Nevertheless, this plan’s Appendix A section features a much more detailed description of such tools and funding sources.

Private Sector Land Control Tools

- *Fee Simple Purchase*
- *Conservation Easements*
- *Restrictive Covenants & Deed Restrictions*
- *Options / Rights of First Refusal*
- *Land Donations*
- *Other Land Acquisition Tools*
 - Life Estates
 - Purchase and Sell-Back or Lease-Back
 - Property Exchanges

Funding Sources

Private Organizations

- *Civil War Preservation Trust (CWPT)*

- *National Parks Conservation Association (NPCA)*
- *National Trust for Historic Preservation (NTHP)*
- *Preservation Alliance of Virginia (PAV)*
- *Conservation Fund*
- *Richard King Mellon Foundation*
- *Other Relevant Organizations*
 - Association for the Preservation of Virginia Antiquities
 - Virginia's United Land Trusts
 - Land Trust Alliance
 - Land Trust of Virginia
 - Trust for Public Land
 - American Farmland Trust
 - National Park Trust
 - National Forestry Land Trust
 - The Nature Conservancy
 - Scenic Virginia
 - Virginia Outdoors Foundation

Federal Funding & Incentives

- *Federal Appropriations*
- *National Park Service: American Battlefield Protection Program*
- *Federal Transportation Enhancement Funds*

State Funding & Incentives

- *State Historic Preservation Grants*
- *Certified Local Governments Program*
- *Virginia Sesquicentennial of the American Civil War Commission – State appropriation*
- *Easement Tax Credits*

While many of the organizations listed above have been active over the years in battlefield preservation efforts in the Manassas area, one organization in particular warrants mention. The Virginia Outdoors Foundation's stated mission is "to promote the preservation of open space lands and to encourage private gifts of money, securities, land or other property to preserve the natural, scenic, historic, open-space and recreational areas of the Commonwealth." According to the Fauquier County comprehensive plan, most of the 31,000 acres protected by conservation easements in that county are protected by easements held by the VOF. Given that this plan has not recommended extending the proposed Battlefield Viewshed Area (BVA) as far west as the Bull Run Mountains, which are located on the eastern edge of Fauquier County, the VOF may have the greatest potential to assist there with viewshed preservation in that particular area.

PHYSICAL ENHANCEMENT APPROACHES

Although most viewshed preservation efforts focus on preserving existing high-quality viewshed lands, the enhancement of existing viewsheds should also be considered. There are two key issues related to the physical enhancement of battlefield viewsheds: 1) the provision of access to the viewshed anchors (locations from which a viewshed is viewed), and 2) the screening of undesirable views. Each is discussed below.

Access to Viewshed Anchors

No matter how aggressive the efforts might be to protect and enhance the quality of viewsheds, unless there is good access to the viewshed anchors from which the viewsheds are observed, the viewsheds will be enjoyed by only a limited number of people. With respect to the ten Primary Vantage Point (PVP) viewsheds studied at the Manassas Battlefield as part of this plan, there are two primary means of access to their anchors – roads and trails. Some also feature a parking area. Below is a three-category listing of the ten PVP viewsheds according to how accessible they are currently, and a map is provided on page 33:

Level 1: Road, Parking & Trail Access

This level of accessibility includes direct access by roads, parking and trails.

- Matthews Hill
- Henry Hill
- Deep Cut

- Sudley
- Brawner House
- Stuart's Hill
- Chinn Ridge

Level 2: Trail Access & Nearby Auto Access

This level of accessibility includes direct access by trails that are linked to roads where parking is viable and located within a comfortable walking distance of the viewshed anchor.

- Portici

Level 3: Trail Access Only

This level of accessibility is limited to access by trails with no link to nearby road access and parking.

- Van Pelt
- S. D. Lee Artillery Position

It is noteworthy that the Brawner House would have fit into Level 3 accessibility in earlier days, as until recently it featured only trail access. However, new road and parking access was recently developed. Thus, of the ten PVP viewsheds, all but three have excellent public access (Level 1). Of the other three, Portici has nearby auto access and requires only a comfortable walk for access, leaving Van Pelt and the S.D. Lee Artillery Position as the only relatively inaccessible PVP anchors. Although the National Park Service's most recent General Management Plan (GMP) does address circulation and site access in all of its alternative scenarios,

there are no specific proposals that would increase the accessibility of the one “Level 2” PVP anchor or the two “Level 3” PVP anchors.

Recommendations

In order to enhance the accessibility to two of the three PVP viewshed anchors that presently lack the highest level of access, the following recommendations are offered:

Van Pelt

This viewshed anchor is a relatively short distance from the narrow lane accessing the NPS Law Enforcement Office. However, there is no formal parking area or trail leading to the site, although a trail connecting to Route 29 does access the site. It is recommended that a modest amount of paved parking and a small vehicular turnaround area be provided, as well as an unpaved walking trail to link to the viewshed anchor with vehicular access.

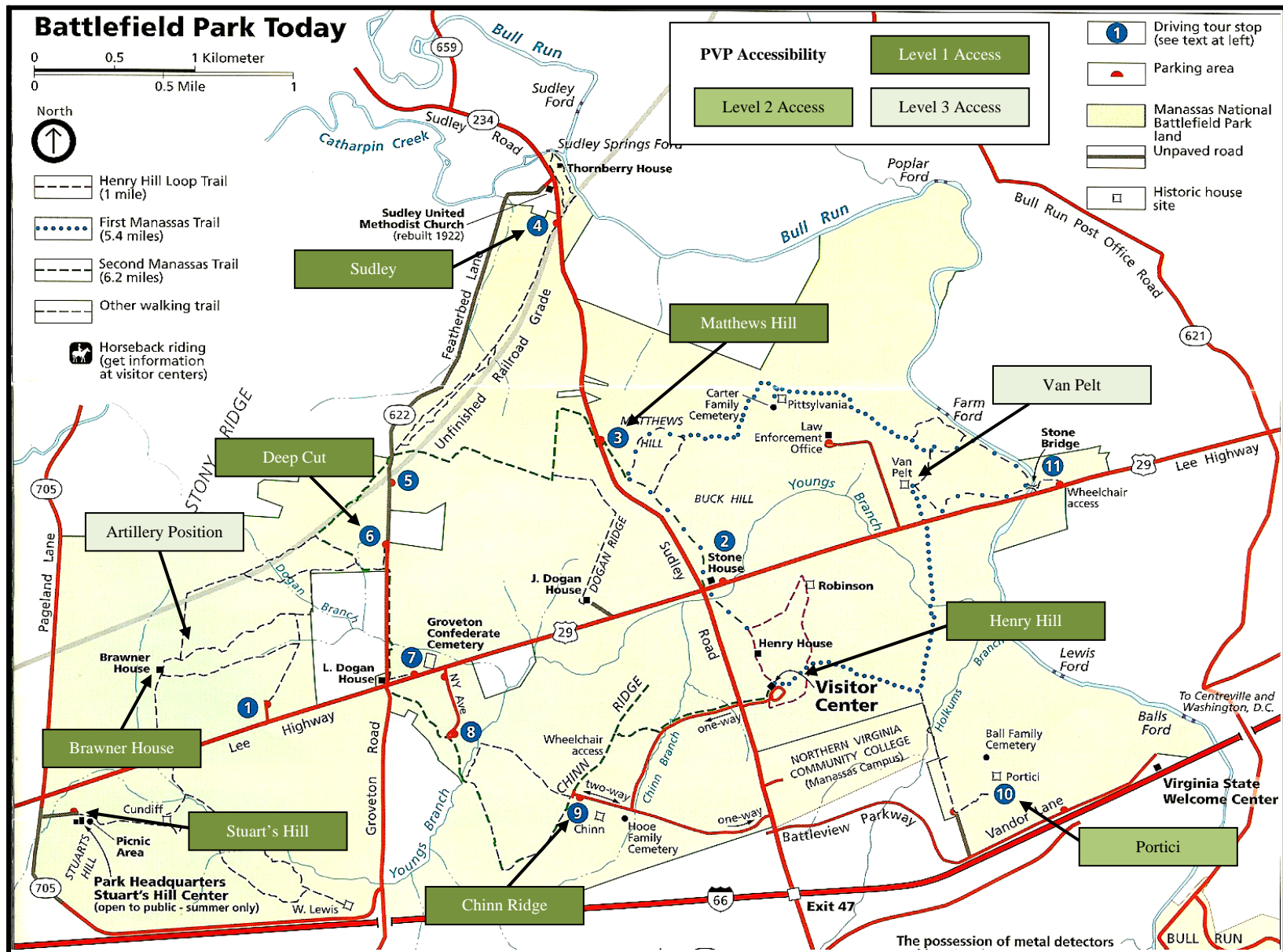
S.D. Lee Artillery Position

While it should probably not be a high priority recommendation, the NPS should explore the potential to provide a short road and parking area extending east from Pageland Lane to this viewshed anchor.

Because the Portici viewshed anchor already has access in the form of a trail that extends from a short road off of Vandor Lane, no improvements are recommended.

Screening of Undesirable Views

While many of the key viewsheds associated with both battles of Manassas have retained a relatively high degree of integrity, some have been degraded by visual intrusions, such as modern development, that detract from understanding the battles. One approach commonly employed to reclaim the integrity of viewsheds or to mitigate their damage in the face of new development is to utilize landscape screening. To be effective, such treatment typically needs to provide a year-round screen and include a mix of native trees and shrubs to have a natural appearance. Vegetative variety is also needed to avoid losing an entire buffer area to a species-specific disease, and native evergreens should be part of the mix to provide year-round screening.



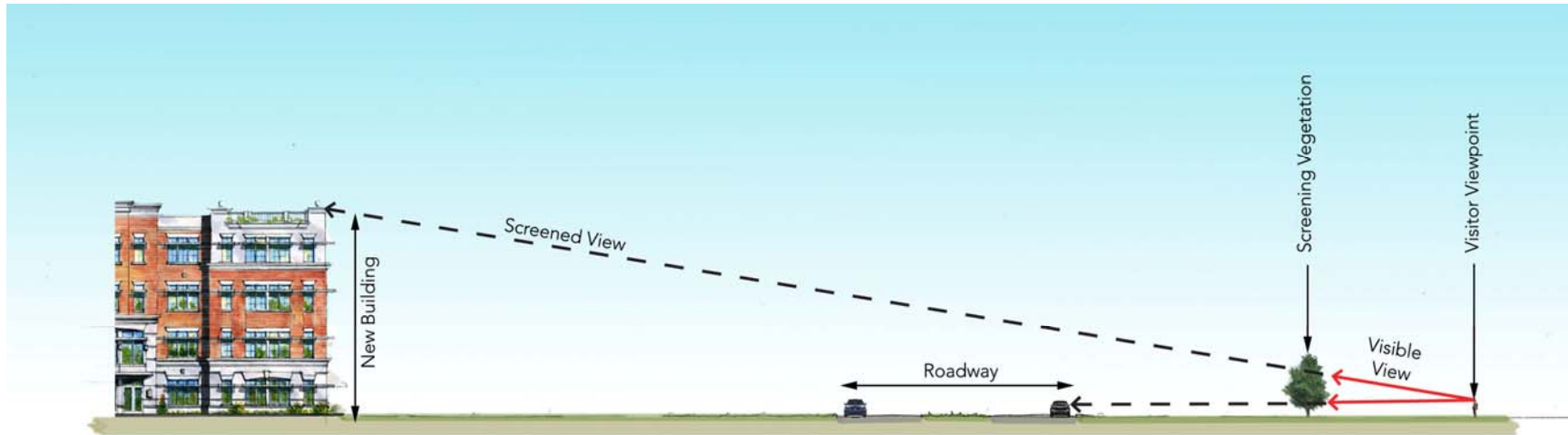
However, it must also be recognized that there can be a negative side to landscape screening. While screening may help to hide modern development, it also further obscures the viewshed being interpreted, which can make it more difficult for visitors to understand the battle. Consequently, this plan recommends a set of very simple screening principles. These principles guide this plan's screening recommendations, and may be used in the future in a more detailed and site-specific manner when viewshed screening needs arise. The following principles should apply:

- 1) **The closer the screening is to the viewer, the smaller it can be to have the desired screening effect.** Conversely, the further away the screening, the larger it must be. This principle has clear cost implications given the higher cost of larger and/or mature landscaping. See the diagrams on the following two pages for an illustration of this principle.
- 2) **The closer the screening is to the viewer, the less visibility within the viewshed.** Although this type of screening can effectively obscure visual intrusions, it can also obscure the viewshed being interpreted.

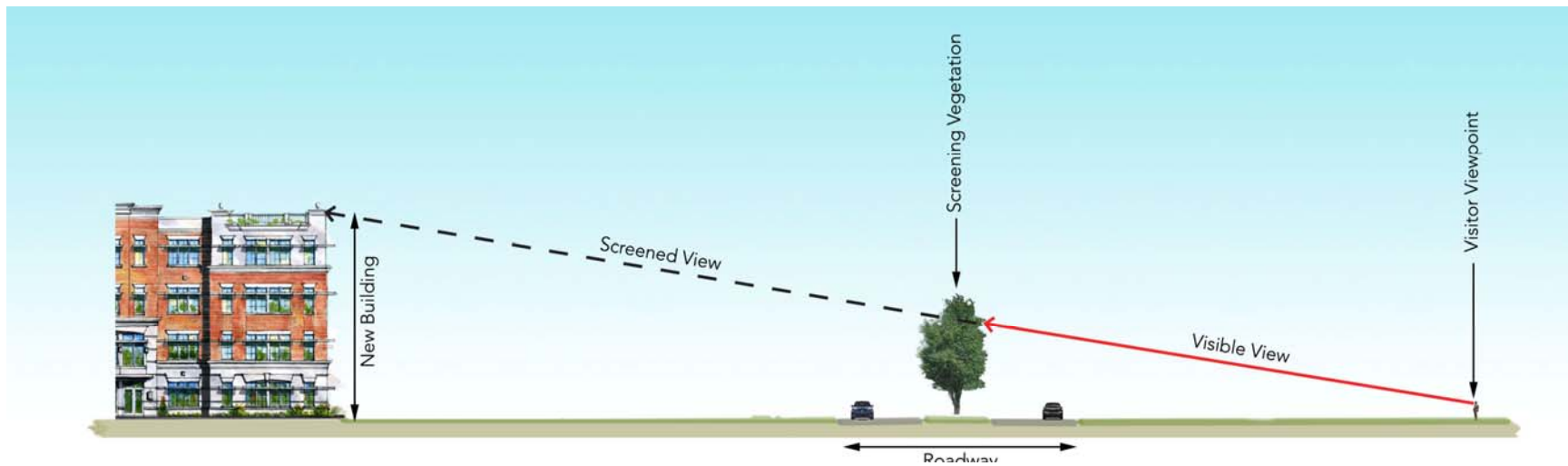
- 3) **A compromise to screening is to provide gaps within the screen** to open up very limited view corridors.



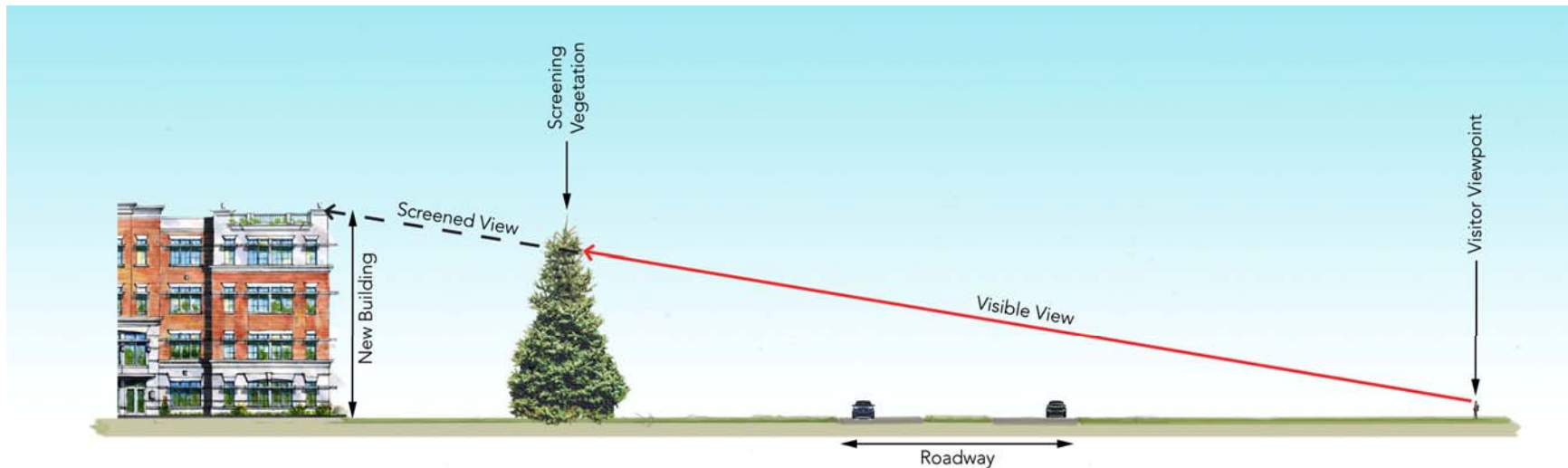
This view south from Portici across I-66 reveals modern development in the distant background. While additional screening along I-66 would obscure the development, it would also interfere with the view that helps to tell the story of the battles.



This diagram illustrates the concept that the closer the screening is to the viewer, the smaller (and less expensive) it can be. Such screening can also obscure intrusions located only a short distance away, such as the depicted roadway.



