

Manassas Battlefields Viewshed Plan

BACKGROUND STUDY

Prepared for

Prince William County

Prepared by

The Walker Collaborative

With

History Associates, Inc.

Land Planning & Design Associates

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I. Viewsheds Analysis

Summary of the Battles

It is not the intent of this section to provide a detailed picture of the two battles, as numerous sources exist for both general and detailed information. Instead, it is meant to serve as a concise summary to give this study a general context.

First Manassas ("First Bull Run")

The chain of events eventually leading to the First Battle of Manassas began on July 16, 1861, when Union General Irvin McDowell marched his 35,000 men out of Washington, DC to begin a campaign intended to lead to the eventual capture of Richmond. Their first objective was to capture the strategic railroad junction at Manassas. They reached Centreville, five miles from Manassas, on July 18, and discovered a Confederate army of 22,000 under General P.G.T. Beauregard at Manassas. While various probing actions were conducted by McDowell, Confederate General Joseph Johnston's army of 10,000 men was being rushed by rail from the Shenandoah Valley to Manassas.

The battle started on the morning of July 21st when McDowell sent most of his forces north toward Sudley Springs Ford, while a smaller diversionary force attacked from the east at the Stone Bridge where the Warrenton Pike crosses Bull Run. The most significant early fighting occurred at Matthews Hill, south of Sudley Springs Ford,

where the Federal forces pushed back the Southern army. The retreating Confederate forces rallied at Henry Hill under the leadership of Generals Barnard Bee, Francis Bartow and Thomas J. Jackson, who earned the name "Stonewall" during this engagement.

At roughly noon, the battle stalled while both sides adjusted their lines, and it resumed at about 1:00 PM and raged until approximately 5:00 PM. It concluded when fresh Confederate troops arrived and outflanked the Union forces at Chinn Ridge, initiating a panic-stricken rout of the entire Federal army back to Washington.

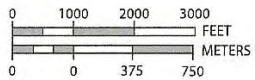


First Battle of Manassas Source: Holiday Digital Pictures - Frank Leslie's Illustrated History (pgs. 56-57) – public domain

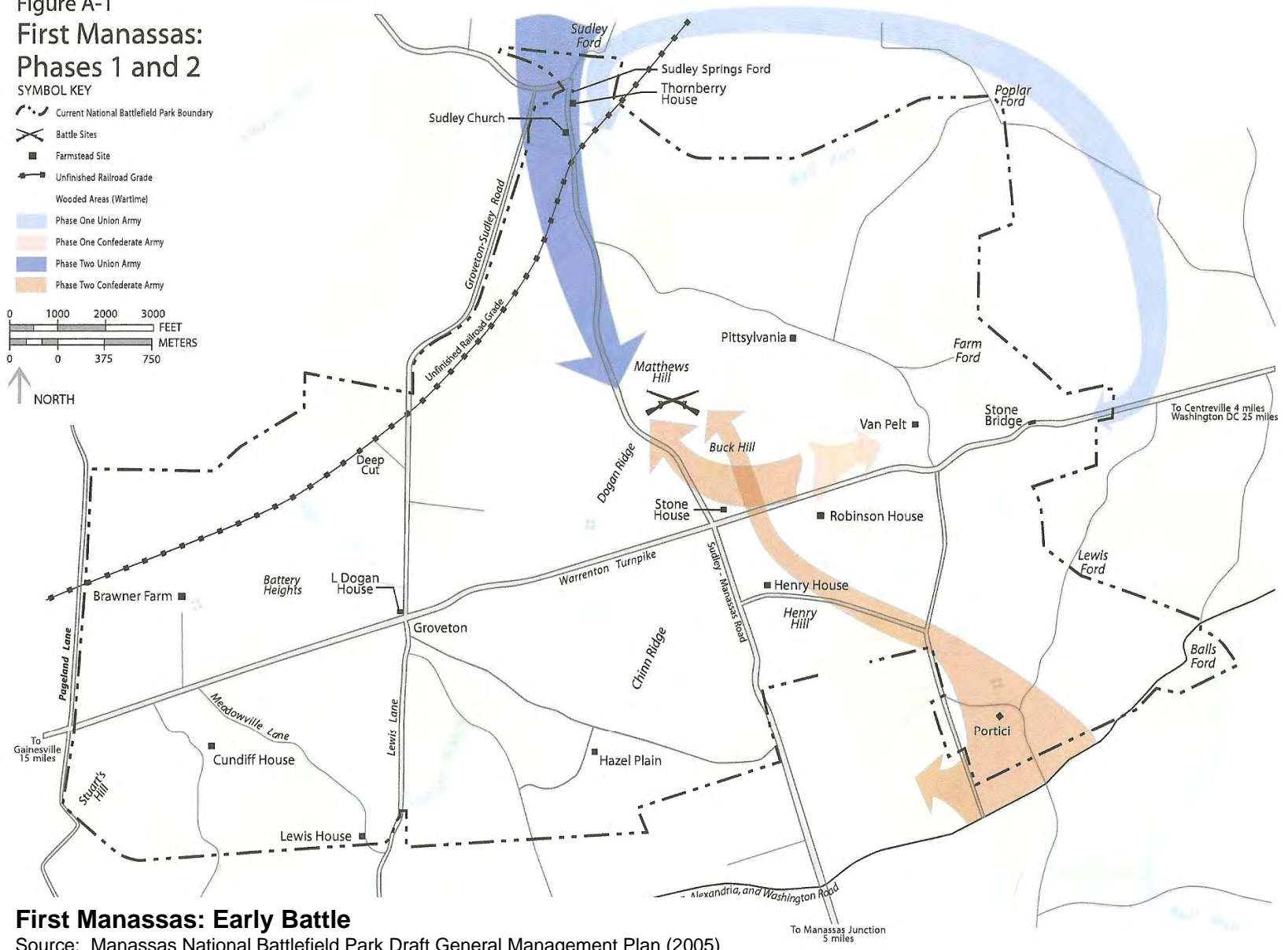
Figure A-1
 First Manassas:
 Phases 1 and 2

SYMBOL KEY

- Current National Battlefield Park Boundary
- Battle Sites
- Farmstead Site
- Unfinished Railroad Grade
- Wooded Areas (Wartime)
- Phase One Union Army
- Phase One Confederate Army
- Phase Two Union Army
- Phase Two Confederate Army