This diagram illustrates the location of screening in a middleground location roughly midway between the viewer and the modern intrusion. While this screening must be taller (and more expensive) than the example above, it retains more of the viewshed's depth.



This diagram illustrates the location of screening in the distant background and within close proximity to the modern intrusion. Although this approach retains most of the viewshed's depth before reaching the intrusion, the screening must be very tall. The screening would also be very costly and/or take years to reach this level of maturity.

Screening Recommendations

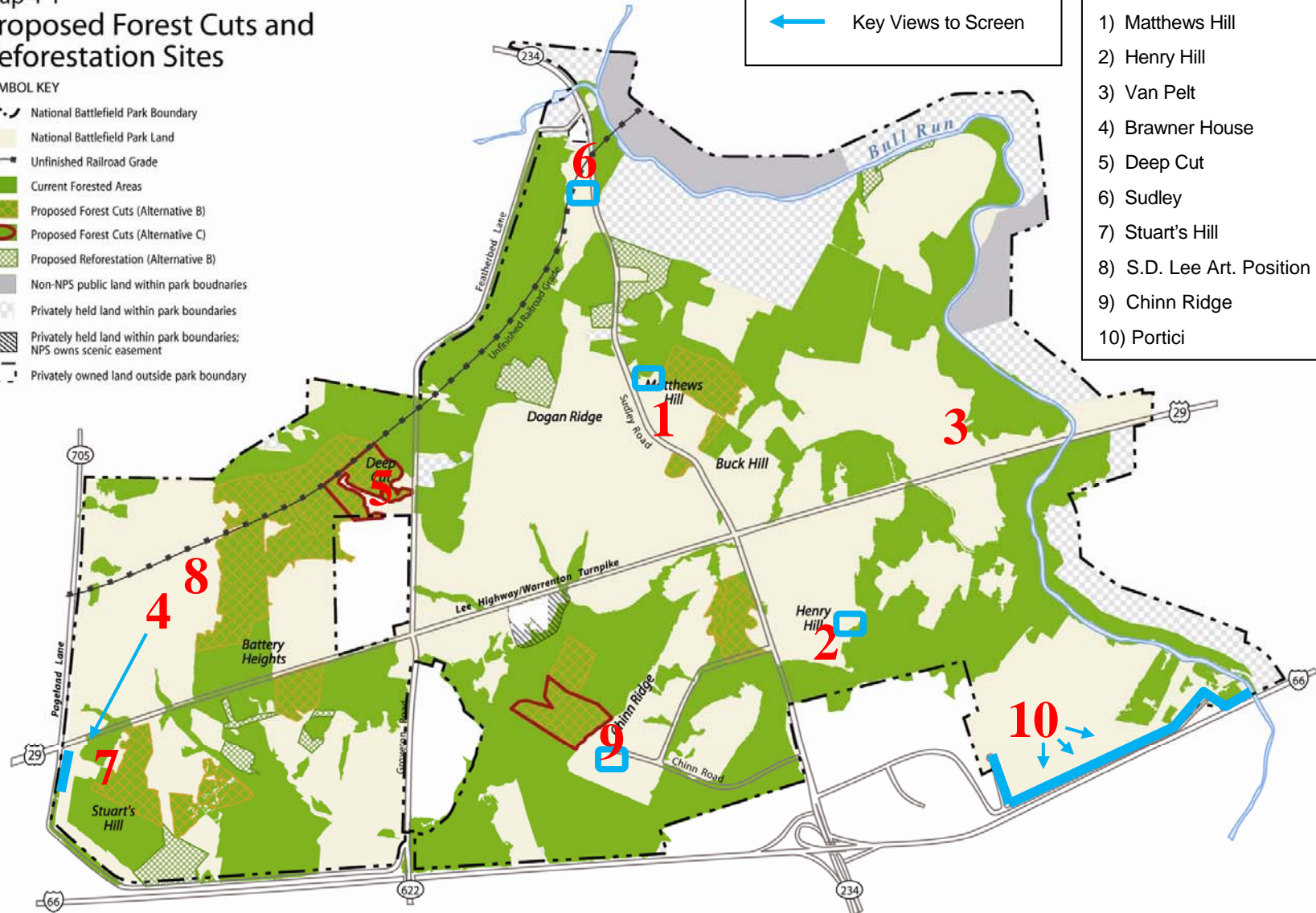
Based upon a review of aerial photograph maps, the panorama photographs of this plan's Background Study, and field observations, the vast majority of the studied viewshed do not need screening. Matthews Hill is a good example. As the panorama photographs of this viewshed reveal on page 24 of the Background Study, there are no significant visual intrusions within any direction of this viewshed. The one exception is the utility poles and overhead lines that parallel Route 234. However, they have a very minimal visual impact and screening them would preclude important views. Consequently, no screening is proposed for this viewshed. Henry Hill is another example where

screening is not recommended. The only significant post-war elements are the NPS Visitor Center and affiliated parking to the southwest. As is discussed later in this plan regarding the surviving integrity of various viewsheds, the Visitor Center was built in 1941 and is listed individually on the National Register of Historic Places. Thus, this building would not be considered a visual intrusion to be screened, although low hedges for the parking area would be advisable. Since the Visitor Center has taken on its own historic significance, and because screening close to it would preclude views from the center, screening is not recommended for this viewshed. Most of the other PVP viewsheds have similar circumstances. However, to the extent that screening is

Map 4-1 Proposed Forest Cuts and Reforestation Sites

SYMBOL KEY

- National Battlefield Park Boundary
- National Battlefield Park Land
- Unfinished Railroad Grade
- Current Forested Areas
- Proposed Forest Cuts (Alternative B)
- Proposed Forest Cuts (Alternative C)
- Proposed Reforestation (Alternative B)
- Non-NPS public land within park boundaries
- Privately held land within park boundaries
- Privately held land within park boundaries; NPS owns scenic easement
- Privately owned land outside park boundary

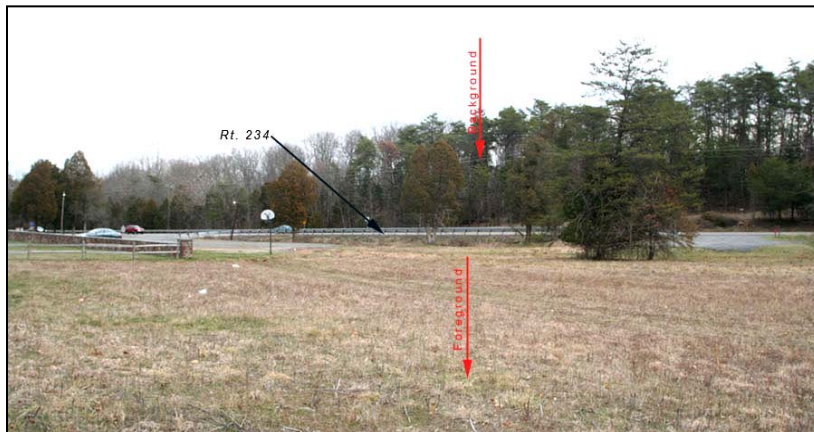


Base map source: Manassas National Battlefield Park Draft General Management Plan: Map 4-1 (2005)

recommended for specific viewsheds, the following suggestions are offered (see the map on the previous page for an illustration of locations):

Driving Tour Parking Lots

Because of existing trees flanking both sides of Route 234 along most of its segment through the Sudley viewshed, the utility poles and wires are not a significant issue. However, the parking lot for this driving tour stop is a slight intrusion for which modest screening is recommended. To avoid obscuring views, it is recommended that tall grass be allowed to grow around the perimeter of the parking lot. This same concept applies to parking lots associated with other tour stops at PVP viewsheds, including Henry Hill, Matthews Hill, and Chinn Ridge. Parking lot screening should be considered a low-priority objective



Although it should not be a particularly high priority, it is recommended that the perimeter of the parking lot at Sudley be screened somewhat by allowing the grass around it to grow tall.

relative to screening out modern development peripheral to the battlefield park, such as commercial development south of I-66.

Portici




As the panoramic photographs on page 78 of this plan's Background Study reveal, views to the south are degraded by commercial development on the other side of I-66. Although this development is in the distant background, it will inevitably increase over time with additional growth. It is recommended that a linear shaped screening be planted along the north side of the interstate approximately as depicted on the map on the previous page. As with other recommended screening, it should include enough evergreens to provide a year-round screen, it should feature native species, and the species should be diverse enough to avoid losing the screening to species-specific diseases.

Brawner House

Although the Brawner House viewshed currently has a relatively high level of integrity, the viewshed visibility map on page 40 reveals that parcels planned for Regional Employment Center (REC) immediately southwest and outside of the national park, if built, may alter that viewshed. An REC allows for buildings in excess of 75-100 feet in height. To mitigate the visual impacts of the REC, it is proposed that a dense landscape buffer be installed somewhere on the east side of Pageland Lane. However, the existence of the Dominion Virginia Power high-voltage lines and easement corridor along the western

boundary of the national park will require working around these obstacles since plantings cannot occur within the easement area. The map on the following page highlights areas of visibility from the Brawner House viewshed anchor relative to the potential new development. It must be kept in mind that the visibility map refers to the visibility of the current topography while factoring in variables such as the average height of a man (5 foot, 10 inches) and an average tree height of 40 feet where trees are relevant. The map does not address, however, the potential visibility of the potential REC development, which could be approximately ten stories in height within the western half of the site.



Legend

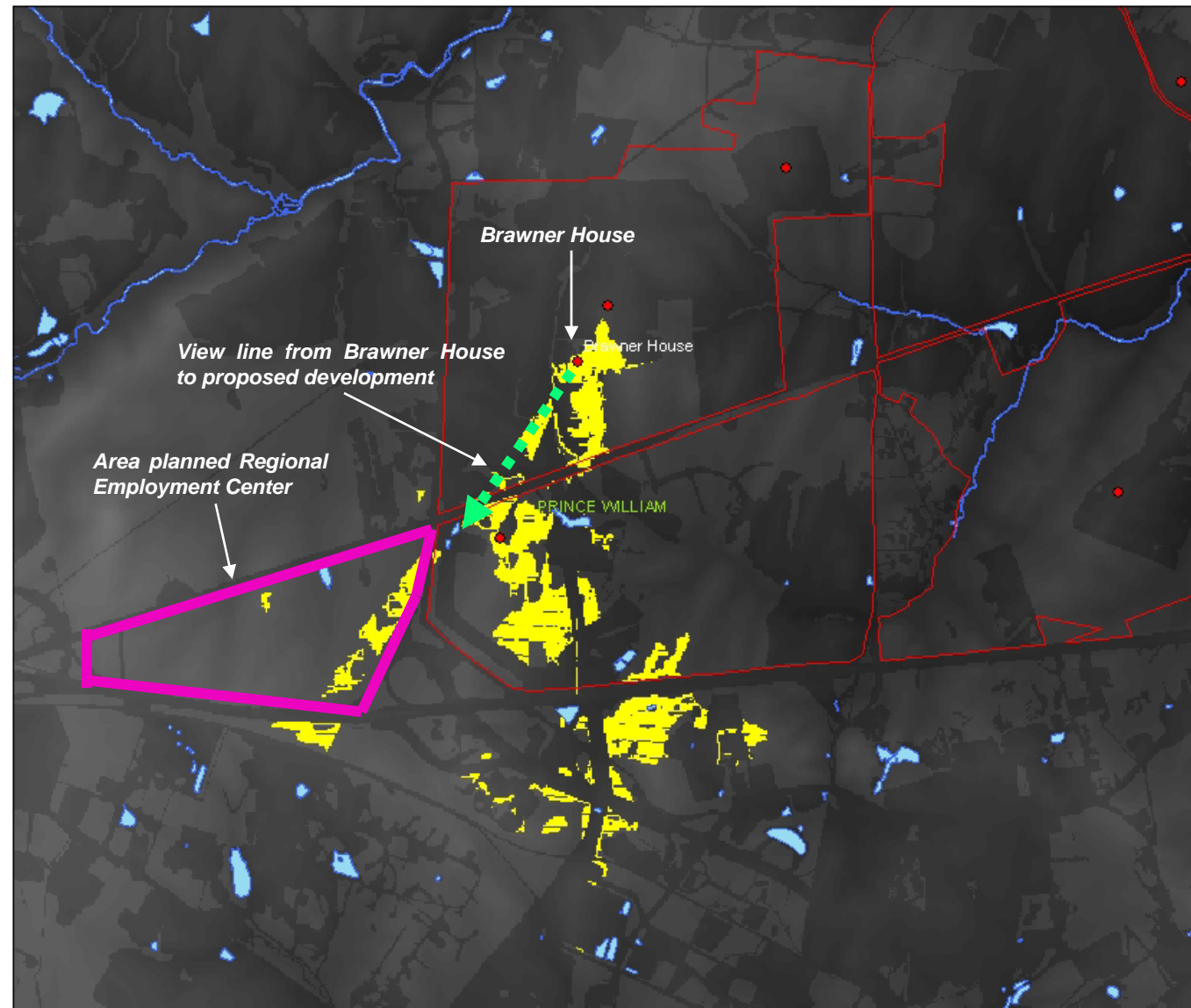
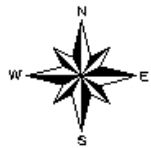
-  MNBP Boundary
-  County Boundaries
-  Lakes and Rivers

Brawner House Viewshed

-  Visible

40' Vegetation DEM**Value**

-  High : 428.279
-  Low : 34.3394



Map by TM Danninger, May 31, 2008

0 0.25 0.5 1 Miles

III. Priorities

Viewsheds Ranking System

An important step in preserving battlefield viewsheds is identifying the most important viewsheds in recognition that, typically, not all lands associated with a particular Civil War event can ultimately be protected. Consequently, viewsheds must be prioritized in order to match the importance of various viewsheds with appropriate preservation measures.

The viewsheds ranking system prepared as part of this plan is adapted from nationally-recognized standards that have been adapted and tested over time through planning efforts for several other Civil War battlefields. The Association for the Preservation of Civil War Sites (APCWS), which later evolved into the Civil War Preservation Trust (CWPT), developed a system to evaluate battlefield properties in accordance to their historic significance, historic integrity, physical features, and threats to preservation. The APCWS also included management considerations among its factors. However, because that consideration appears to be based upon fee simple acquisition by a public entity as the primary preservation method, it is not applicable to many battlefields. The Federal Civil War Sites Advisory Commission (CWSAC) developed a land ranking system similar to that of the APCWS. These systems have been combined and substantially adapted specifically

to be applied to viewsheds associated with the Manassas Battlefield.

Battlefields Versus Viewsheds

It is important to make a clear distinction between the process of prioritizing battlefield lands, the more common exercise, and prioritizing viewsheds. First, battlefield land prioritization typically involves a relatively finite number of privately-owned properties for which a property-specific evaluation is feasible. Viewsheds, on the other hand, can involve hundreds of individual properties because of the often enormous land areas encompassed. Secondly, some of the evaluation factors considered for battlefields are less useful or more difficult to quantify when applied to viewsheds. For example, the historic significance of battlefield lands can typically be split into the categories of: a) lands where the most significant actions of the battle occurred; b) other important lands associated with heavy combat; c) lands associated with lighter combat; and d) lands where there was no combat, but where troop movements and staging areas occurred. However, because of their expansive nature, many viewshed lands do not fall neatly within any of these categories. Thus, for historic significance to be employed as a consideration, modifications to the criteria for rating viewsheds are required.

For the Manassas Battlefields, two particular maps are informative, one for each of the battles. These maps, located on pages 8-9 of

the Background Study and summarized on the following page of this plan section, illustrate three specific areas:

Battlefield Core Areas: Locations where the primary combat occurred

Battlefield Study Areas: Locations peripheral to the Core Area where light combat, troop movements, encampments, staging areas, field hospitals and similar activities occurred ancillary to primary combat

Areas of Integrity: Referred to on the composite map on the following page as “Intact Battlefield Areas, these are locations where a high level of visual integrity has survived and the historic landscape has remained substantially intact

The relationships between these areas will come into play later in this plan.

The viewshed ranking system has been based upon the following three considerations:

- Historic Significance Visibility
- Surviving Integrity
- Potential Threats

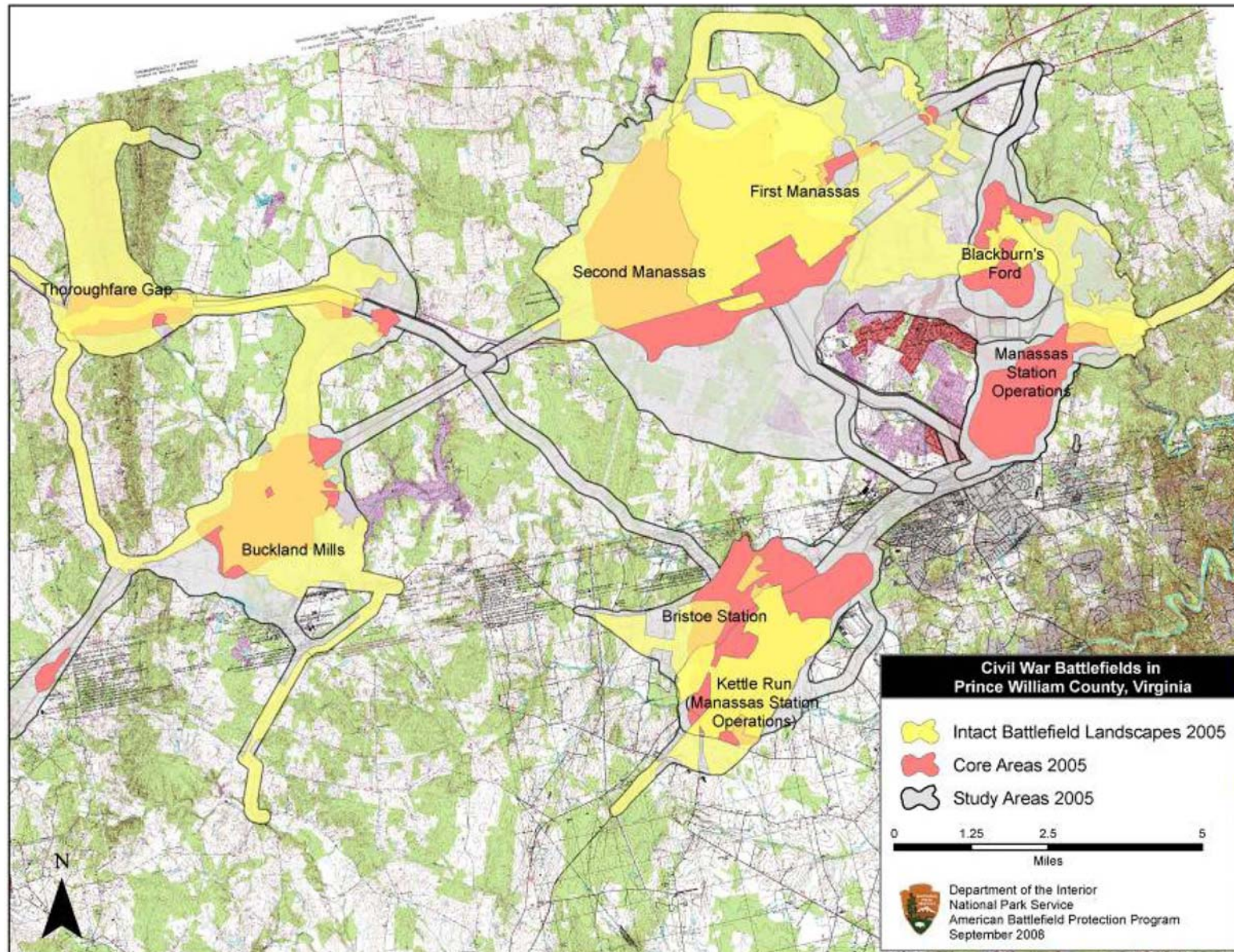
Each of these factors has a rating point system, and the composite

rating for each viewshed evaluated determines the viewshed’s priority level.

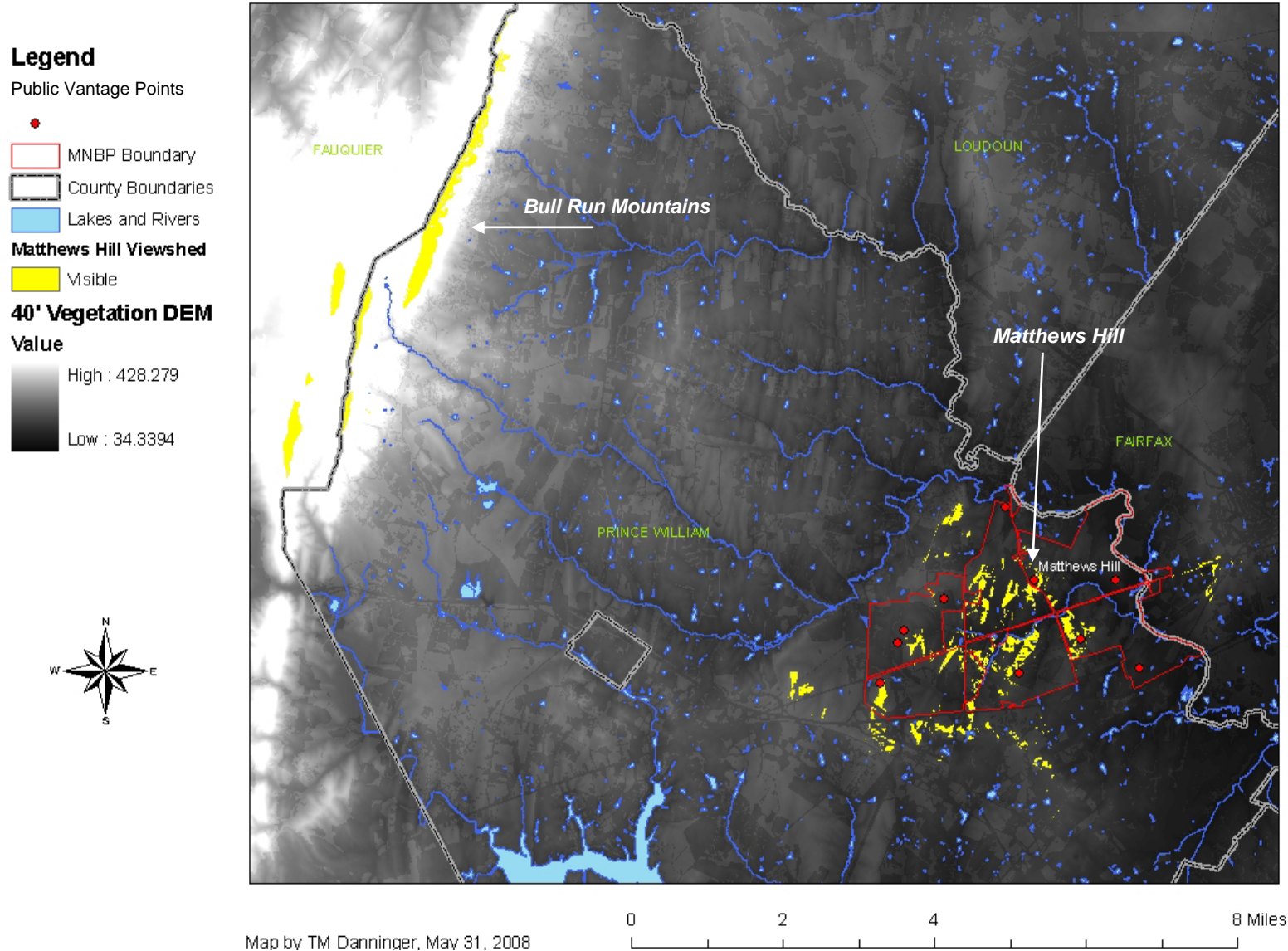
It is noteworthy that additional factors were originally considered but abandoned once it was determined that they were not viable. For example, one factor sometimes considered for battlefield lands and viewsheds is their public accessibility. Sites that are the most accessible are typically given a higher priority rating. While subtle distinctions can be made within the Manassas Battlefield, all of the PVPs and HBVs selected for study have strong accessibility, so this factor does little to substantially distinguish among the viewsheds.

Exception for the Bull Run Mountains

For the purposes of this viewshed ranking system, viewshed visibility for the Bull Run Mountains has been excluded from the calculations, as it would otherwise skew the results. For example, factoring them into the historic significance visibility (HSV) for viewsheds such as Matthews Hill and Henry Hill would result in most of their visible lands being located beyond both the core battlefield and ABPP study area. Furthermore, as the applicable photographic panoramas reveal, these mountains have a relatively low level of actual visibility. Factoring the mountains in would result in these two viewsheds receiving the lowest possible rating for this particular consideration, thereby undermining the intent of this exercise. See the map on page 44 for another example of this issue as it pertains to the Matthews Hill PVP viewshed.

First & Second Manassas Battlefield: Various Areas of Designation

Map Source: National Park Service



If the Bull Run Mountains, located ten miles away from the Matthews Hill viewshed anchor, were factored into the evaluation of that viewshed, the analysis would conclude that most of the viewshed's visible lands are outside of the national park boundaries (boundaries shown in red). That determination would result in a misleadingly high rating for the level of threat to the viewshed's integrity.

Historic Significance Visibility

The Historic Significance Visibility (HSV) refers to the estimated percentage of visible land within the core and study area. This consideration is categorized into three groups described below:

HSV-1 (3 points)

This classification features the most historically significant viewshed visibility level. Viewsheds designated as HSV-1 are those in which 50% or more of the visible lands are located within the “core” battlefield area where combat occurred.

HSV-2 (2 points)

This category includes viewsheds for which 50% or more of the visible lands are located beyond the core battlefield area, but 50% or more of those visible lands are located within the ABPP study area. As noted previously, ABPP study area lands found beyond the core battlefield lands are those areas that witnessed troop movements, staging areas, and similar non-combat activities.

HSV-3 (1 point)

This final category includes those lands in which 50% or more of the visible viewshed lands are located beyond the core battlefield, and more than 50% of those lands are located beyond the ABPP study area.

Applying the Rating System

Matthews Hill: HSV-1 (3 pts.)

Henry Hill: HSV-2 (2 pts.)

Van Pelt: HSV-3 (1 pt.)

Brawner House: HSV-1 (3 pts.)

Deep Cut: HSV-1 (3 pts.)

Sudley: HSV-1 (3 pts.)

Stuart's Hill: HSV-1 (3 pts.)

S.D. Lee Artillery Position: HSV-3 (1 pt.)

Chinn Ridge: HSV-1 (3 pts.)

Portici: HSV-3 (1 pt.)

This rating system does not indicate the relative historic significance of the viewsheds, as they are all considered significant. It is also based upon each viewshed in its entirety, rather than the viewshed anchor at which the viewer is positioned.

Surviving Integrity

A viewshed's surviving integrity level is based, in large part, upon the degree to which it has or has not been altered since the time of its historic significance. Alterations might include the construction of buildings, the development of new roads, or even changes in crop patterns or terrain. The best litmus test for determining integrity is the question “would the participants of the battle recognize this land today?” The earlier plan section (pages 32-41) recommending landscape screening included an analysis of the quality of each of the ten PVP viewsheds, and that analysis will serve as a basis for rating surviving integrity of viewsheds. The photographic panoramas contained in the Background Study are a further resource for this topic. Also, because the degree of change that has occurred to the landscape with regard to wooded area, crops and similar ground cover features is an important factor, the NPS maps from their

General Management Plan that depict the historic landscape and the proposed landscape revitalization (see pages 11-12 of the Background Study) will be factored in as well. It is noteworthy that the lands indicated as having high “integrity” on the maps on pages 8-9 of the Background Study and summarized on the map above (page 43) under “Intact Battlefield Landscapes 2005” were not considered, as these maps are considered by the NPS as a general guide, but may need further updating and evaluation.

There are five separate levels of integrity, which are weighted on a 5-point rating scale, as follows:

SI-1 (5 points)

Viewsheds rated as SI-1 are considered to be in pristine condition, in which there are virtually no visible “intrusions.” Examples of intrusions include significant modifications to the historic terrain and post-war development, not including NPS improvements that are necessary for interpretation and/or that have taken on their own significance with the passage of time (see more on this issue on the following page). SI-1s are becoming rare among Civil War battlefield landscapes across the country, but are still found in some rural areas.

SI-2 (4 points)

These viewsheds retain virtually all of their original topography, but contain minor to moderate alterations to the historic landscape, such as non-historic ground coverings. SI-2 viewsheds would

include lands that were cultivated fields during the battle, but are now overgrown with trees for timbering.

SI-3 (3 points)

These viewsheds retain a high degree of historic character whether the topography and ground cover has changed or not. However, they feature minor man-made visual intrusions, such as utility poles, overhead lines along a road, and high levels of automobile traffic on historic roads.

SI-4 (2 points)

These viewsheds are similar to SI-3s except modern development, cell towers, and/or high voltage power lines may be visible in the distant background. Such intrusions, however, should not significantly impair the overall character of the viewshed.

SI-5 (1 point)

The historic and visual integrity of SI-5 viewsheds has been substantially compromised by new development and similar changes that would challenge the ability of “the participants of the battle to recognize this land today.” Such intrusions, such a new (post-war) roads or substantially widened historic roads, may even be located as close as the middleground or foreground of the viewshed to an extent that it competes for attention with the balance of the viewshed.

As noted above, NPS-created improvements are treated differently from more conventional post-war improvements, such as “strip

commercial” development and residential subdivisions. Parking areas such as those for Sudley and Chinn Ridge are necessary in order for visitors to be able to access these sites and to enjoy their associated viewsheds. Not only is the parking area near Henry Hill necessary for access purposes, but the NPS Visitor Center was built in 1941 and has taken on its own significance, as evidenced by its listing on the National Register of Historic Places. With those qualifiers in mind, below is the rating system as applied to the surviving integrity of the ten Public Vantage Points:

Applying the Rating System

Matthews Hill: SI-3 (3 pts.)

Henry Hill: SI-3 (3 pts.)

Van Pelt: SI-2 (4 pts.)

Brawner House: SI-3 (3 pts.)

Deep Cut: SI-2 (4 pts.)

Sudley: SI-3 (3 pts.)

Stuart’s Hill: SI-2 (4 pts.)

S.D. Lee Artillery Position: SI-2 (4 pts.)

Chinn Ridge: SI-3 (3 pts.)

Portici: SI-4 (2 pts.)



Although the NPS Visitor Center is a post-war improvement, it is critical to telling the story of the two battles. It is also listed on the National Register of Historic Places. Consequently, its presence does not penalize the surviving integrity rating of the Henry Hill PVP viewshed.

Potential Threats

Relative to evaluating the level of threat for individual properties comprising a battlefield, identifying the threat level for an entire viewshed is more challenging because of the numerous individual properties involved. Each of the numerous properties within any given viewshed has different circumstances with respect to their zoning, ownership, current use, status of development, access, and other variables. Consequently, one property within a viewshed may be in imminent danger of being developed, while another property within the same viewshed is relatively safe. Nevertheless, it can be safely assumed that lands located within the national park are less vulnerable to negative impacts than lands outside of the park (notwithstanding the potential for road expansions, high voltage power lines, and similar intrusions that could occur even within the park). Of the developable lands located outside of the national park, those lands in Prince William County lacking public sewers should be considered less threatened than lands located elsewhere. The “rural crescent” is the informal name applied to lands outside of the battlefield that do not have public sewers and, therefore, feature a relatively low density zoning. A more general guide to development intensity that would be applicable to all counties adjacent to viewsheds is the land served by public sewers. See the map on page 49 that illustrates the land served by sewers relative to the park boundaries.

With these variables in mind, the issue of threats will be based upon the percentage of the visible viewshed lands that are: a) within the park; b) outside of the park, but within the non-sewered areas; or c)

outside of the park and within sewer areas. These factors will be based upon the same viewshed visibility maps featured on pages 23-77 of this plan's Background Study. Also, because this system of evaluation does not consider the potential negative impacts of expanded roadways, an extra point will be given to any PVP viewshed featuring a road within its foreground or middleground that is considered among the roads threatened by a potential future expansion (these roads are listed at the end of this page). There are four levels of potential threat, in addition to the consideration of potential road expansions:

PT-1 (4 points)

Less than half of the lands visible within PT-1 viewshed's are located in the national battlefield park. Of those lands beyond the park, more than half are also within sewer areas. Thus, more than a quarter of the viewshed's visible lands are seriously threatened by development even if formal development proposals do not yet exist. A review of the land visibility maps prepared during the Background Study phase of this planning process can determine this issue for each viewshed.

PT-2 (3 points)

This rating level is identical to the PT-1, except more than half of the visible lands lying outside of the national park are located within non-sewered areas. Thus, less than a quarter of the viewshed's visible lands are seriously threatened by development.

PT-3 (2 points)

More than half of the lands visible within PT-3 viewshed's are located in the national battlefield park. Therefore, at least half of these viewshed lands are protected.

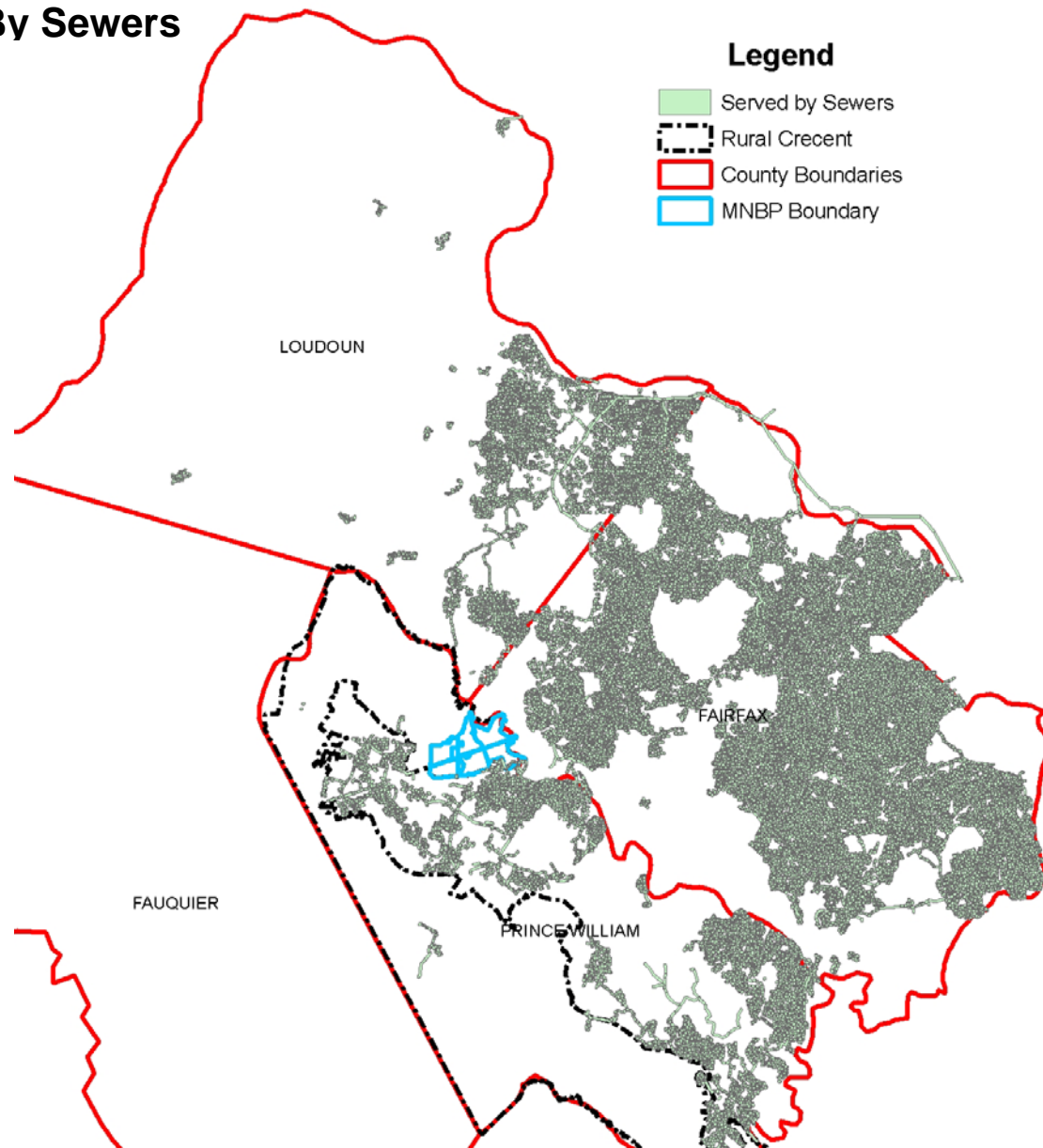
PT-4 (1 point)

All lands visible from a PT-4 viewshed anchor are located within the national park. Consequently, the viewshed is completely protected, with the exception of impacts that could conceivably occur within the park, such as road expansions.