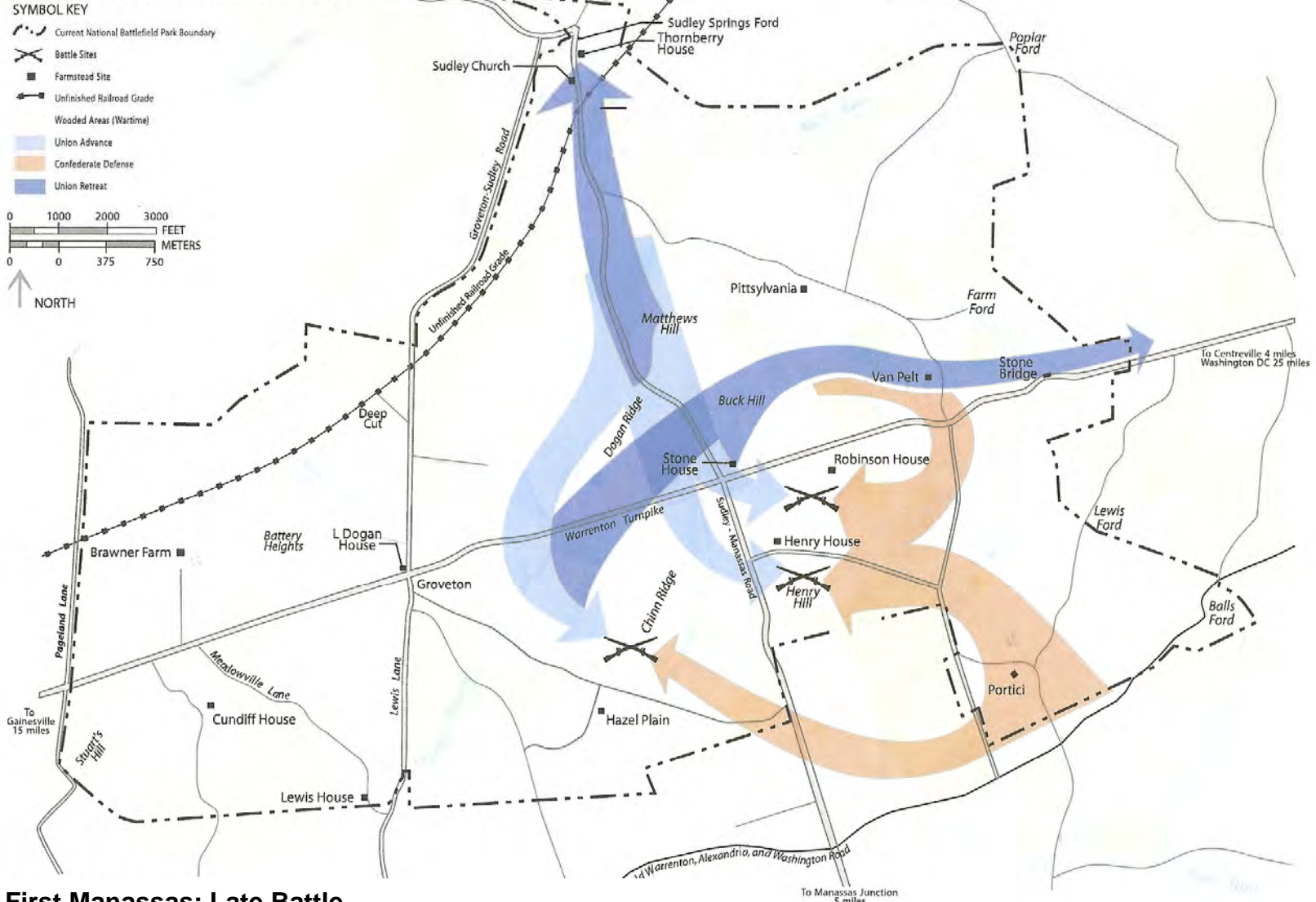
NORTH



First Manassas: Early Battle

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

Figure A-2
First Manassas:
Phase 3 and Union Retreat



First Manassas: Late Battle

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

Second Manassas ("Second Bull Run")

Following the First Battle of Manassas, the leadership of both armies in the Eastern Theatre changed. McDowell's leadership of the Army of Northeastern Virginia (later named the Army of the Potomac) was replaced by George McClellan. While he was a highly effective organizer and trainer of his army, the Peninsula Campaign that pushed toward Richmond was unsuccessful. When Joseph Johnston was wounded during that campaign at Seven Pines, Robert E. Lee was tapped to lead the newly designated Army of Northern Virginia. Meanwhile, portions of McClellan's command were assigned to General John Pope's Army of Virginia.

In late-August of 1862, there were numerous maneuvers in Northern Virginia between Stonewall Jackson's Left Wing of the Army of Northern Virginia and that of Pope. Following a 50 mile flanking march by Jackson, he captured key Union supplies at Manassas Junction on August 26th and 27th. On the evening of the 27th, he withdrew from the junction and moved his forces to the old Manassas battlefield during the night and the following morning. Although Pope then moved his men toward Jackson, Lee also moved Longstreet's corps from the south to concentrate his forces with Jackson.

On August 28th, Jackson's forces surprised a Union column marching down the Warrenton Turnpike toward Centreville, prompting a savage fight at Brawner's Farm that lasted until dark. The next day Pope's forces attacked Jackson, who was entrenched in an unfinished railroad bed. Although Pope managed to break through

Jackson's line at various points, he was ultimately repulsed. Meanwhile, Lee's forces arrived later in the day, but did not engage.

On the 30th, Pope mistakenly thought the Confederates had withdrawn, so he ordered a pursuit. When the Federals encountered resistance, Pope's pursuit devolved into an attack in the mid-afternoon. The Southern troops held firm, and seeing that the Union lines were in disarray, Longstreet then hit the Union left hard. Pope's forces pulled back, first making a stand at Chinn Ridge, and then pulling back to Henry Hill. At nightfall, the Union army pulled out across Bull Run and back to Washington. For the second time, the South was victorious on this battlefield.



Second Battle of Manassas Source: Holiday Digital Pictures - Frank Leslie's Illustrated History (pgs. 56-57) – public domain