Potential Road Expansions (1 point)

An additional point is added to any viewshed which features within its foreground or middleground an existing road having a substantial chance of being expanded in a manner that would negatively impact the integrity of the viewshed. The foreground, middleground and background are highlighted within the photographic panoramas contained within the Background Study of this report. The existing roads considered to be at substantial risk of future physical expansions are Rt. 29, Rt. 234 and Pageland Lane.

Areas Served By Sewers



Applying the Rating System

Matthews Hill: PT-3 +1 pt. (3 pts.)*
 Henry Hill: PT-2 + 1 pt. (4 pts.)*
 Van Pelt: PT-2 +1 pt. (4 pts.)*
 Brawner House: PT-3 + 1 pt. (3 pts.)*
 Deep Cut: PT-3 (2 pt.)
 Sudley: PT-3 + 1 pt. (3 pt.)*
 Stuart's Hill: PT-3 (2 pt.)
 S.D. Lee Artillery Position: PT-2 + 1 pt. (4 pts.)*
 Chinn Ridge: PT-3 (2 pts.)
 Portici: PT-2 (3 pts.)

* Includes 1 extra point for potential road expansions

The most surprising result of applying the rating system to the viewsheds for potential threats is the fact that the various proposed new developments just southwest of the national park are not visible from Stuart's Hill, which is the most southwestern of the ten Public Vantage Points (PVPs). See the map on the following page for an illustration of this finding.

Conclusions

The matrix on page 52 tabulates the rating scores of each of the ten PVP viewsheds based upon the three considered factors. Four tiers of priority were then established as a means of distinguishing between the ten, as follows:

Tier 1

Matthews Hill (9 pts.)
 Henry Hill (9 pts.)
 Van Pelt (9 pts.)
 Brawner House (9 pts.)
 Deep Cut (9 pts.)
 Sudley (9 pts.)
 Stuart's Hill (9 pts.)
 S.D. Lee Artillery Position (9 pts.)

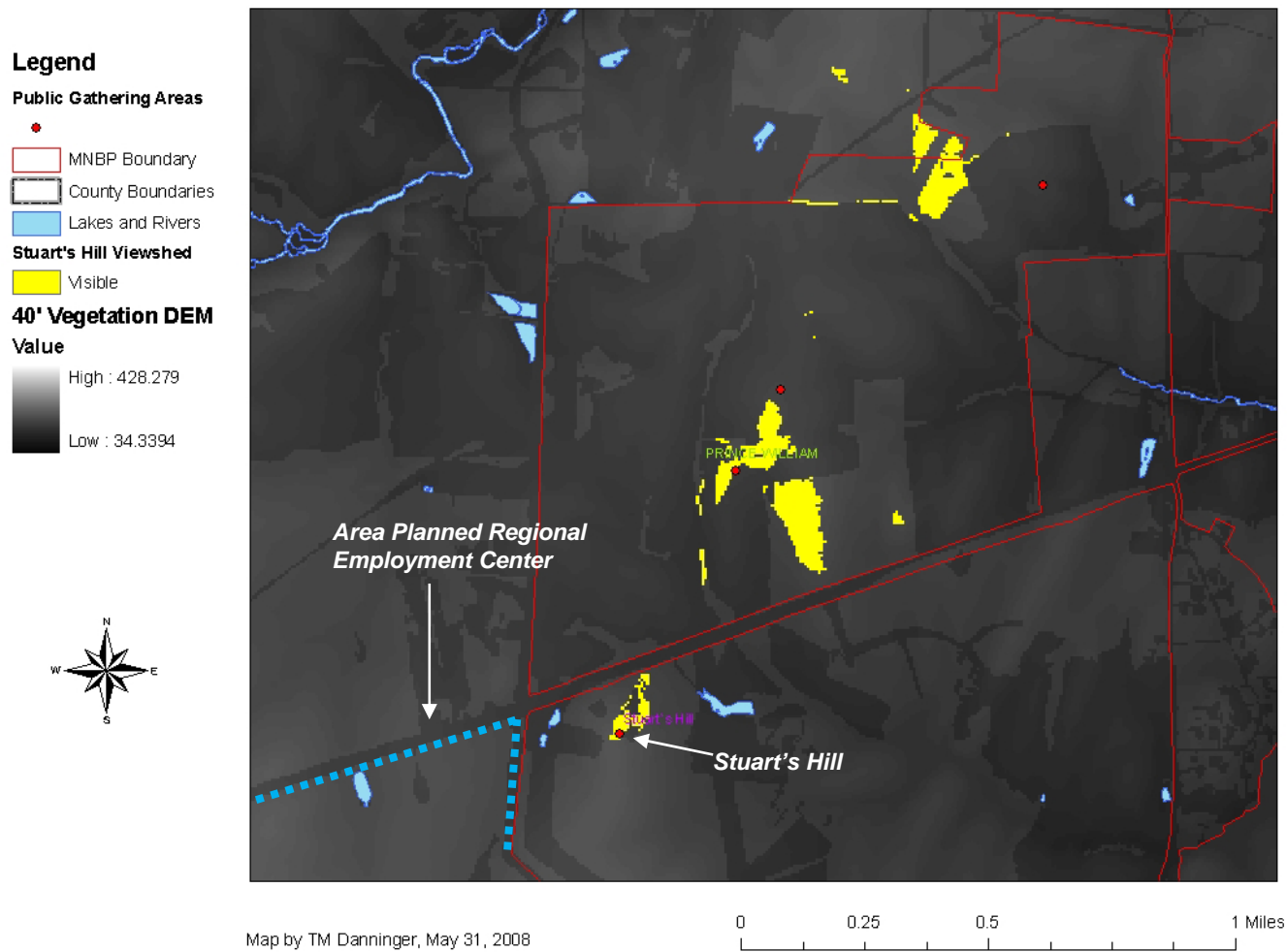
Tier 2

Chinn Ridge (8 pts.)

Tier 3

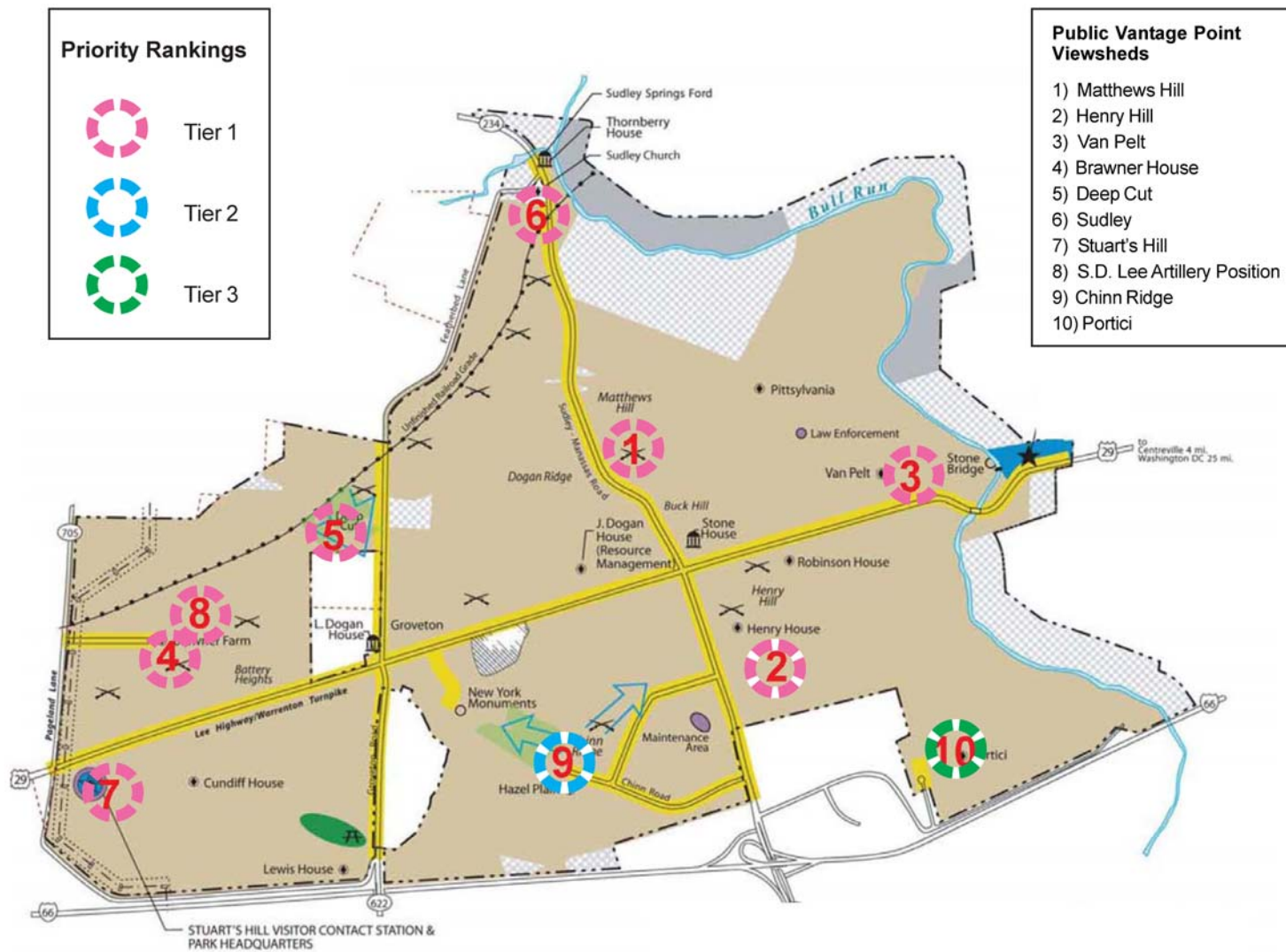
Portici (6 pt.)

Of the ten PVPs studied, eight share the highest score of 9 points, while Portici has the lowest score at 6 points. Chinn Ridge has a score of 8 points. As the map on page 53 reflects, there are no discernable patterns of similarly rated PVPs with respect to geography, battles (First Manassas versus Second Manassas), or other key factors, although the only two PVPs that did not get Tier 1 rankings are in the most southerly portion of the battlefield park. This result stems from the fact that eight of the ten PVPs had the exact same score. It must be emphasized that, while prioritizing is a useful exercise given limited resources for plan implementation and the potential need for phasing efforts, the results should not cause the lower ranked viewsheds to be overlooked in future viewshed preservation efforts.



Areas in yellow above represent lands visible from the Stuart's Hill viewshed anchor. Despite the close proximity of potential new development (see dashed blue lines above), it would not be visible from this viewshed anchor. However, it would be clearly visible from other areas near this location, such as from Route 29 and Pageland Lane.

Prioritization Matrix					
Revised - 6/29/09					
	Historic Significance Visibility	Surviving Integrity	Potential Threats	Composite Rating	Priority Ranking
Viewshed	(1 to 3 pts.)	(1 to 5 pts.)	(1 to 5 pts.)	(3 to 13 pts.)	NA
Matthews Hill	3	3	3	9	Tier 1
Henry Hill	2	3	4	9	Tier 1
Van Pelt	1	4	4	9	Tier 1
Brawner House	3	3	3	9	Tier 1
Deep Cut	3	4	2	9	Tier 1
Sudley	3	3	3	9	Tier 1
Stuart's Hill	3	4	2	9	Tier 1
S.D. Lee Artillery Position	1	4	4	9	Tier 1
Chinn Ridge	3	3	2	8	Tier 2
Portici	1	2	3	6	Tier 3



Base Map Source: Manassas National Battlefield Park Draft General Management Plan (2005)

IV. Implementation

Plan Implementation Matrix

On page 56 is a matrix that summarizes the following information for each of the ten Public Vantage Point (PVP) viewsheds: priority level, greatest threats, and recommendations. The priority level for each viewshed is based upon the “Priorities” section of this plan in which every viewshed is categorized into four tiers of priority in accordance with three key considerations. Although most of the viewsheds face multiple threats to their integrity, the key one or two threats are recognized here. In most cases, those threats are in the form of development beyond the national park’s boundaries and the expansion of roads traversing the national park. The third issue addressed in the matrix for each viewshed is the recommendations, which primarily include a battlefield viewsheds protection area, landscape screening, and the use of federal regulatory tools to address road expansions. It must also be kept in mind that even if the Battlefield Viewsheds Protection Area (BVPA) is not implemented, Prince William County can move forward with amending its zoning ordinance to 1) incentivize cluster development provisions for viewshed protection under Sections 32-300.40-43 and 32.300.50-53, and 2) add preservation and viewshed protection as purposes to preserve viewsheds under Section 32-250.40.

Height Testing Tool Summary

As development proposals arise within the proposed Battlefield Viewsheds Protection Area (BVPA), the height of buildings and structures may need to be negotiated to preserve the battlefield viewsheds. Currently, however, no known computer programs exists that can map height thresholds for all distances and in all directions from a specified viewshed anchor. Nevertheless, it is possible to test out various building heights at a particular point when viewed from a specific viewshed anchor through a trial and error process.

The process for conducting such a test is described in detail in Appendix B of this plan, and an example of such testing is illustrated on the following page. Page 55 tests an existing water tower located roughly one half mile south of the national park. The computer model indicates that this tower, at 148 feet in height, is visible from six of the ten PVP viewshed anchors. Clearly, this computer model developed specifically for this project can be an extremely useful tool in dealing with potential developments that might impact battlefield viewsheds.



The existing water tower shown above (circled in red) is 148 feet in height and located on Bethlehem Road roughly a half mile south of the battlefield park. The various colors superimposed on the water tower, related improvements and the ground surface reflect the number of PVP viewsheds (from 1 to 6 of 10) from which those site elements would be visible.

PVP Viewsheds Implementation			
Viewshed	Priority	Greatest Threats	Recommendation (Note: Recommendations may apply to more than one threat)
Matthews Hill	Tier 1	Expansion of Rt. 234	Utilize Section 106 and Section 4(f) to consider alternatives or achieve mitigation Fund the Battlefield By-Pass
Henry Hill	Tier 1	Development south of the park (com. college) Expansion of Rt. 234	Implement a Battlefields Viewshed Protection Area in Prince William County Utilize Section 106 and Section 4(f) to consider alternatives or achieve mitigation Fund the Battlefield By-Pass Utilize existing policies related to development clustering, trees, landscaping and buffering
Van Pelt	Tier 1	Expansion of Rt. 29 Development northeast of park	Utilize Section 106 and Section 4(f) to consider alternatives or achieve mitigation Implement Battlefields Viewshed Protection Areas in Loudoun & Fairfax Counties Fund the Battlefield By-Pass Utilize existing policies related to development clustering, trees, landscaping and buffering
Brawner House	Tier 1	Expansion of Rt. 29 Development southwest of park	Utilize Section 106 and Section 4(f) to consider alternatives or achieve mitigation Provide vegetative screen along east side of Pageland Lane out of utility easement Fund the Battlefield By-Pass Utilize existing policies related to development clustering, trees, landscaping and buffering
Deep Cut	Tier 1	Expansion/improvements to Featherbed Lane Development south and southwest of park	Utilize Section 106 and Section 4(f) to consider alternatives or achieve mitigation Implement a Battlefields Viewshed Protection Area in Prince William County
Sudley	Tier 1	Expansion of Rt. 234 Development north of park	Utilize Section 106 and Section 4(f) to consider alternatives or achieve mitigation Implement Battlefields Viewshed Protection Areas in Loudoun & Fairfax Counties Fund the Battlefield By-Pass Utilize existing policies related to development clustering, trees, landscaping and buffering
Stuart's Hill	Tier 1	Development south and southwest of park	Provide vegetative screen along east side of Pageland Lane out of utility easement Implement a Battlefields Viewshed Protection Area in Prince William County Utilize existing policies related to development clustering, trees, landscaping and buffering
Stephen D. Lee Artillery Position	Tier 1	Development east & west of park	Implement Battlefields Viewshed Protection Areas in Prince William & Fairfax Counties Utilize existing policies related to development clustering, trees, landscaping and buffering
Chinn Ridge	Tier 2	Development east & south of park	Implement Battlefields Viewshed Protection Areas in Prince William & Fairfax Counties
Portici	Tier 3	Development east, north & south of park	Implement Battlefields Viewshed Protection Areas in Prince William & Fairfax Counties Provide a vegetative screen along the north side of I-66 Utilize existing policies related to development clustering, trees, landscaping and buffering

APPENDICES

Appendix A: Funding & Entities

Appendix B: Height Testing Tool

Appendix C: Public Comments

Appendix A: Funding & Entities

APPENDIX A: Private Land Control Tools & Funding Sources

PRIVATE LAND CONTROL TOOLS

The following materials regarding land control tools are only for supplemental informational purposes and are not recommendations. For the purposes of this plan, the term “land acquisition tools” is used broadly to refer to the full range of levels of real estate control. For example, a fee simple purchase of land gives the owner the full range of property rights, while acquisition tools such as conservation easements give the owner of the easement more limited property rights. The following are land acquisition vehicles that might supplement the recommended regulatory tools if there is support from appropriate entities.

Fee Simple Purchase

This acquisition method is the most controlling and costly, as it extends the entire “bundle of rights” to a land owner. Under fee simple ownership, there are no limitations on the landowner's ability to use their property other than those imposed by governmental regulation. In light of battlefield viewshed protection efforts, fee simple acquisition provides the greatest level of control, but it is also the most costly approach, especially in areas which have

experienced inflated land values because of development pressures. Fee simple purchase is the most common form of Civil War site protection used in the past both nationally and in Virginia.

Conservation Easements

Conservation easements, sometimes referred to as scenic easements, are a tool which can be used to control one or more aspects of property development without having to actually purchase the parcel outright. To protect historic resources such as a battlefield viewsheds, an interested party may purchase a conservation easement so that a piece of property remains in agricultural use or some other undeveloped state. The easement owner or “holder” purchases the development rights to the property. The landowner continues to own the property and it remains on the property tax rolls. Conservation easements “run with the land” and are thus binding on subsequent owners.

A property owner may benefit from the sale of an easement through a lower property tax burden. By limiting the development potential of a parcel, a conservation easement reduces the property's market value and associated tax liability. An exception to this rule is land located in very rural areas having no development pressure, in which case agriculture and similar uses are considered its “highest and best use.” However, that scenario does not currently apply to Manassas.

The advantage of an easement purchase is that it is typically less expensive than a fee simple purchase. On the other hand, owners of conservation easements generally lack most of the other land rights gained through fee simple purchases, such as unrestricted access to, and use of, the land. However, for the purpose of viewshed preservation, access to the land is not a high priority. One good example of the successful use of conservation easement purchases for battlefield preservation can be found in Maryland. The Maryland Department of Natural Resources, through its Program Open Space (POS), has purchased easements for numerous properties comprising those portions of the Antietam Battlefield peripheral to the National Park holdings. Closer to home, the Virginia Outdoor Foundation (VOF) has protected a total of 31,000 acres in Fauquier County through conservation easements at the time of the writing of that county's comprehensive plan.

Restrictive Covenants & Deed Restrictions

These two potential preservation tools are essentially identical to conservation easements in that they place certain limitations on the use of property. A covenant is simply a guarantee or formal agreement made by one party to another. In law, it is a written agreement under seal, in which the parties agree to do or refrain from doing something. In order for a grantor to enforce the covenant, it must "run with the land." According to *The Prentice Hall Real Estate Investor's Encyclopedia*, "a covenant is no better than the party or parties making the covenant." A deed restriction is a

limitation in a deed of conveyance in which future owners of the property are denied full ownership. For the restriction to prevail, the deed must clearly indicate the intent of the grantor to transfer less than a full estate. Although they are effectively the same as easements, restrictive covenants and deed restrictions are used less frequently than easements within the context of historic resource preservation.

Options / Rights of First Refusal

This preservation tool is a legally binding agreement between a property owner and a potential purchaser. An *option* agreement provides that, for a consideration (generally payment), a party may purchase a specific property at a previously agreed-upon price within a defined period of time. If the option is not exercised, the consideration is forfeited. In short, the property owner is compensated for having essentially removed the property from the sales market. A *right of first refusal* allows a potential buyer a fixed period of time (typically 10 to 90 days) to match any legitimate offer made to the owner for a parcel of real estate. Sometimes they are held for years and only come into play when an offer is accepted by the owner, but they can be effective in securing a long-term commitment from land owners. For accomplishing battlefield protection goals, the option or right of first refusal would typically be used in an emergency situation in which historic lands or resources are in imminent danger of injury. This approach is particularly

appropriate for stalling a development proposal while literally “buying time” to identify possible funding sources for fee simple acquisition.

Land Donations

Fee simple ownership of land or a limited interest in land, such as a conservation easement, may be conveyed by an individual or entity to a qualified non-profit organization or government which serves as the steward for such lands. In the case of a donation by an individual or private sector entity (i.e. corporation), the donor may be eligible for a federal and state income tax deduction for such a charitable contribution so long as the recipient is either a public agency or a private non-profit entity which conforms with section 501(c)(3) of the IRS code. Property owners contemplating the donation of land for tax benefits should consult an experienced accountant to insure that all Internal Revenue Service requirements are met in order to gain a tax deduction. Although the cost-saving advantages of land donations are obvious, they are a relatively uncommon occurrence. According to the Civil War Sites Advisory Commission’s “Report on the Nation’s Civil War Battlefields” (1993, pg. 27), “... tax benefits for land donations are impractical for most private owners of battlefield lands.”

Other Land Acquisition Tools

Although their likelihood for preserving Manassas Battlefield viewshed lands is not strong, other potential preservation tools

include life estates, purchase and sell-back or lease-back, and property exchanges.

Life Estates

A life estate is a form of real estate ownership that is limited in duration to the life of the owner or some other designated person. Unlike an estate of inheritance, the ownership rights cannot be passed on to the owner’s heirs, with the exception of a designated person as limited to the duration of their lifetime. When an estate is passed on to such a third party, this form of life estate is termed “*pur autre vie*” (for the life of another). In entering into a life estate, the life tenant’s interest remains completely intact, and they are not answerable to the holder of future interests, referred to as the remainderman. The life tenant is responsible for all of the burdens of ownership, such as property taxes, and is also privileged to all benefits, such as income. Their only restriction is the performance of any acts which would permanently injure or waste the land.

Within the context of battlefield viewshed protection, a life estate is an excellent option for a property owner who wishes to remain on their land for the duration of their life, but who wishes that the integrity of the land remains protected after they are gone. The “*pur autre vie*” approach also gives a property owner a sense of peace that their relatives will be accommodated in the future. The advantage for the life tenant is that they can receive money for their property while still remaining on it, and the advantage to the

purchasing party is the immediate protection of threatened historic properties.

Purchase and Sell-Back or Lease-Back

This procedure entails the acquisition of land, typically by a public or private non-profit entity, which is then sold or leased back to the previous owner, but with restrictions placed on the land. In the case of a sell-back, such restrictions would usually be in the form of an easement, deed restriction or covenant, and the buyer (former owner) would generally pay less for the land than the original selling price because of a corresponding value decrease caused by the new restrictions. In the case of a lease-back, any specific restrictions on the land's use or development would be specified within the language of the lease agreement. The purchase and sell-back method is essentially the same as the purchase of a conservation easement because the entity seeking some aspect of control ends up paying for the value of that control as reflected in the reduced sales price.

Property Exchanges

Property exchanges are a valuable tool in those instances in which acquisition funds are limited or unavailable, yet a property owner is willing to give up battlefield viewshed lands in exchange for other non-historic lands having an attractive use/development potential. In the case of national parks, federal laws require that federal lands selected for exchange must be within the same state as the

national park to which the lands will be added. In those cases in which the exchanged lands are not of equal value, which is often the case, cash is used to equalize the difference. In those rare cases in which the lands exchanged are of equal value, the private individual or entity can avoid capital gains taxation per section 1031 of the IRS code. For rural properties which have steadily appreciated in value because of increasing development pressure, as in the case of the Manassas Battlefield area, the avoidance of capital gains tax can be quite significant. In certain situations, such property exchanges can be an effective tool for protecting Civil War resources.

FUNDING SOURCES

The primary source of funds for battlefield protection efforts come from governmental and private non-profit organizations. While governmental funding sources are relatively limited, the number of private non-profit organizations involved in battlefield protection issues has grown substantially over the last several years. There are a variety of private non-profit organizations that are involved with Civil War heritage protection, as well as those indirectly involved with related issues, such as open space and farmland preservation. These organizations include the following:

Private Organizations

Several historic preservation and Civil War organizations exist at the national, state and local levels, and some have considerable funds available for “eleventh hour” land acquisitions. Although environmental organizations do not typically give high priority to Civil War battlefield protection, they are certainly interested in protecting natural open spaces, so there is clearly an overlap of common interests. In particular, the following groups should be considered as allies for battlefield preservation:

Civil War Preservation Trust (CWPT)

The CWPT is a 60,000-member nationally-based non-profit entity that acquires Civil War battlefield lands to preserve them in perpetuity. Working with local partners, they have preserved more than 23,500 acres of endangered battlefield land in 18 different states.

National Parks Conservation Association (NPCA)

Founded in 1919, the 350,000- member NPCA is the country’s only private non-profit advocacy organization dedicated to the preservation and enhancement of the National Park System.

National Parks Mid-Atlantic Council

With a focus on National Parks located in Pennsylvania, Maryland, Virginia and West Virginia, this regional version of the NPCA was established in 1982.

National Trust for Historic Preservation (NTHP)

As the country’s leading national non-profit focused on preserving America’s history and historic resources, this 250,000-member organization is headquartered in Washington, DC and has a series of regional offices, including a Mid-Atlantic office in Philadelphia.

Preservation Alliance of Virginia (PAV)

As the state’s private, non-profit organization for historic preservation, it is essentially a state-level version of the National Trust. Its membership includes 140 local and regional preservation groups, 50 corporate members and nearly 1,000 individuals.

Conservation Fund

Established in 1985, this self-described “non-membership, non-advocacy organization” has protected more than 5.5 million acres of natural land. The Conservation Fund’s Civil War Battlefield Campaign, with its partners, has protected over 8,000 acres on 33 battlefields.

Richard King Mellon Foundation

Working closely with the Conservation Fund, described above, this philanthropic entity has acquired historic lands on eight Civil War battlefields.

Other Relevant Organizations

Additional groups that might be looked toward to partner in viewshed preservation efforts related to the Manassas Battlefield include:

- Association for the Preservation of Virginia Antiquities
- Virginia's United Land Trusts
- Land Trust Alliance
- Land Trust of Virginia
- Trust for Public Land
- American Farmland Trust
- National Park Trust
- National Forestry Land Trust
- The Nature Conservancy
- Scenic Virginia
- Virginia Outdoors Foundation

Federal Funding & Incentives

Most governmental sources of funding for the protection of Civil War battlefield lands and their associated viewsheds are at the federal level or are locally derived funds generated by a specific tax or fee having a *rational nexus* (direct relationship) to the benefiting cause. While the following sources are not an exhaustive list of all possibilities, they do include the most frequently used funding methods. Of all governmental funding sources, the federal level has

the strongest track record in assisting with the preservation of Civil War battlefield lands during the past few decades. In addition to direct appropriations from Congress for national park acquisitions, the Department of the Interior and the federal transportation programs have been good funding sources in recent years.

Federal Appropriations

Federal appropriations sometimes fund additional land acquisitions at national parks for federally authorized lands, as was done during the late-1990s when the Stones River National Battlefield Park in Tennessee added approximately 700 acres to the park. National Park Service (NPS) funds for land acquisition are typically a result of direct line item appropriations from Congress. Efforts toward that end are generally sponsored by a Senator or Representative from the state in which the national park is located. In considering the acquisition of land for new parks, the following criteria are used in accordance with the 1988 *Management Policies: US Department of the Interior*:

- National significance of the site
- Availability of other protection options
- Whether the type of site proposed is already represented in the NPS system
- Size and configuration of the land
- Ability to accommodate public use
- Vulnerability to threats

- Administrative cost and feasibility
- Acquisition cost
- Management alternatives

The Land and Water Conservation Fund (LWCF) was established by Congress in 1964 to create parks and protect natural lands across the country. Since its inception, the fund has acquired nearly 7 million acres and developed more than 37,000 state and local projects. The program now provides up to \$900 million in funding for local and national projects. In recent years, Congress has appropriated funds from the LWCF to protect battlefields. Such funds require a one-to-two match of federal to local/private funds.

National Park Service: American Battlefield Protection Program

This program of the NPS focuses primarily on offering a balanced program of technical assistance and direct financial support to those organizations involved in preservation planning and coalition building to save battlefield resources. Although ABPP funding goes primarily toward planning activities, examples of the types of projects funded by the ABPP include:

- Historic sites surveys
- Resource preservation plans
- Interpretation plans
- Interpretive tools / products

- Educational efforts
- Consensus building projects

There is generally less emphasis on providing funding for interpretation plans and interpretive tools/products. Funding rounds occur annually, and those seeking funding must complete an ABPP application describing: the project need, the proposed methodology, intended results, merits of the project, and estimated costs. Funding typically averages between \$20,000 and \$25,000 per project, although grants can be for either larger and smaller amounts, depending upon the specific project. In fact, this very plan was funded by a grant from the ABPP to Prince William County.

Federal Transportation Enhancement Funds

The Safe, Accountable, Flexible, Efficient Transportation Equity Act (SAFETEA) of 2005 requires that each state use at least 10% of its federal surface transportation funds toward twelve types of transportation “enhancement” activities, such as pedestrian and bicycle paths, scenic easement acquisition, the restoration of transportation-related historic sites, landscaping and beautification for transportation facilities, removal of outdoor advertising, and similar activities. Of particular relevance to the Manassas Battlefield is the program’s funding of the “Acquisition of scenic or historic easements and sites.” Similarly, landscaping and scenic beautification are very relevant funded projects. However, lands

not visible from a public road are ineligible unless their development would otherwise negatively impact the viewshed as seen from the road. Regardless of such limitations, according to the American Battlefield Protection Program's *Battlefield Update* newsletter (Issue No. 70), this federal program "represents the largest source of funding for battlefield preservation and enhancement projects currently available."

Each state allocates its transportation enhancement funds differently. Some states only fund projects having a strong link to transportation, while others will fund applications for projects having a looser connection to transportation. For example, the State of Maryland's Department of Transportation allocated federal transportation enhancement funds to match Program Open Space funds and purchase conservation easements on the Antietam Battlefield. Similarly, in 1992 the Kentucky Department of Parks used \$2.5 million of enhancement funds at Perryville to acquire battlefield lands, purchase property downtown, and create an interpretive plan. That funding was coupled with a required 20% match raised by the Perryville Battlefield Preservation Association.

In Virginia, the Virginia Department of Transportation (VDOT) manages this program and has its own specific criteria, although most mirrors the federal law. The maximum amount awarded per project is \$1 million. Eligible applicants, including State agencies, local governments and non-profit groups, must apply for funding

through an annual competitive grant process and must provide a 20% match to any funds received. However, such match can include land donations, volunteer work, and in-kind services.

State Funding & Incentives

At present, with the exception of the State's role in distributing federal transportation enhancement funds, the key source of State funding for preservation relevant to battlefield viewsheds is the Certified Local Government Grants program.

Certified Local Governments Program

This federal program, which is administered by DHR in Virginia, is intended to encourage local governments to engage in preservation. CLGs receive a minimum of 10% of the dollars distributed through the Federal Preservation Grants Program. In order to qualify as a CLG, local governments must engage in preservation activities such as historic sites surveys, historic designation, establishment of a preservation commission, and similar activities as determined by DHR. The types of activities funded by CLG grants include historic sites surveys, preservation plans, historic district design guidelines, historic interpretation, and the preservation and rehabilitation of publicly-owned historic sites. There are presently 31 CLGs in Virginia, including Prince William County.

Appendix B: Height Testing Tool

Development Height Testing Tool

Viewshed Procedure Log

This procedure documents the steps in illustrating the number of PVP's that have visibility to the buildings proposed for a proposed development named FutureDev. It uses as a base both the non-vegetation and the 40 foot vegetation DEM's prepared during the MNBP Viewshed Study.