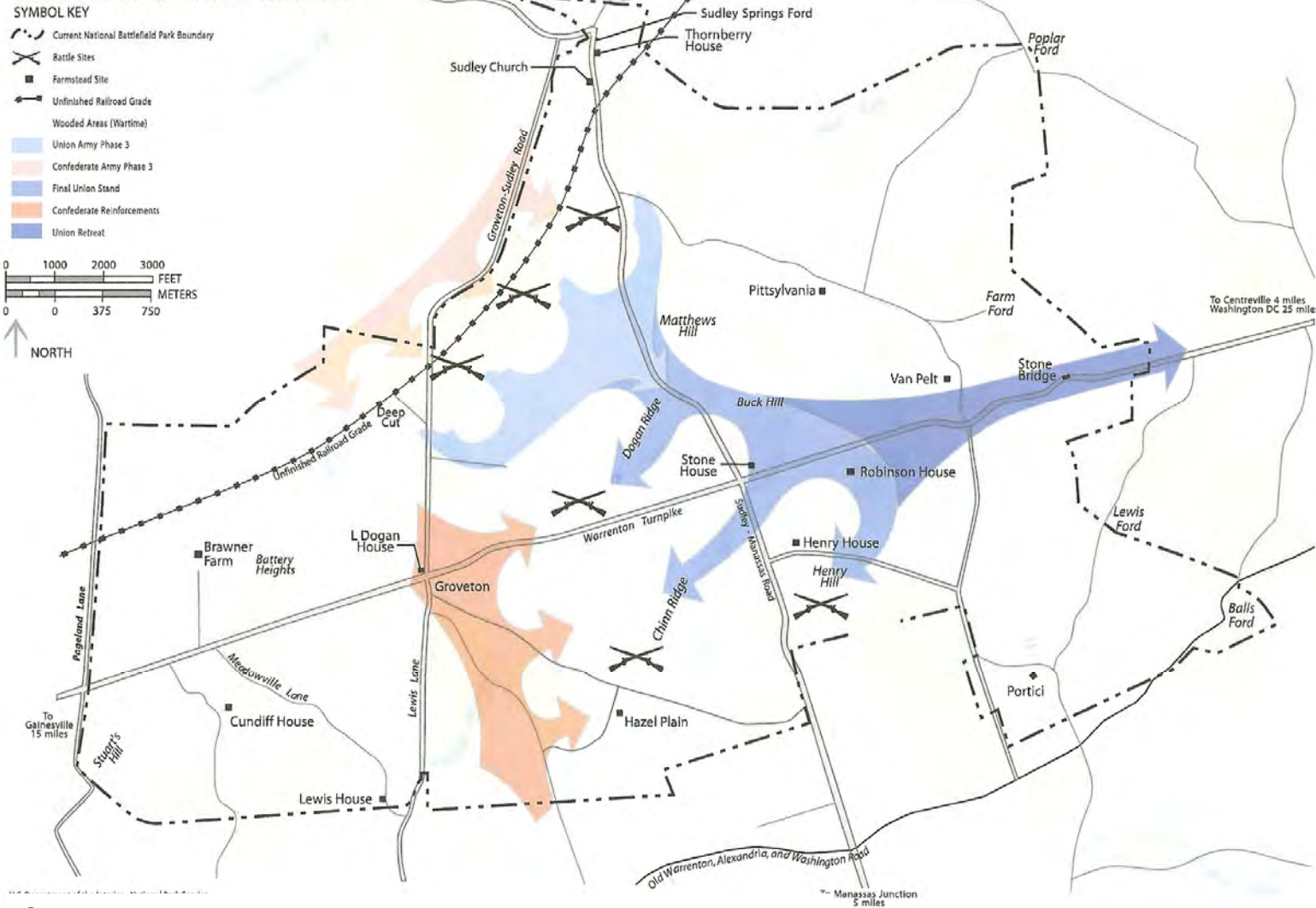
Figure A-3
 Second Manassas:
 Phases 1 and 2



Second Manassas: Early Battle

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

Figure A-4
Second Manassas:
Phase 3 and Union Retreat



Second Manassas: Late Battle

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

Component Areas of the Battlefields

Before various aspects of the battlefields can be analyzed, an understanding must be gained of the various components that constitute each “battlefield.” The following two pages each have one map per battle illustrating four specific areas:

National Park: Although it is only faintly visible and not included in the legends of the two following maps, the national park boundaries are depicted on both maps. Such lands are essentially protected from actions that can negatively impact their integrity, with the possible exception of potential future expansions of roads and above-ground utilities that traverse the park.

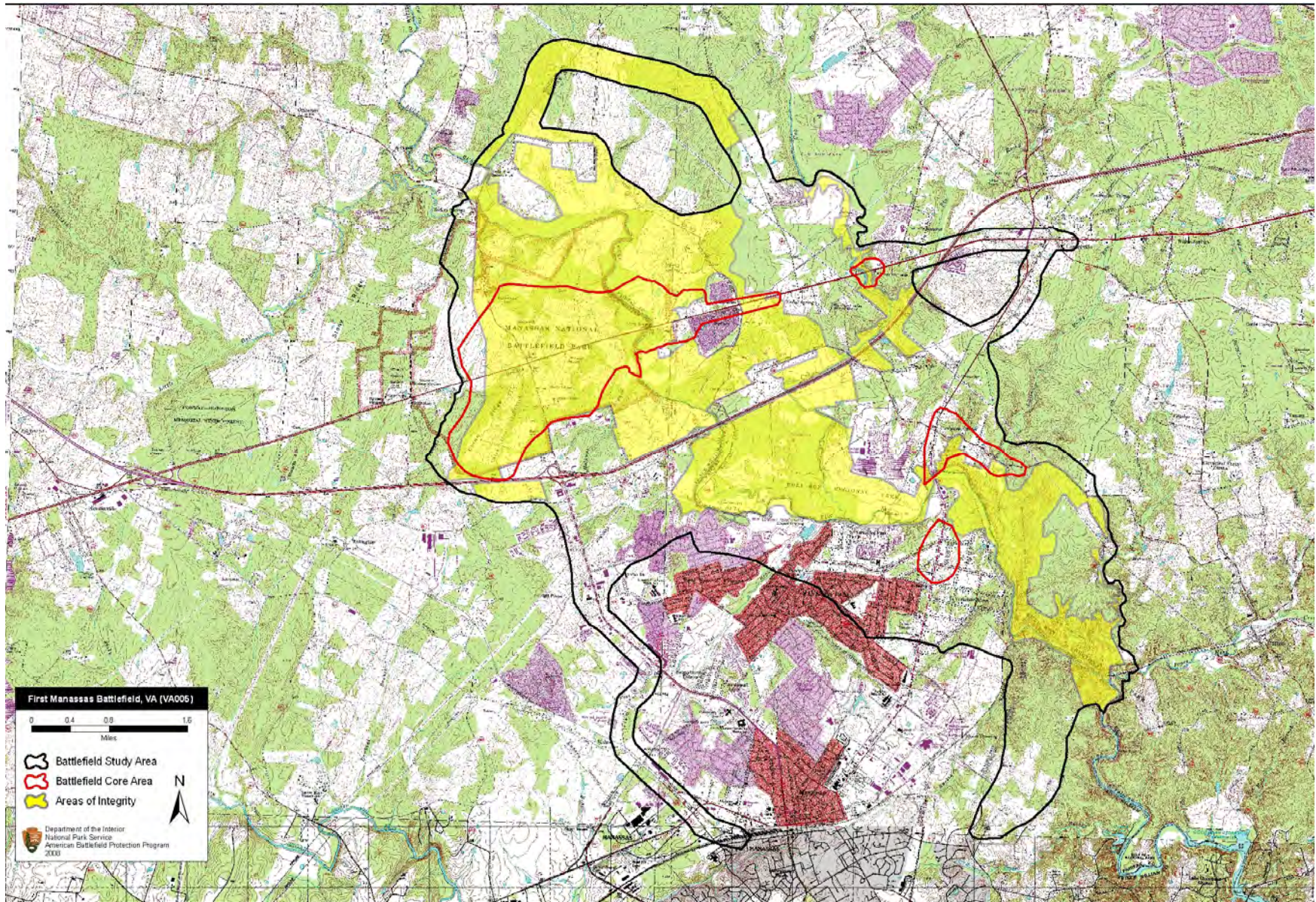
Battlefield Core Area: This area consists of locations where the primary combat occurred. These are lands from which fire was delivered or received. In other words, shots were fired and soldiers were killed or wounded.

Battlefield Study Area: In addition to the Battlefield Core Areas, this area consists of lands peripheral to the Battlefield Core Area where troop movements, encampments, staging areas, field hospitals and similar activities occurred and are directly related to, but ancillary to, combat.