Procedure:

1. Capture the proposed FutureDeve's Generalized Development Plan or its Site plan as a .jpg file named SitePlan.jpg.
2. Open ESRI ArcMap and load SitePlan.jpg and the LongRangeLanduse layer.
3. Georeference SitePlan.jpg.
4. Created Polygon Shape File:
 - Data Management Tool → Feature Class → Create Feature Class
Output Location ...\\ViewStudy_02
Output Feature Class: Buildings
Geometry Type: Polygon
Coordinate System: NAD_1983_StatePlane_Virginia_North_FIPS_4501_Feet
5. Manually edit in all building polygons from SitePlan.jpg into Buildings file and entered Building ID's and Building Height in Feet.
6. Add Field to Buildings: BldgID, Text, 10
7. Add Field to Buildings: BldgHt_F, Integer
8. Add Field to Buildings: TotalHt_M, Float
9. Create Polygon Shape File of Viewshed Study Area → ThreePExt
10. Extract raster of Building Footprints from non-vegetation DEM.
 - Spatial Analyst Tools → Extraction → Extract by Mask
Input Raster: 97559082_spt
Feature Data Mask: Buildings
Output Raster: ...\\Viewstudy_02\\SitePlan

11. Retrieved Data from SitePlan Properties dialogue.
Low: 87.607 Meters
High: 105.035 Meters
Average: 96.724 Meters
Standard Deviation: 4.066 Meters.
(These numbers represent the height statistics for the land under the planned buildings)
12. Calculate TotalHt_M field in Building Shape File.
1 Foot = 0.3048 Meters.
$$\text{TotalHT_M} = 96.724 + 0.3048 * [\text{BldgHt_F}]$$
13. Extract raster of Study Area from vegetation DEM.
 - Spatial Analyst Tools → Extraction → Extract by Mask
Input Raster: 40_tot_fix
Feature Data Mask: ThreePExt
Output Raster: ...Viewstudy_02\3base
14. Create raster from Building Shape File.
 - Conversion Tools → To Raster → Feature to Raster
Input Feature: Buildings
OutPut Raster: ...Viewstudy_02\Avg_Bldgs
Field: TotalHt_M
15. Mosaic to New Raster
 - Data Management Tools → Raster → Mosaic to New Raster
Input Rasters: 3base, Avg_Bldgs
Cell Size: 34.72813197 (same as in DEM rasters)
Output Raster: ...Viewstudy_02\Avg_Total
Pixel Type: 32-bit Float
16. Run Viewshed
 - Select all PVP sites in Viewshed Shape file
 - Spatial Analyst Tools → Surface → Viewshed
Input Raster: Avg_Total
Input Features: Viewshed
Output Raster v_pga_avg_all

Output Maps: see page 56 for an example of the output map.

Appendix C: Public Comments

**Public Comments and Responses
on the
draft Viewshed Preservation Plan**

Presented on 7 p.m. on January 13, 2010 in the Henry Hill Visitor Center,
Manassas National Battlefield Park

Introduction

The draft Viewshed Preservation Plan was made available to the public and interested groups on December 22, 2009. Copies of the draft Viewshed Preservation Plan (VPP) were available to read at the Henry Hill Visitor Center, at Park Headquarters; in the Prince William County Planning Office; at the Chin Regional, Bull Run Regional, Central Community, and Gainesville Neighborhood libraries; and on-line at <http://parkplanning.nps.gov/> (under Parks select Manassas NBP, select Conduct Study of Critical Historic Viewsheds of Manassas Battlefield, select Open for Public Comment). An e-mail distribution list was also used to send notice of the draft VPP open comment period.

Comments were submitted to the study in four ways:

1. An electronic copy of the draft VPP is available on-line and comments can be submitted on-line at <http://parkplanning.nps.gov/> (under Parks select Manassas NBP, select Conduct Study of Critical Historic Viewsheds of Manassas Battlefield, select Open for Public Comment).
2. During the public meeting on Wednesday, January 13, 2010 at 7 PM at the Henry Hill Visitor Center, Manassas National Battlefield Park, 6511 Sudley Road, Manassas, Virginia (see directions below).
3. Call the Park Headquarters at 703-754-1861, extension 0.
4. E-mail submission to the Prince William County Archaeologist.

The comments were collated and reviewed by County and Park staff and were quality checked for applicability to the Study and then forwarded to the study's consultant. Some comments were sent multiple times to different receptacles. Each commented is listed below in the order in which it was received. The commentator is listed first, followed by the comment date. Where possible the entire comment is next listed, followed by the study's response.

Comments and Responses

Commentator: Compton, Claude T., Estate of Marion Caesar Wheeler, Manassas
Date: July 10, 2008

Comment: I am the Executor of the Estate of Marion Caesar Wheeler and the Estate owns approximately 143 acres near the intersection of Ballsford Road and Route 234 (Sudley Road) and also at the intersection of Ballsford Road and Ashton Avenue. The Estate feels that imposing any viewshed-based restrictions would not be in best interest of the citizens of Prince William County for the following reasons: 1. The establishment of a viewshed and related restrictions would have grave economic impacts for untold years on the properties located on Ballsford Road and Pageland Lane. 2. On Ballsford Road south of Route 66, there is substantial commercial and industrial development in place and planned for that area that would have no impact on Battlefield Park. This has been shown to be the fact through sight studies provided the County on numerous properties.

3. The Battlefield Park consists of approximately 5000 acres within which they can provide their own viewshed and therefore the need for a viewshed does not exist. Battlefield control over additional land is not warranted. 4. Any viewshed analysis would have to take into account existing and approved development and not restrict development in areas whose view from the Battlefield are already impacted, or will be impacted by approved development and not base any restrictions as if such development did not exist or could not be built under current approvals. 5. The establishment of a viewshed outside the border of the Park would amount to private property being taken without just compensation. 6. With a viewshed and related restrictions in place the real estate and business taxes would be greatly reduced on the affected area because development potential would be diminished or lost. For the above reasons the Estate of Marion Caesar Wheeler request that no viewshed study be approved by the County Board of Supervisors and that the Board of County Supervisors actively oppose said study. Claude T. Compton, Executor Estate of Marion Caesar Wheeler

Response: 1) and 2) are statements and do not require a response.

3) The VPP is an effort by the County and the Park service to work together to provide visual protection for the battlefields' viewsheds while accomadating economic development.

4) As the plan is currently written and if portions of it are enacted by local government, only projects that require comprehensive plan amendments, rezoning or special use applications would be subject to viewshed analysis.

5) As the plan is currently written and if portions of it are enacted by local government, only projects that require comprehensive plan amendments, rezoning or special use applications would be subject to viewshed analysis.

6) As the plan is currently written and if portions of it are enacted by local government, only projects that require comprehensive plan amendments, rezoning or special use applications would be subject to viewshed analysis.

7) The request that the Board of County Supervisors oppose the study is premature as they have not been requested to act on any recommendation. However, citizens and organizations are welcome to write their supervisor or the Chairman. Their contact information can be found at www.pwcgov.org and then navigate to the Board of County Supervisors web page; or by calling the Prince William County Planning Office at 703-792-6830.

Commentator: Jonathan L. Way, Manassas, VA

July 4, 2008

Comment: The Draft General Management Plan for the park of September 2005, page 52, describes several tree cut areas totaling 178 acres in addition to the Deep Cut/Brawner House area which is currently being cut and cleaned. These future areas are: Chinn Ridge (west)..... 45 Acres Chinn Ridge/Henry Hill ... 25 acres Stuart's Hill..... 30 acres Cundiff House..... 40 acres Dogan Ridge..... 3 acres Matthews Hill..... 35 acres The viewshed study report does not indicate whether these previously identified cut areas are being reduced by the viewshed study. Could you please explain whether the viewshed study is intended to mitigate the older management plan or whether it is simply implementing the older plan.

Response: This study assumes full implementation of the park's GMP recommendations. It does not modify any GMP vegetation enhancement recommendations with the exception of addressing the addition of vegetative buffers in selected areas as shown in the VPP .

Commentator: Jonathan L. Way, Manassas, VA

July 4, 2008

Comment: I understand the draft Viewshed study report is being revised based on comments received at a June 19,2008 public meeting. I would like to request a copy of the revised report when it becomes available, hopefully before the scheduled October 2, 2008 public meeting. Jonathan Way 9636 Park St Manassas, VA 20110 Email: jway@ci.manassas.va.us Tel: (703) 368-9174

Response: On December 22, 2009 an email was sent to you containing the internet web page link to the draft Viewshed Preservation Plan.

Commentator: Michael Kitchen, NAIOP, the Commercial Real Estate Development Association, Manassas VA

January 27, 2010

Comment: I would like to provide the following comments as the chairman of the Prince William committee for NAIOP Northern Virginia: The Manassas National Battlefield is an important part of Prince William County and generates tourism dollars and prestige for the county. Currently, the National Park Service (NPS) is in the process of performing studies for a proposed viewshed plan for the existing 5,100 acre Manassas National Battlefield Park. The viewsheds, as proposed, will dramatically impact not just those properties adjacent to the Battlefield but also those a considerable distance away. The Board of Directors of NAIOP Northern Virginia, an association representing developers and owners of commercial real estate, would like to express our concern about this proposed plan and its consequences. Two public meetings were previously held by Prince William County and the NPS to discuss the study that is being funded by the NPS and the American Battlefield Protection Program (ABPP). The purpose of the

study is for the preparation of a plan (viewshed preservation plan) to preserve the proposed critical viewsheds associated with the Civil War battlefields of First and Second Manassas. Initially consideration was given to the creation of a 1,000-meter buffer around the park due to concerns about commercial development, cell towers, the tri-county connector road, and other perceived "obstacles" to the original sight lines in and around the battlefields. After attending the plan presentation at the Henry Hill Visitors Center on January 13, 2010, we are pleased to see that the desire for creation of a buffer has been eliminated. In lieu of this the NPS has created a database which incorporates topographic and vegetation information on the various viewsheds in and around the park. The NPS plans to inform the various surrounding jurisdictions of the existence of this data and will ask them to use this information when considering land use applications (rezonings, special use permits, etc.). Input of topographic and building height information into the database will determine whether a proposed project will be visible from critical points within the battlefield. Recommendations can then be made to modify the building heights, provide buffers or consider other methods of mitigation. Our organization and its members are extremely concerned about any additional restrictions being imposed on development in the I-66 corridor. The corridor is a major east-west transportation component and is the logical location for the attraction of positive and high visibility commercial development. It represents one of the last opportunities for Prince William County to offer exposure rich locations to prospective businesses. Preserving the opportunity for these types of developments along this vital transportation corridor is imperative to the future economic health of the county. Commercial development along this corridor represents the opportunity for Prince William to benefit significantly from commercial tax revenue. NAIOP Northern Virginia believes that the amended proposed plan/database still has the potential to result in the downzoning of property near the battlefields. Prince William County needs to carefully manage and utilize the database such that it protects the economic dollars generated by Manassas National Battlefield Park but also does not hinder the development potential of the I-66 corridor. It will be incumbent on the Prince William Board of County Supervisors to carefully utilize the database and to ensure that it is a resource and not a unilateral decision making tool. We hope that NAIOP and our members' concerns will be taken into consideration while finalizing this plan. Thank you for the opportunity to comment.

Response: The 1000 meter "buffer" was meant to represent the consultant's initial study area and never intended to be used as a buffer in the traditional zoning or planning sense. The VPP does not recommend downzoning. The study is cognizant of NAIOP concerns that is why page 1 of the VPP states it is the goal of the study to "preserve the viewsheds of this significant area while fostering economically sustainable development."

Commentator: Jonathan L. Way, Manassas, VA
January 2, 2010

Comment: Zoning 1. Two Historically Based Viewsheds (HBV), Signal Hill and Mayfield Fort, lie within the City of Manassas boundaries and the line of sight from these HBVs to the Battlefield crosses portions of the city. What sort of building height restrictions, vegetation screenings or other zoning impacts would you expect from the City in fostering the Battlefield Viewshed Plan? Tree Canopy 2. The new report does not discuss the total amount of tree cutting contemplated, but does contain a map from the previous study (Map 4-1) showing substantial cutting under Alternative B. Under that study, some 120 acres of trees were cut in the Deep Cut area of the park. Additional cutting of about 200 acres was also contained in that study. What cutting is contemplated

in the current study? Furthermore, why should reforestation of some areas be credited against the cutting? Shouldn't reforestation be done on its own merits without using it to justify destructive cutting? 3. The Washington Area Council of Governments has an adopted policy of increasing tree canopy in Northern Virginia as a means of helping control greenhouse gases. How does the cutting referred to in the previous question reconcile with this objective? Transportation 4. On page 56 the Viewshed Study contemplates using certain regulatory means to prevent expansion of Rt 29, Rt 234, Featherbed Lane and development of the Tri-County Parkway (which was mentioned as a threat to the park in your previous study). These potential projects represent important regional contributions to addressing the transportation crisis in Northern Virginia. Economic Development 5. The study contemplates that regulatory means, to be developed by Prince William and Loudoun Counties, be used to prevent building developments in many areas surrounding the Battlefield Park. Some people feel this to be an unwarranted and objectionable intrusion of the National Park Service into territories for which it is not responsible.

Response: Zoning 1) Any suggestions would be tailored towards a specific development.

Tree Canopy 2) This study does not address the specific recommendations of the General Management Plan concerning vegetation management within the park. However, the study does propose areas for adding vegetative buffers to help screen development from view in certain areas. The map referenced in the comment was included for informational purposes to indicate existing conditions and potential future vegetation management decisions as proposed in the GMP. Assessing the effects of future decisions lies outside the scope of the present study. The National Park Service will address these issues in a National Environmental Policy Act (NEPA) document prior to implementation of the GMP recommendations.

The following questions are outside the scope of this study and can be directed to park staff – “Furthermore, why should reforestation of some areas be credited against the cutting? Shouldn't reforestation be done on its own merits without using it to justify destructive cutting? 3. The Washington Area Council of Governments has an adopted policy of increasing tree canopy in Northern Virginia as a means of helping control greenhouse gases. How does the cutting referred to in the previous question reconcile with this objective? ”

Transportation 4) Neither Section 106 of the National Historic Preservation Act of 1966, as amended, nor Section 4(f) of the Department of Transportation Act of 1966, as amended, can prevent expansion of roads. They can, under certain conditions, offer a process to mitigate transportation expansion and the VPP will be revised to reflect those realities. In the case of the Battlefield Bypass, park and County staff see redirecting through park traffic around the park as enhancing the visitor experience.

Economic Development 5) The VPP does not recommend stopping or preventing development. It does recommend strategies that will allow for development and viewshed preservation.

Commentator: Janis Stone, Manassas, VA

January 2, 2010

Comment: 1. In the recommendations, it would be good to provide at least a plan for the county (not the NPS) that describes a strategy for any land acquisition it thinks would be beneficial to enhance the Manassas National Battlefield Park experience. 2. A considerable portion of the population that would like to experience our parks have significant mobility issues. In making recommendations for providing screening vegetation for parking areas within the PARK, please take into account the need for viewing from vehicles, not just foot traffic, and ensure that such recommendations limit the height of said vegetation.

Response: 1) The County acknowledges the Park's effort to acquire portions of both battlefields up to the boundary authorized by the United States Congress in its Manassas National Battlefield Park Amendments of 1988 act.

2) The Park is required under the American with Disabilities Act to take into account persons with mobility issues.

Commentator: Terry Russell

January 2, 2010

Comment: I am responding on behalf of Elizabeth Via-Gossman, Director of Community Development for the City of Manassas. We have reviewed the Manassas Battlefields Viewshed Study. The staff of the Community Development Department has no comments to make due primarily to the distance of the City from the battlefields viewsheds. I am forwarding the Viewshed Study to Manassas City Councilman Jonathan Way who has a keen interest in the Manassas Battlefields. Terry Russell Planning and Zoning Services Manager City of Manassas, Virginia

Response: No response necessary.

Commentator: Kim Snyder, Gainesville, VA

January 2, 2010

Comment: Generally, the viewshed study is comprehensive and well-thought out. However, the mechanism for public dissemination of the details is somewhat lacking and I would like to comment on this. The following comment assumes that the recommendations of the viewshed study will be accepted by the Board of Supervisors and that a Battlefields Viewshed Protection Area (BVPA) and the associated recommended provisions will be implemented. It is my understanding, based on the information obtained from the general meeting, that maps of the properties that are visible from the Public Vantage Points (PVP) and/or Historically Based Viewsheds (HVP) will not be incorporated into the Prince William County GIS system nor will these maps be available at a scale that would allow one to pinpoint a specific parcel. Instead, the county will have a program that would allow a determination of potential building heights on a specific parcel that would be visible from the PVP/HVPs. I think that this is a mistake from both land planning and preservation perspectives. Making this information easily available to the general public would allow land planners to consider the potential impacts of any proposed development upon the viewshed of the park early in the planning process. Building height could be a consideration in the development of a concept plan and viewshed sensitive designs could be submitted with the initial legislative application. Instead, the land planner will be forced to either obtain this information from county staff, which may be difficult from a timing perspective, or

submit a concept plan that does not consider potential viewshed impacts. In this case, it is possible that the development plans may have to be altered to minimize the effects of the proposed construction on the viewshed of the battlefield. As a result, the process would be reactive rather than proactive. This could result in higher costs to both the developer, because of the greater engineering costs in altering the development plans, and to the county, with the increase in staff time necessary to review development plans multiple times. By making it easier and more cost effective to consider the viewshed early in the process, the goal of preserving the viewshed will be more easily obtained. Thank you for the opportunity to submit a comment.

Response: It is possible that a set of maps showing the ground surfaces visible from each PVP could be produced and made available to the public as well as a composite map showing ground surfaces visible from all HBVs. It is unclear at this time if it would be of sufficient detail to include parcel information.

Commentator: Janis Stone, Manassas, VA
January 2, 2010

Comment: The study appears to have determined visibility from sites based on existing vegetation. It would have been better to extrapolate to what visibility would be if existing trees/forested areas were cut to historical patterns, not today's growth. It would also have been beneficial to determine what visibility is available from areas that are only accessible from vehicles or wheelchairs, not just those that can only be reached by foot.

Response: The study has to document current conditions and as such included the recently timbered areas that is part of the Park's Landscape Rehabilitation project. Assessing the effect of implementing future landscape rehabilitation projects proposed in the General Management Plan was not included in the project in part due to uncertainties concerning their scope and implementation timetable.