Areas of Integrity: This area consists of locations where a high level of visual integrity has survived and the historic landscape

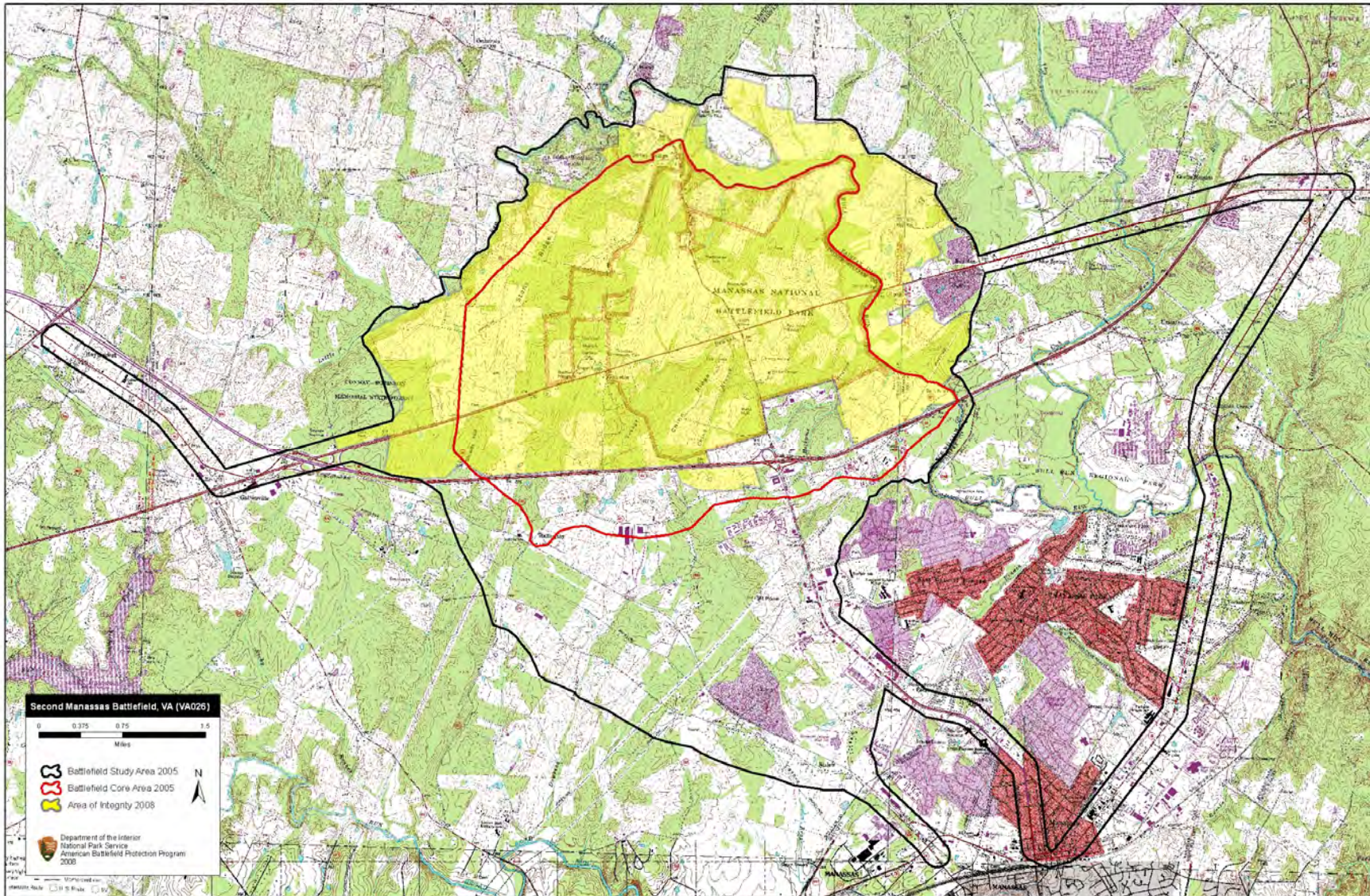
has remained substantially intact with only minor intrusions. Intrusions are changes to the landscape since the battles, such as post-war roads, buildings, parking areas, utility poles and lines, and significant landscape alterations.

First Manassas Battlefield: Various Areas of Designation



Map Source: National Park Service

Second Manassas Battlefield: Various Areas of Designation



Map Source: National Park Service

Historic Landscape: Then and Now

1860s Landscape

An important facet of today's viewshed preservation efforts is understanding the viewshed as it appeared during its time of historic significance – the 1860s. Fortunately, the National Park Service has researched the battlefield's historic vegetation patterns and produced a map to illustrate those patterns (see the following page). Approximately half of the battlefield consisted of open meadows or pastures, while the balance consisted of forests, crops, cultivated area, and other various ground covers. Of the forested areas, most were deciduous forests, with the balance being coniferous and mixed forests. Crop fields featured corn, wheat and oats, while cultivated fields included orchards and gardens. The patterns created by these various landscape types is relatively random.

NPS Landscape Rehabilitation Plan

The most recent draft of the NPS General Management Plan includes a "Proposed Forest Cuts and Reforestation Sites" map (see page 11). This plan proposes to eliminate forestation from some areas, while adding it to others based upon the documented historic landscape. A comparison of the two maps reveals that the battlefield presently has more forested area than at the time of the battles. Given the importance of agriculture to the area during the 1860s, relative to today, this fact is not surprising. Furthermore, the use of wood for construction and fuel was another contributing factor.

Interestingly, many of the areas forested today were not forested during the 1860s, and many of today's open areas were not open during the 1860s. The proposal for cutting is not so aggressive as to accurately recreate the battlefield landscape. Instead, it appears to target only the most critical areas to telling the story of the battles, such as recreating the historically open character of Chinn Ridge and segments of the unfinished railroad. Proposed reforestation areas are more limited, and a primary example is the north side of Dogan Ridge.