The Park is required under the American with Disabilities Act to take into account persons with mobility issues. However, for the present study priority was given to those sites that are most likely to be affected by visual impacts, which tend to be locations that are located on prominent ridges and hills. These locations are also likely to be impacted before such visual impacts are experienced at lower elevations, where some (though not all) of the parking areas are located. Limiting the present study to those areas that are accessible only by vehicle or wheelchair would have left many of the sites most exposed to potential visual impact without adequate analysis to plan for viewshed preservation.

Commentator: Linda Blank, Fairfax County, VA
January 2, 2010

Comment: Fairfax County Comprehensive Plan and Zoning & Development regulations sections pp. 119 – 120 in the Background Study section stating that there is no proposed land use map or zoning land use map available. Comprehensive Land Use Plan map and zoning maps are available. Recommend these documents be consulted prior to preparation of the final Manassas Battlefields Viewshed Plan. **Comment:** Summary section page 125 in the Background Study section citing that there are 8 public vantage point viewsheds located in Fairfax County and that "These numbers indicate the greatest priority, at least initially in order to pick the 'low hanging fruit' should be given to the polices of Prince William and Fairfax Counties". Recommend consultation with the

Response: The study will obtain Fairfax County's Long range land use maps and zoning maps and incorporate that information into the study along with consulting with Linda Blank from the Department of Planning and Zoning.

Commentator: Lewis Taynton

January 2, 2010

Comment: Note: Mr. Taynton's comments were in three parts: 1) Summary Comments, 2) Detailed Comments and Questions, and 3) Amplification of Detailed Comments and Questions. For brevity part three was not reprinted, although the full set of comments is in the study's files. The third part provided context and further elaboration of the primary questions and comments listed in Part 2) Detailed Comments and Questions.

Summary Comments: In spite of the number of questions being asked, I support the viewshed study concept and feel that this methodology can make a major contribution to preserving this national treasure. Most of my questions relate to better understanding the details of this study and recommendations for making the study more effective. The study contains some great pictures that the park needs to share with the visitors. Plus these pictures provide a documentation relating to the historic viewsheds. The park's 'Historic Vegetation Pattern' doesn't reflect the photographic evidence that was provided in this study. I have difficulty relating to the premise that (1) any structure that (2) is in anyway visible and (3) at any distance has a significant negative impact on the park. I don't find this a reasonable position for the NPS to take and I doubt that this position is being well received by the county board of supervisors? A possible overstatement of the risks to be mitigated. From the January 13 briefing at the Visitors Center, it became obvious that this was just the start of a much larger study effort and that probably makes many of my questions pre-mature. But these questions might be of interest anyway. Even recognizing the value of this study, there are minor adjustments that can be made to the briefings that are given to justify its value. The county planners and supervisors may not be able to relate to what appears to be an academic exercise. A true accomplishment of the study is to emphasize the value of Public Vantage Points to the visitors to the park. These locations have not received much attention and were generally unavailable to visitors.

Detailed Comments/Questions: 1) The Park enjoys several geographical features that help to mitigate viewshed problems. Have these features be factored into the study? 2) It is not easy to figure out what we are trying to accomplish with this study. What are the deliverables? 3) Did the viewshed study consider a program of tree line conservation in addition to curtailing development? 4) What are the categories/examples of visual intrusion risk and are we able to model the associated impact? 5) How will the study define where the categories of visual intrusion risk occur? 6) Does the study plan on providing an assessment of known/anticipated visual intrusion risk Projects? 7) Can the county decision makers understand the results of this study? There may be ways to present this study to enhance understanding. 8) Is the study prepared to plan for an mitigate risks on a PVP specific basis? 9) Comments on Screening Recommendations 10) Other than considering some screening, what is the park prepared to do to mitigate viewshed problems? 11) Does the study verify that potential regional housing development poses a significant viewshed risk? 12) Land Acquisition comments. 13)

Many of the designated PVPs are relevant to a very limited array of visitors. Shouldn't the study provide better prioritization guidance for risk mitigation efforts? 14) A majority of the PVPs are relatively inaccessible, even though they met the trail proximity criteria. 15) PVPs are not the best locations for visitor overlooks. But they appear appropriate for viewshed analysis. 16) Viewshed analysis may not be compatible with the visitors that depend on vehicles to tour the park locations other than Henry Hill. 17) PVP prioritization may not accurately reflect the need for risk mitigation for that particular site. The HSV, SI, and PT factors do not appear to relate to site's value for interpretation or benefit to visitors to the park. They are limited to the NPS preservation mission. 18) Historically Based Viewsheds comments 19) One of the objectives of the viewshed study was to give some consideration to internal viewsheds. But we didn't see much information along these lines. 20) Does the park have an internal viewshed management plan or concept? 21) Will the viewshed study be allowed to review the park's clear cut plan as laid out in the Master Management Plan?

Response: For brevity, Mr. Lewis Taynton's own summary comments called "Detailed Comments/Questions" are listed here. The responses below take into account both the "Detailed Comments/Questions" and the more voluminous "Amplification of Comments/Questions" which are in the study's files.

1) The Park enjoys several geographical features that help to mitigate viewshed problems. Have these features be factored into the study?

Response: Yes, terrain and vegetation were factored into GIS analysis, which produced the visibility maps.

2) It is not easy to figure out what we are trying to accomplish with this study. What are the deliverables?

Response: The study's purpose is to 1) study historically significant interior and exterior viewsheds associated with both the First and Second Battles of Manassas, 2) describe and document viewsheds through a variety of means (such as written descriptions, photography and GIS mapping), 3) recommend strategies for preserving and enhancing viewsheds, and 4) prepare a Viewshed Preservation Plan.

The study's deliverables are 1) acid-free paper copies of the Viewshed Preservation Plan, 2) electronic copies of the Viewshed Preservation Plan, 3) electronic copies of GIS data files, paper and electronic copies of the Final Program Report, and electronic copies of the consultant's presentations. Copies of the above will be delivered to Prince William County, Manassas National Battlefield Park, and the American Battlefield Protection Program. Electronic copies will also be delivered to local jurisdictions.

3) Did the viewshed study consider a program of tree line conservation in addition to curtailing development?

Response: The parks forests were mapped during the preparation of their 2008 draft General Management Plan and those maps were incorporated into the VPP. The viewshed analysis incorporated the existing forest. The viewshed's GIS analysis incorporated the existing forest, at a height of 40 feet. In some areas of the Park the VPP recommends curtailing development.

4) What are the categories/examples of visual intrusion risk and are we able to model the associated impact?

Response: The threat categories are identified on pages 113-137 of the Background Study and the Principle Vantage Points are rated on their threat level on pages 47-50 of the Plan. The height testing tool illustrated in the study in Appendix B is capable of determining visibility from a single viewshed anchor.

5) How will the study define where the categories of visual intrusion risk occur?

Response: The visibility maps produced for each PVP on pages 15-73 and the composite map for HBVs on page 82 identifies areas where ground surface may be visible. The study broadly identifies categories of visual intrusion. Page 118 of the Background Study incorporates the Long Range Land Use map for Prince William County showing areas of planned development.

6) Does the study plan on providing an assessment of known/anticipated visual intrusion risk Projects?

Response: This is beyond the scope of the present study.

7) Can the county decision makers understand the results of this study? There may be ways to present this study to enhance understanding.

Response: The Prince William Board of the County Supervisors approved the study grant proposal and during a presentation to the Board have been given the opportunity to comment on the study at each major milestone.

8) Is the study prepared to plan for and mitigate risks on a PVP specific basis?

Response: The study does not recommend site specific mitigation, rather, it recommends methods and tools by which mitigation can be achieved. It also recommends methods by which visibility can be analyzed.

9) Comments on Screening Recommendations

Response: The study addresses visual enhancements that are impacted by park facilities and external visual intrusions. Without analysis of specific variables it's impossible to respond. The current study did analyze existing vegetation conditions but did not factor in projected future landscape rehabilitation. The methodology employed by the study can be used for any future vegetation management strategy prior to approval and implementation.

10) Other than considering some screening, what is the park prepared to do to mitigate viewshed problems?

Response: The Park is prepared to negotiate mitigation measures as circumstances allow.

11) Does the study verify that potential regional housing development poses a significant viewshed risk?

Response: The study identifies housing development as a potential threat to viewsheds. However, cluster development is identified as a potential mitigation solution.

12) Land Acquisition comments.

Response: The study does not identify land for NPS acquisition.

13) Many of the designated PVPs are relevant to a very limited array of visitors. Shouldn't the study provide better prioritization guidance for risk mitigation efforts?

Response: The study's purpose does not include reprioritizing visitor interpretive experience.

14) A majority of the PVPs are relatively inaccessible, even though they met the trail proximity criteria.

Response: All PVPs met the site selection principles as outlined on page 15 of the Background. The selections were recommended by the study's consultant and confirmed by the study's Steering Committee.

15) PVPs are not the best locations for visitor overlooks. But they appear appropriate for viewshed analysis.

Response: All PVPs met the site selection principles as outlined on page 15 of the Background Study. The selections were recommended by the study's consultant and confirmed by the study's Steering Committee.

16) Viewshed analysis may not be compatible with the visitors that depend on vehicles to tour the park locations other than Henry Hill.

Response: This is not a visitor use study. The intent is to provide a strategy for historic viewshed preservation.

17 a) PVP prioritization may not accurately reflect the need for risk mitigation for that particular site. The HSV, SI, and PT factors do not appear to relate to site's value for interpretation or benefit to visitors to the park. They are limited to the NPS preservation mission.

Response: The intent is to provide a strategy for historic viewshed preservation. Visitor use and interpretive value were not the determining factors in the study.

17 b) On page 27 of the Background Study, the label on lower left photo is wrong.

Response: The caption will be reworded to read "Detail view toward Carter House from near the Henry House ruins."

18) Historically Based Viewsheds comments

Will future studies address the HBVs in a more substantial way?

Response: Currently there is no follow up study planned for the HBVs.

19) One of the objectives of the viewshed study was to give some consideration to internal viewsheds. But we didn't see much information along these lines.

Response: The PVPs are all located within or internal to the Park.

20) Does the park have an internal viewshed management plan or concept?

Response: The Park has proposed an historic vegetation management plan which is scheduled to be funded in FY2011 and will address many of the issues raised.

21) Will the viewshed study be allowed to review the park's clear cut plan as laid out in the Master Management Plan?

Response: The methodology employed by the study can be used for any future vegetation management strategy prior to approval and implementation.

22) The commenter provided a visualization of the Battlefield Bypass at Sudley Ford.

Response: Addressing the specific impacts of the proposed Battlefield Bypass project on

any of the battlefield's viewsheds is beyond the scope of the present study. Such an assessment is appropriate within the NEPA process for the proposed bypass, and the potential impacts of the proposed highway may also be addressed through site-specific design modifications and other mitigation for that project.

**Commentator: Julie Pastor, Director, Loudoun County Department of Planning
January 28, 2010**

Comment: Loudoun County recommended deleting the following text that is marked with strikethroughs and adding the text that is underlined.

On page 121 please delete ~~“The proposed land use map designates the most southerly corner of the county—the lands closest to the battlefield park—as “Extractive Industry.” This classification reflects the existing rock quarry. The balance of lands closest to the park is designated as “Transition.” The plan describes this classification, which is a subset of the broader “Suburban” category, as areas that are now relatively undeveloped and served by wells and/or septic systems, but the plan is for them to transition to “central” sewer and water systems for more substantial residential development. While more intensive zoning categories are located to the immediate north of the Transition area, including Residential, Towns/Airport, and Industrial, it is noteworthy that an extensive area located to the immediate west of this area is designated as Rural with a density of one (1) dwelling unit per forty (40) acres. For the purposes of battlefield viewshed protection, it is unfortunate that such a designation could not have been extended further east and adjacent to the battlefield park.”~~ and replace with “The proposed land use map designates the most southerly corner of the county – the lands closest to the battlefield park – as the “Transition Policy Area.” The Transition Policy Area is a permanently defined policy area that provides a spatial transition between the suburban development in the eastern part of Loudoun County and rural development to the west. More specifically, the area adjacent to the Prince William County border and closest to the Manassas National Battlefield Park is located within the Lower Bull Run subarea of the Transition Policy Area. The Lower Bull Run subarea is planned for one dwelling unit per three acres. However, the County will consider rezonings up to one dwelling unit per acre for the area north of the Quarry Notification Overlay District associated with the Bull Run Quarry. A portion of the Lower Bull Run subarea is designated as “Extractive Industry” and reflects the presence of the quarry. Loudoun County policies state that central utilities may be extended to all subareas of the Transition Policy Area and that new developments proposed within the Lower Bull Run subarea will be required to connect to central water and wastewater utility lines.”

Pages 122-123: *Zoning & Development Regulation* please delete the text marked with strikethroughs and add text that is underlined.

The County's ~~current~~ zoning ordinance that governs this area is the Revised 1993 Zoning Ordinance, approved on June 16, 1993 with ~~was prepared in 1993 and features~~ revisions through 2007. With the exception of the southeast corner of the county, the southern end of the county is zoned AR-2. This area is geographically consistent with the area designated as “Rural” (one dwelling unit per 40 acres) in the county's comprehensive plan. AR-2 allows agricultural uses (including agriculture-related businesses such as wineries and equestrian centers), certain institutional uses, and low-density residential uses. A broad range of special exception uses are also tied to AR-2 zoning, including radio and/or television towers and telecommunication transmission towers. Consistent with the comprehensive plan, AR-2 zoning has a base development density limit of one dwelling unit per 40 acres

and a building height limit of 35 feet. One option ~~There is also~~ a “cluster subdivision option” that permits a lot yield up to one lot per 15 acres. This option requires that a minimum of 70% of the property consist of “Rural Economy Lots” and/or common open space, and lots shall be configured in clusters of 5 to 25 lots with some exceptions. Minimum cluster lots sizes range from 40,000 square feet to having no minimum, depending upon the approach to the provision of water and sewer.

Although the AR-2 zoning is relatively friendly toward viewshed preservation efforts, zoning for the southeast corner of the county, as reflected by the land use plan at left, is more challenging. The key zoning districts existing in the southeast corner of the county, which is the portion closest to the national park, include the MR-HI~~4~~, TR-3LBR, TR-3UBF, PD-H3 and TR-3LF. Below is a brief summary of each:

Mineral Resource - Heavy Industry (MR-HI)

This zoning is designed to permit the existing rock quarry and similar uses, such as ~~agriculture~~, asphalt plants and saw mills.

Transitional Residential – 3 (TR-3UBF)

The intent of the overall TR-3 zone is to provide a transitional area between suburban and rural areas. The UBF sub-district features a required minimum of 50% open space and allows a wide variety of residential and agriculture-related uses. It also has a maximum 0.05 floor area ratio (FAR) and a 40 foot building height limit.

Transitional Residential – 3 (TR-3LF)

This sub-district of the Transitional Residential zone is nearly identical to the TR-3UBF sub-district described above.

Transitional Residential – 3 (TR-3LBR)

This sub-district of the Transitional Residential zone, which is adjacent to the Prince William border, is nearly identical to the TR-3UBF sub-district described above except that it requires 70% open space.

Planned Development – Housing (PD-H3)

The PD-H3 sub-district allows a wide variety of housing types at a net residential density of 3 dwelling units per acre ~~low-density~~, as well as other supporting uses such as retail and offices. There is a maximum FAR of .40 for all non-residential uses, a minimum of 30% of the site must be open space, and retail and service ~~office~~ uses may not exceed 3% of the site’s total land area. Office uses may account for up to 15% of the land area.

Response: The study accepts Loudoun County’s recommended deletions and additions.

Commentator: Ethel Eaton, Virginia Department of Historic Resources

Date: January 27, 2010

Comment: Include Significant Viewsheds in DSS.

Response: At the conclusion of the study staff will contact VDHR on how best to incorporate the study’s data into DSS.

Comment: Cultural Resource Studies

Response: Language was added to expand the recommended policy to emphasize a more comprehensive landscape approach as suggested in their comment letter.

Comment: Other Public Policy Tools We suggest that this section more clearly discuss the role of local government in the Section 106 review process, and the opportunity it offers local government to influence the process. The statement on page 26 that “In Virginia the process is carried out by the Virginia Department of Historic Resources (DHR), with the Federal Advisory Council on Historic Preservation having the last word” is somewhat misleading. Section 106 is the responsibility of the federal agency, not the State Historic Preservation Office. Section 106 is a process of consultation and not just with the SHPO. Local governments are mandatory consulting parties. Other stakeholders, such as the National Park Service, and the public must be given the opportunity to comment as well. The outcome of the process is determined in consultation. And it is the federal agency, not the ACHP, that makes the final determination to go forward or not. The role of the SHPO and the ACHP is purely advisory.

Response: Section 106 policy statements were clarified on page 26. Strikethroughs are the study’s recommended deletions and underlined text is the study’s recommended additions.

Unfortunately, “Section 106 Review” is limited to those undertakings ~~projects~~ involving Federal funds or licensing, such as Federal transportation funding, Community Development Block Grant (CDBG) funding, or an Army Corps of Engineers permit. Compliance with Section 106 is the responsibility of the Federal agency. Section 106 requires consultation, with the Virginia Department of Historic Resources (DHR), local governments, and other interested parties. When an adverse effect is determined the Advisory Council on Historic Preservation is notified and given the opportunity participate. The Federal agency leads the consultation process and makes the final determination on whether to proceed with the undertaking and how adverse effects will be mitigated. In Virginia, the process is carried out by the Virginia Department of Historic Resources (DHR), with the Federal Advisory Council on Historic Preservation having the final word. While it offers little help for private sector activities not involving Federal funding or licensing, Section 106 Review can be a potentially valuable tool with regard to Federally licensed and funded projects.

Comment: Cell towers are clearly subject to Section 106 and, if an adverse effect is found, the Federal Communications Commission must consider ways to reduce, avoid or mitigate those effects in consultation with the SHPO and other stakeholders. Transmission lines are rarely subject to Section 106, typically when a permit may be needed from the Corps of Engineers. As a state agency, the State Corporation Commission (SCC) is not subject to Section 106. The SCC will consider the views of the local government and of the public. There is no mandate, however, that the SCC require its applicants to mitigate adverse effects on historic properties.

Response: High voltage power lines and cell towers also need more stringent regulations within the BVPA. ~~However, these are regulated, as well as mitigating their adverse effects, through the State Corporation Commission and initiation of federal preservation laws.~~ Power lines are regulated through the State Corporation Commission (SCC). However, there is no mandate that the SCC require its applicants to mitigate adverse

effects on historic properties. Cell towers are reviewed under federal preservation law as well as local government ordinances and comprehensive plans.

Comment: Section 106 and Section 4(f) cannot stop a project.

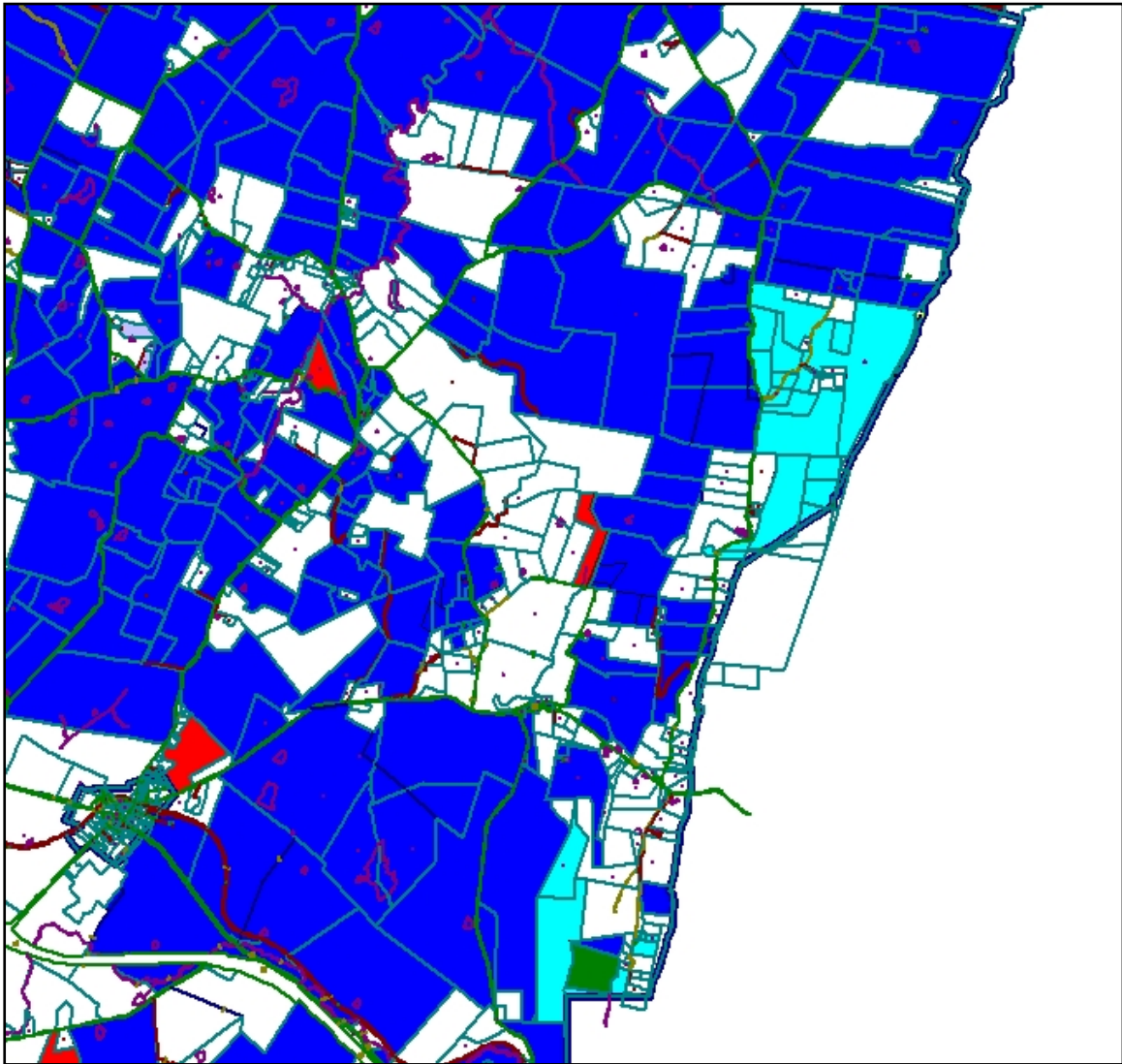
We would also suggest that the statement on page 56 “Utilize Section 106, Section 4(f) and other regulatory means to prevent expansion” suggests that Section 106 can stop a project. The emphasis, rather, should be on alerting federal and state agencies to these important viewsheds so that they can be taken into account early in the process when the fullest range of alternatives is possible. Other stakeholders, such as local governments, the National Park Service, local historical societies, etc. should make good use of their opportunity to comment, and express their concerns.

Response: We will replace on page 56 “Utilize Section 106, Section 4(f) and other regulatory means to prevent expansion” with Utilize Section 106 and Section 4(f) to consider alternatives or achieve mitigation.

Commentator: Kimberly Abe, Fauquier County, Department of Community Development

Date: January 27, 2010

Comment: Mrs. Abe provided an up to date land use map. On the map below, areas colored white are Rural Agriculture and are unprotected but require development to be clustered on 15% of the land with the remainder staying as open space. Areas colored green are rural conservation and have similar clustering provision as areas colored white. Areas colored dark blue are under conservation easement. Areas colored teal are owned by the Virginia Outdoors Foundation (VOF) and are unprotected. However, the VOF's mission is to promote preservation of open space.



Response: This data will be included into the study.

Comment: The Town of Haymarket Town Council resolved to “support the Manassas National Battlefield Viewshed Protection Plan” by resolution 10-02-001.

Feb 11 10 12:17p

Sherrie Wilson

7037532800

p.2

RESOLUTION 10-02-001

SUPPORT OF THE MANASSAS NATIONAL BATTLEFIELD VIEWSHED PLAN

WHEREAS The growth of the Washington Metropolitan Area in recent decades has brought profound change to Northern Virginia. Continued residential, commercial, and industrial development in the vicinity of the Manassas Battlefields is altering the historic setting of the Civil War battlefields, posing the potential for visual intrusions into the battlefields' historic vistas, AND,

WHEREAS The National Park Service and the Prince William County Office of Planning are jointly managing a grant from the American Battlefield Protection Program to conduct a study of the historically significant viewsheds associated with the First and Second Battles of Manassas, AND,

WHEREAS, The Town of Haymarket Town Council and Planning Commission have studied the proposed Viewshed Protection Plan,

NOW THEREFORE, BE IT RESOLVED, that the Town of Haymarket Town Council does hereby support the proposed Manassas National Battlefield Viewshed Protection Plan as presented jointly by the National Park Service and the Prince William County Office of Planning.

Mayor Pamela E. Stutz

In a motion made by Councilman Leake, Seconded by Councilwoman Edwards

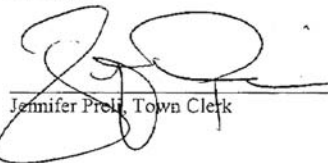
Voting Aye: Leake, Edwards, Cole, Scarbrough, Kenworthy, Weir

Voting Nay: 0

Absent: 0

Abstain: 0

ATTEST:



Jennifer Proff, Town Clerk

Response: No response necessary

Date: March 9, 2010

Comment: The Prince William County Historical Commission resolved to “endorse the Manassas National Battlefields Viewshed Plan” by resolution 10-012.

HISTORICAL COMMISSION RESOLUTION

MOTION: CUNARD

**March 9, 2009
Regular Meeting
Res. No. 10-012**

SECOND: BURGESS

RE: ENDORSE THE MANASSAS BATTLEFIELDS VIEWSHED PLAN

ACTION: APPROVED

WHEREAS, in recognition of Prince William County’s rich historical heritage, the Board of County Supervisors established the Historical Commission to advise and assist in efforts to identify, preserve, protect, and promote historical and cultural resources and the history of Prince William County; and

WHEREAS, the Manassas National Battlefield Park, including ground where both the First Manassas and Second Manassas battles were fought, is an important historic resource in Prince William County; and

WHEREAS, viewsheds associated with the battlefields are critical to telling the full story and providing an appreciation for the history of the First and Second Battles of Manassas; and

WHEREAS, a plan has been prepared for Prince William County, titled Manassas Battlefields Viewshed Plan, that identifies and provides strategies to protect those viewsheds both within and external to the Manassas National Battlefield Park; and

WHEREAS, the Prince William County Historical Commission believes that the identification, preservation, protection, and promotion of the history of Prince William County is well-served by this action;

NOW, THEREFORE, BE IT RESOLVED, that the Prince William County Historical Commission does hereby endorse the Manassas Battlefields Viewshed Plan.

Votes:

Ayes: by acclamation

Nays: None

Absent from Vote: None

Absent from Meeting: Stickley, Yankey

MOTION CARRIED

CERTIFIED COPY


Secretary to the Commission

Response: No response necessary

January 13, 2010, Public Meeting Comments

Several questions or comments were made during the public meeting held on January 13, 2010. Because of the nature of the meeting, names of commentators were not recorded. Some of the questions or comments and their respective responses have been addressed above and are not repeated here.

Comment: How will comments be incorporated into the document?

Response: Comments were reviewed by Park and Planning Office staff for applicability to the study. A recommendation on how best to incorporate each comment will be drafted by Park and Planning Office staff and then forwarded to the study's consultant for inclusion or consideration into the final VPP. A list of all comments will be summarized in an Appendix along with the response.

Comment: How many acres of trees are left to cut?

Response: The study assumes full implementation of the park's GMP recommendations. More details are available in the GMP, a copy of which is available at the Park's headquarters.

Comment: Do you see the final product defining the BVPA areas?

Response: No.

Comment: Will Prince William County have access to the GIS tool?

Response: The study's GIS consultant outlined a method for performing a one time analysis of a proposed land development project given specific unchanging criteria. The tool referred to during the public meeting was implemented once as a test case but is not operational and requires further research.

Comment: Does the VPP propose vegetative screening?

Response: Yes, please see page 37 of the Plan section of the VPP.

Comment: Who is paying for the study?

Response: The study is funded by a grant from the American Battlefield Protection Program.

Comment: Who will use the plan?

Response: The plan is intended to be used by everyone, including Prince William County Government, Manassas National Battlefield Park, the American Battlefield Protection Program, developers, other local jurisdictions, and citizens.

Comment: How large or what are the boundary of the recommended BVPA.

Response: This plan does not propose a boundary for the BVPA.

Comment: Why did the consultant refer to a BVPA boundary possibly two-miles from the Park's edge.

Response: Page 16 in the Plan section of the VPP lists four criteria that might be used to delineate the BVPA boundary. In criterion 1) the consultant recommended the BVPA boundary generally be within two miles from the authorized boundaries of the Park, because the greatest concentration of land visible from all viewshed anchors lies within this area.

Commentator: Prince William County Planning Staff

Date: January 27, 2010

Comment: Chapter IV. Implementation Matrix, page 56. There is no reference to the Battlefield Bypass in this section, which is seen as a way to relieve transportation pressure through the Park, and mitigating transportation expansion threats. The County recommends inserting language such as fund the Battlefield By-Pass. This recommendation would be applicable to the recommendation sections for the following viewsheds: Mathews Hill, Henry Hill, Van Pelt Brawner House, Sudley.

Response: Language will be added to the recommended sections

Comment: Chapter IV. Implementation Matrix, page 56. The Battlefield Viewshed Preservation Area (BVPA) can be very effective because it proposes to group individual public policy tools into a cohesive program. However, stabling the BVPA can be time-consuming. Some of the individual tools grouped under the BVPA, such as Open Space Development (cluster development) on page 20, tree regulations on page 22, as well as buffers and landscaping policies already exist and can be implemented immediately as individual efforts. It is recommended language be inserted into the matrix for the appropriate viewsheds.

Henry Hill, Van Pelt, Brawner House, Sudley, Stuart's Hill, S.D. Lee Artillery Position, Portici

Response: Language will be added under the appropriate viewshed.

Comment: Chapter IV. – General - Even if the Battlefield Viewshed Preservation Area is not implemented, Prince William County can move forward with amending its zoning ordinance to 1) incentivize cluster development provisions for viewshed protection under Sections 32-300.40-43 and 32.300.50-53, and 2) add preservation and viewshed protection as purposes to preserve existing under Section 32-250.40. It is recommended a paragraph or section be inserted that makes such a recommendation.

Response: Language will be added

Commentator: Fred R. Seldon, Director, Planning Division, Department of Planning and Zoning, Fairfax County.

Date: April 14, 2010

Comment: Fairfax County forwarded comments on the draft Viewshed Preservation Plan and excerpts are included below.

First, allow me to restate the initial comments made by Fairfax County Planning Division staff on the Manassas Battlefields Viewshed Preservation Plan via email on January 27, 2010.

The comments were:

1. The section titled Fairfax County Comprehensive Plan and Zoning & Development regulations, pages 119 – 120 in the Background Study section stated that there is no proposed land use map or zoning land use map available. This is not accurate. The Comprehensive Land Use Plan map and zoning maps are available. Recommend that these documents be consulted prior to preparation of the final Manassas Battlefields Viewshed Plan.
2. The Summary section on page 125 in the Background Study section cited eight (8) public vantage point viewsheds located in Fairfax County and stated that “These numbers indicate the greatest priority, at least initially in order to pick the ‘low hanging fruit’, should be given to the polices of Prince William and Fairfax Counties”. Recommend consultation with the Fairfax County Department of Planning and Zoning prior to preparation of the final Manassas Battlefields Viewshed Plan.

In regard to the first comment, I understand that Fairfax County Planning staff provided you web links for obtaining the land use and zoning maps. In regard to the second comment, staff has reviewed the Comprehensive Plan text for the areas identified in the Viewshed Preservation Plan as being within the battlefield viewshed and identified Policy Plan text which stipulates protection of viewshed. The findings follow.

The viewshed points in Fairfax County that are visible from the eight public vantage points within the Manassas Battlefield have been identified according to Comprehensive Plan Community Planning Sectors. The areas in Fairfax County that are within the battlefields viewshed are located in Comprehensive Plan Area III, in the Bull Run, Pohick and Upper Potomac Planning Districts. The viewshed points are located in eleven Community Planning Sectors.

The highest concentration of viewshed points are within the Bull Run Planning District Planning Sectors BR5 Stone Bridge, BR3 Flatlick, BR6 Centreville, BR4 Stringfellow and BR7 Braddock. BR2 Upper Cub Sectors contains a lower number of viewshed points. In the Pohick Planning District the highest concentration of viewshed points are in the Planning Sectors P3 Johnny Moore and P1 Twin Lakes. P5 Dominion Planning Sector contains a lower number of viewshed points. In the Upper Potomac Planning District the highest concentration of viewshed points are within UP7 West Ox and UP8 Lee-Jackson Planning Sectors.

The Comprehensive Plan recommends Low Density Residential Development as the Concept for Future Development in all or most of the land area in six of the eleven Community Planning Sectors. The six sectors are BR5 Stone Bridge, BR2 Upper Cub Run, BR3 Flatlick, P1 Twin Lakes, P3 Johnny Moore, and P5 Dominion. The Plan also recommends Low Density Residential for parts of the BR7 Braddock and UP7 West Ox Community Planning Sectors. Higher density development is recommended in only three of the planning sectors, BR6 Centreville, BR4 Stringfellow and UP8 Lee-Jackson.

The recommendation for Low Density Residential Development in the planning sectors is consistent with the recommendations of the Occoquan Basin Study. The highest concentration of watershed points are within the three planning sectors, BR5 Stone Bridge, BR2 Upper Cub Run and P3 Johnny Moore, that are within the watershed of the Occoquan Reservoir. The protection of the watershed is a long standing county policy. Development within the watershed will continue to be limited which will protect the battlefield watershed.

The Fairfax County Comprehensive Plan, 2007 Edition, Policy Plan, Amended through 1-10-2005, Public Facilities, page 38 states:

“Policy k. Locate telecommunication facilities to ensure the protection of historically significant landscapes. The views of and vistas from architecturally and/or historically significant structures should not be impaired or diminished by the placement of telecommunication facilities.”

Response: Fairfax County’s comments are outlined in paragraph 2. subparagraph 1) and 2) above.

The comment in subparagraph 1) was resolved by Fairfax County who supplied a Comprehensive Plan map and Zoning Data in shapefile format for areas in which viewsheds fall across the land surface in Fairfax County. This data will be included in the VPP’s Background Study section under Fairfax County.

The comments in subparagraph 2) were addressed by Fairfax County’s review within paragraphs 4-7 above. This data will be incorporated into the VPP’s Background Study section under Fairfax County.

Also, paragraphs 8-9, above, present new data from Fairfax County which they request included in Fairfax County’s Background Study section of the VPP. This data will be incorporated into the VPP’s Background Study section under Fairfax County.