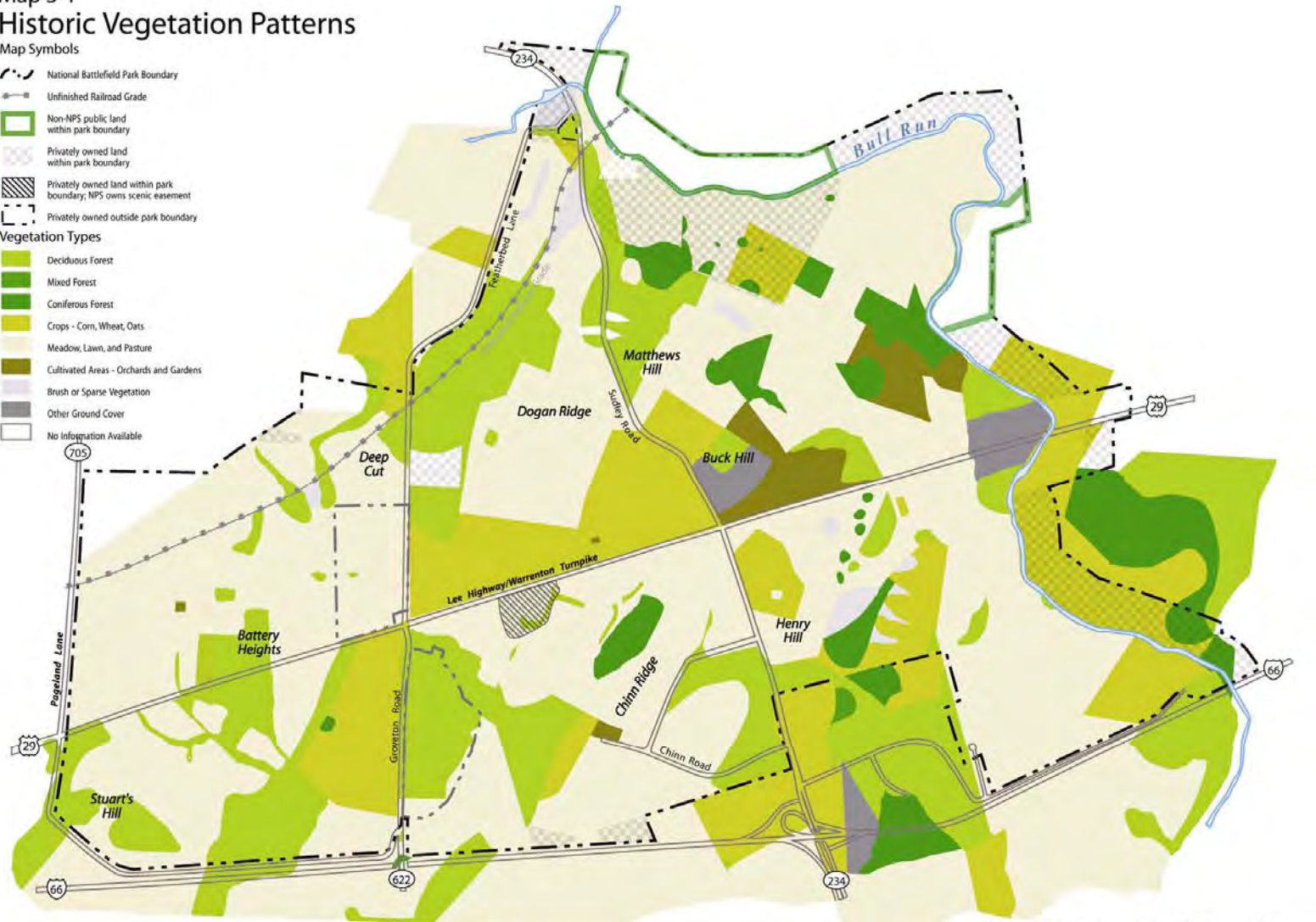
Other Factors for Consideration

In addition to landscape patterns, another consideration for viewshed preservation is the average height of a viewshed's viewer, and the average forest height – both today and historically. Based upon research done at other battlefields, including Gettysburg, the average approximate forest height of the 1860s was 40 feet, while the average approximate height today is 60 feet. The lower height in the 1860s reflects more frequent tree cutting that periodically occurred because of the use of wood for building and fuel, in addition to clearing lands for agriculture. The average male height in 1860 was 5'7", compared to 5'10" today.

Map 3-1 Historic Vegetation Patterns

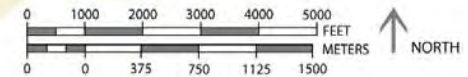
Map Symbols

-  National Battlefield Park Boundary
 -  Unfinished Railroad Grade
 -  Non-NPS public land within park boundary
 -  Privately owned land within park boundary
 -  Privately owned land within park boundary; NPS owns scenic easement
 -  Privately owned outside park boundary
- Vegetation Types
-  Deciduous Forest
 -  Mixed Forest
 -  Coniferous Forest
 -  Crops - Corn, Wheat, Oats
 -  Meadow, Lawn, and Pasture
 -  Cultivated Areas - Orchards and Gardens
 -  Brush or Sparse Vegetation
 -  Other Ground Cover
 -  No Information Available



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

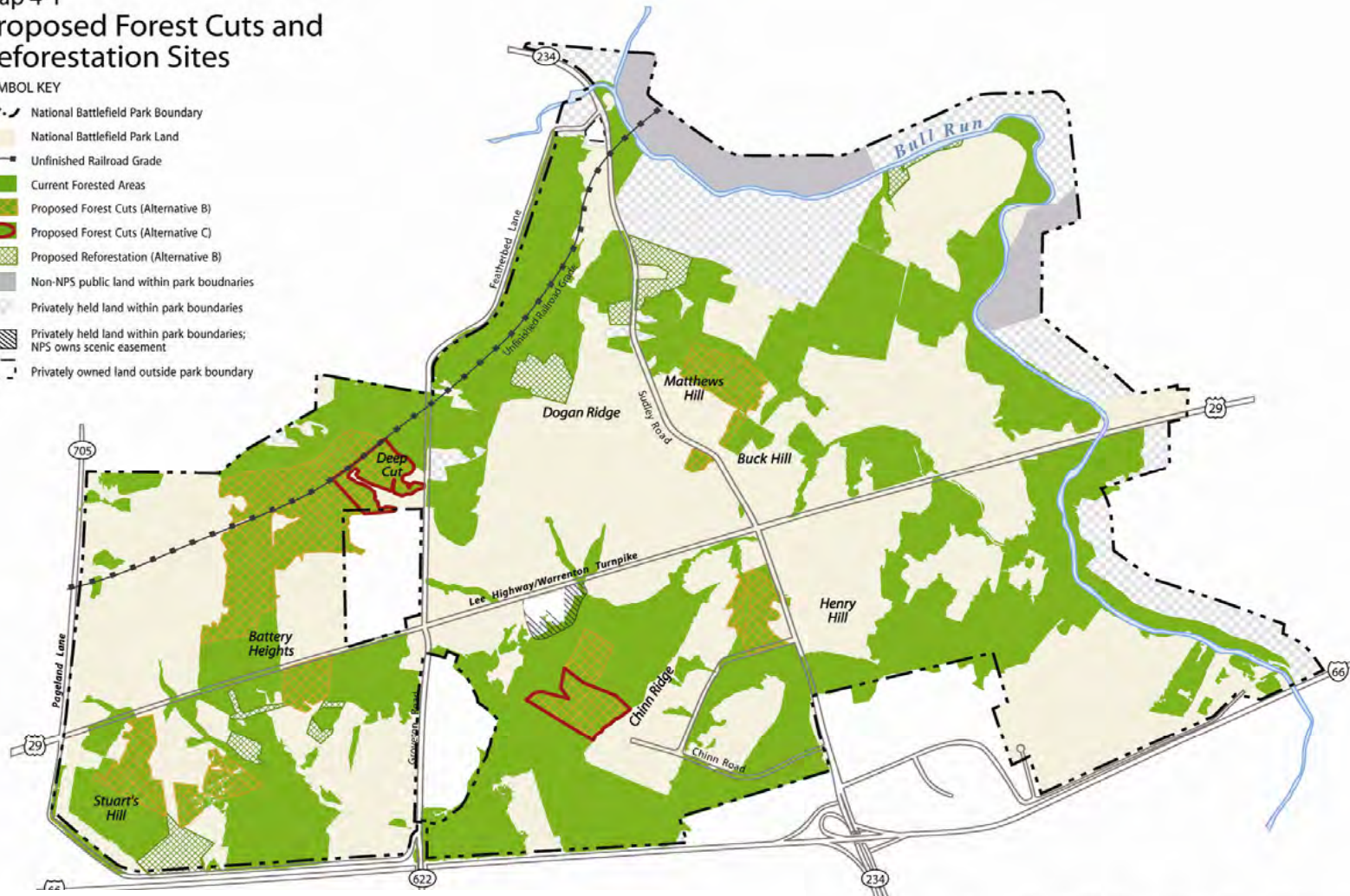
U.S. Department of the Interior - National Park Service
DSC - October 2005 - 379-10117



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



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

U.S. Department of the Interior • National Park Service
DSC - October 2005 - 379-20121

Categories & Definitions

Landscape Categories and Definition

Below is a list of landscape categories and spatial definitions for natural features that are used in the following discussion of existing conditions for each viewshed. Within the narrative descriptions, not all of the categories listed below will be used. Regardless, they are offered here to provide the reader a baseline of information to aid their understanding and evaluation of the viewsheds.

Water Resources

Watercourses

- Streams, runs, branches, creeks, drainages

Water bodies

- Natural ponds, wetlands, stormwater ponds

Vegetation

Wooded Areas

- Deciduous
- Evergreen
- Mixed species

Cultural Vegetation

- Witness trees
- Specimen trees
- Vegetation associated with dwellings or built features

Riparian Buffers

- Bottomland vegetation (trees, shrubs, grasses that tolerate hydric conditions)

Fields

- Turf (typically mown)

- Warm-season grass
- Agricultural

Topography

Natural Landforms

- Level, rolling, or steep topography
- High points and depressions

Cultural Landforms

- Railroad grade
- Abandoned road grade
- Earthworks

Spatial Definitions

Edges

- Visually define the extent to the left and right of what the viewer can see within the viewshed
- Act as the “walls” for the viewshed

Ground plane

- The portion of the viewshed that comprises the ground level
- Typically stretches between two edges

Termini

- The feature or element in the landscape that ends the view and acts as the back “wall” of the viewshed
- May be mountains, woodlands, or any element that visually ends the view

Foreground

- The section of the viewshed that is closest to the viewer
- The foreground is terminated by the middleground, which is typically signified by a change in topography, the addition of vegetation, or some other visual difference

Middleground

- The section of the viewshed that lies in between the foreground and background
- The middleground is terminated by the background, which is typically signified by a change in topography, the addition of vegetation, or some other visual difference
- May not exist in all viewsheds

Background

- The section of the viewshed that lies farthest afield in the viewshed
- The background is terminated by an overarching element that acts as the back “wall” of the viewshed (see “Termini” above)



The Manassas Battlefield consists of a gently rolling terrain and a mixture of open fields and wooded areas.

II. Viewsheds: Public Vantage Points

Viewsheds Selection Principles

To provide overall direction in selecting the optimal public vantage points (PVPs), a set of preliminary principles were drafted. They were first reviewed by the project steering committee and adjusted accordingly. The principles were then presented to the public during the consultant team's initial public meeting to kick-off the project. Based upon public input, as well as additional input from the steering committee, the principles were again modified as listed below:

- 1) Areas selected should feature a high elevation in order to include the optimal amount of relevant land area.
- 2) Areas selected should feature the most historically significant lands relative to the two battles.
- 3) Areas selected should either currently have reasonable public accessibility or have the potential to have reasonable public accessibility to benefit the broadest spectrum of visitors. Accordingly, selected areas should have reasonable access to the park's driving tour route and/or trail network.
- 4) Because of the relatively equal significance of the two battles, they should both be sufficiently represented by the selected

areas. However, because of the geographic overlap of the battlefields and other complicating factors, the two battles do not need to be represented by an even number of selected areas.

- 5) Areas selected should not be too close to one another in order to avoid duplicative efforts and to positively impact the most extensive land areas.

Selected Key Public Vantage Points

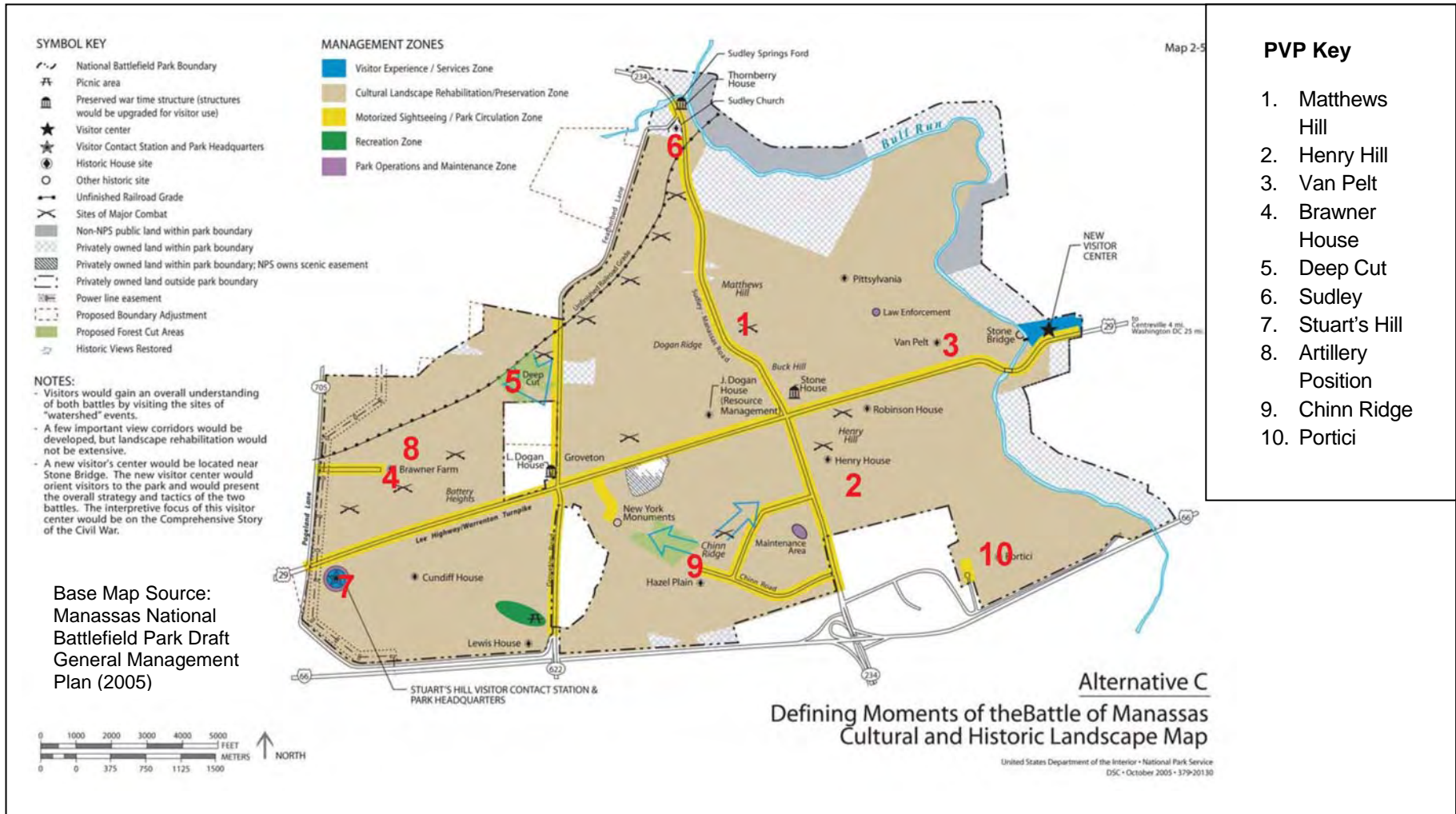
Based upon the principles outlined above, the following ten PVPs were selected for the study:

1. Matthews Hill
2. Henry Hill
3. Van Pelt
4. Brawner House
5. Deep Cut
6. Sudley
7. Stuart's Hill
8. Artillery Position
9. Chinn Ridge
10. Portici

It is noteworthy that rarely is a set of principles perfect for every situation, including these PVPs. Nevertheless, the ten selected PVPs reflect the general intent of the selection principles. As part of the National Park Service's most recent General Management Plan for the park, a map was prepared entitled "Defining Moments of the

Battle of Manassas Cultural and Historic Landscape Map.” Because this map highlights some of the most important locations comprising the battlefields, it is being used here as a base map to identify the ten

selected PVPs. The following pages provide an analysis of each of the ten PVPs.



Visibility from Key Public Vantage Points

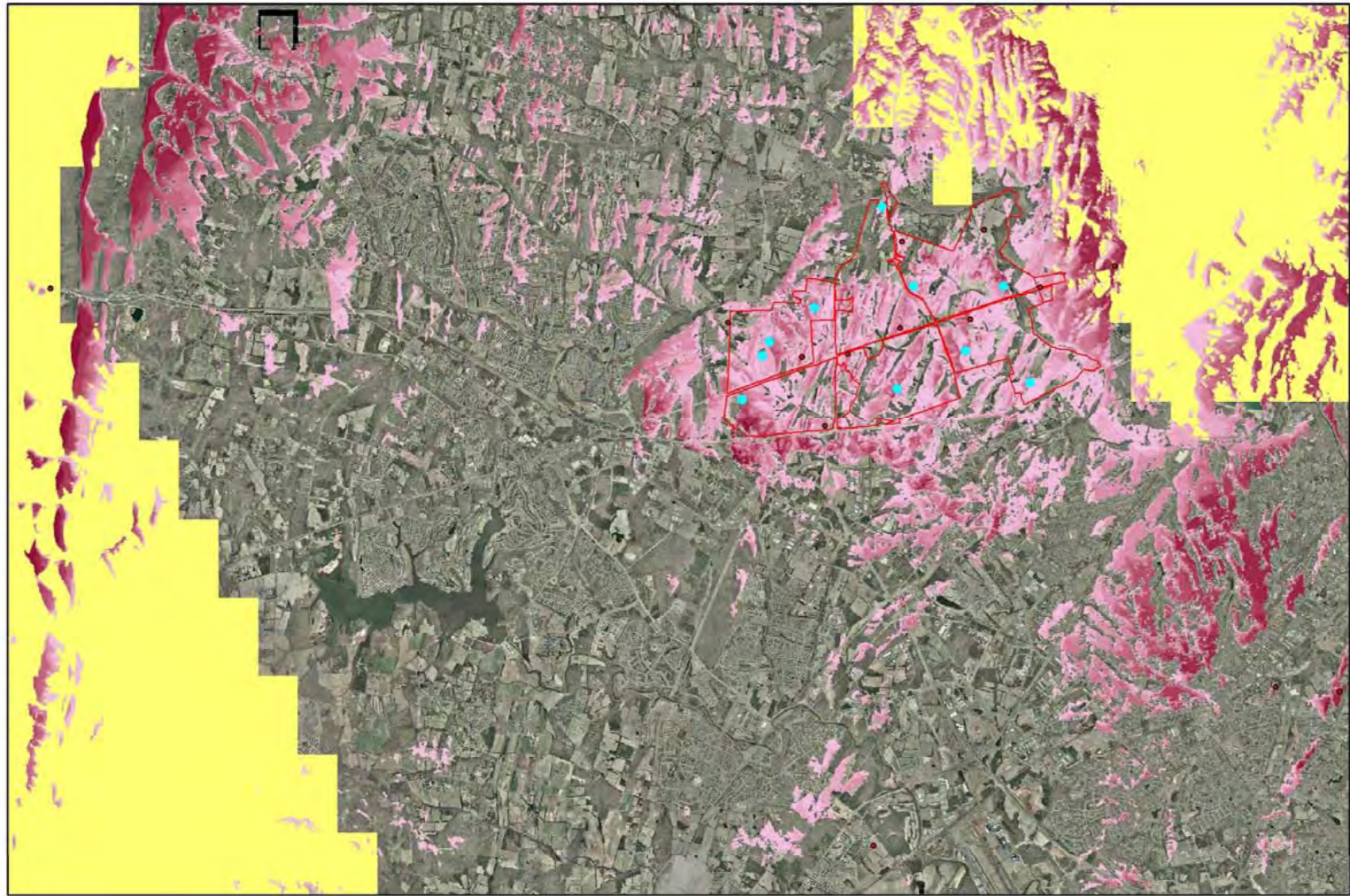
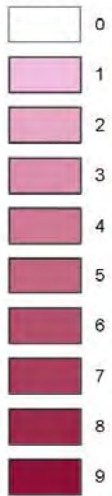
The map on the following page illustrates visibility from the ten PVPs. All ten of the PVPs are pin-pointed by a light blue dot. The legend at left shows nine different levels of visibility by displaying various shades of the same color – the darker shades represent the greater number of viewsheds represented. The number in the legend indicates the number of PVPs from which the colored areas are visible. Areas that have no color shading are not visible from any PVPs. This computer generated map and all others indicating land visibility are based upon an average tree height of 40 feet and the viewing height of 5’10”, the average height of a man today.



Legend

All PVP's

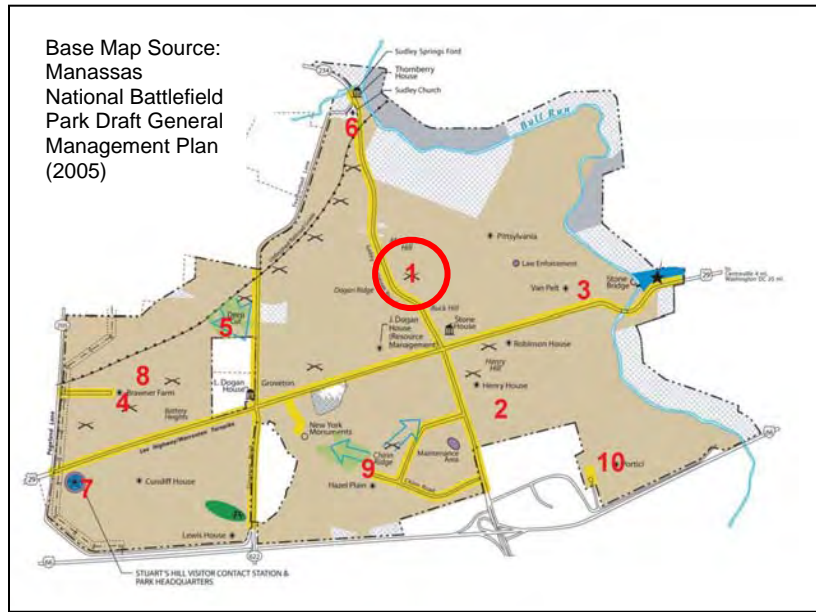
VALUE



Public Vantage Points Visibility



1) MATTHEWS HILL (Auto Tour Stop 3)



Historic Significance

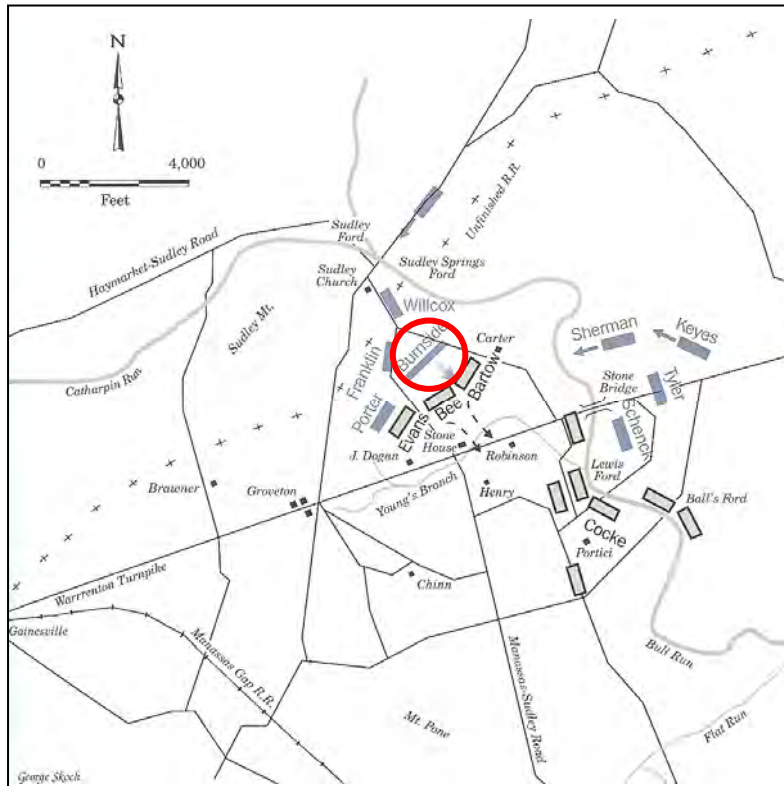
Matthews Hill was the scene of important action in both battles—at First Manassas, Union flanking forces fought outnumbered Southerners in the battle’s true opening and at Second Manassas, Union troops were positioned on and around Matthews Hill. At both battles, Matthews Hill saw the Confederate pursuit of retreating Federals.

During the first battle, Matthews Hill provided partially or completely unobstructed vista, especially to the south (toward Henry Hill, Public Vantage Point 2) and west (toward Dogan’s Ridge near Historic Viewshed E). Chaplain Augustus Woodbury of the Second Rhode Island Infantry, wrote, “The Second Regiment, hurried forward, rounded a small piece of forest that concealed the crest of the hill above the Warrenton Turnpike, and came out upon an open field beyond. Upon the left of this open space was a small house, with outbuildings, belonging to a man named [Martin] Matthews. Sloping down to a piece of woods in front was a large corn-field. The plateau on which the column emerged was an admirable position, and commanded a wide and pleasant prospect.”¹

Until 2007 many of the views to the south and east from Matthews Hill were blocked by twentieth-century forest growth. It also covered the site of much of the Matthews Hill fighting, as well as the site of the one-and-a-half-story Matthew house. The Historic Landscape Rehabilitation Project, part of the Park’s General Management Plan being implemented in 2007 and 2008, mandates the removal of roughly 140 acres of trees from Matthews Hill, the Brawner Farm, and the Deep Cut areas, as well as the planting of roughly 6 acres of trees in these same areas.

¹ Augustus Woodbury, *The Second Rhode Island Regiment* (Providence, RI: Valpey, Angell & Co., 1875) 32.

With the clearing of Matthews Hill trees in 2007, Civil War viewsheds toward Henry Hill (Public Vantage Point 2) and the reconstructed Henry House have been partially restored.



First Battle of Manassas
Fighting on Matthews Hill: 10:00 to 11:30 AM - July 21st, 1861
 Source: The First Battle of Manassas – National Park Civil War Series



Early view of the Martin Matthews House looking north, precise date unknown. Matthews Hill rises in the left distance.
 Courtesy Manassas National Battlefield

Physical Description

Overview

The viewshed available from atop Matthews Hill provides a number of informative views in several directions. The site is located atop a broad knoll. The topography slopes gently downward to meet Young’s Branch which flows northeast/southwest through the viewshed. The land then slopes back up toward Henry Hill.

The most far-reaching view is that available when looking southeast toward Henry Hill. Because Young's Branch is depressed into the landscape and the ground plane of the view is low warm-season grass, one can see over the top of the drainage and its riparian vegetation toward the Robinson House and monuments atop Henry Hill.

To the south, views are limited by a dense stand of Oak-Hickory and Virginia Pine-Eastern Red Cedar woods growing along Rt. 234 and a hedgerow that emanates from it. The tops of woodland trees growing in the distance can be seen, but the view is limited to the nearby vegetation and open field that exists in front of it. To the southwest, views are again limited by the same dense hedgerow.

As the topography dips down to the west, the woods growing along Featherbed Lane are clearly visible. To the northwest, an expanse of warm-season grass field runs up to Rt. 234, and the presence of additional open fields across the road to Dogan's Ridge allow views to the Groveton woods. In the far distance, the tops of the Bull Run Mountains are visible.

To the north and east, warm-season grass fields are terminated by a stand of Oak-Hickory and Virginia Pine-Eastern Red Cedar woods.

Elevations

The elevation varies from a high point of 275 feet above mean sea level (MSL) at Matthews Hill, to a low point of 180 feet (MSL) along Young's Branch. The Robinson House, which sits in the background, lies at about 260 feet MSL, while Henry Hill sits at about 275 feet MSL.

Views

Foreground

In all directions, the foreground of the viewshed consists of a warm-season grass ground plane.

Middleground

To the southeast, the middleground views are comprised of the Young's Branch riparian vegetation that divides the viewshed. To the south, and west, Rt. 234 serves as the division between the open fields that serves as both foreground and middleground. To the northwest, a line of scrub vegetation divides the foreground from the warm-season grass field middleground. To the north and east, no real middleground exists as the field runs right up to woodlands with no division in between.

Background

The only real background view of importance is that available when looking southeast toward Henry Hill. The Henry Hill fields and woods serve as a terminus to this view.

Viewshed Visibility Map

See the following page for a map illustrating those areas (highlighted in yellow) that that are visible from this PVP. This computer generated map and all others indicating land visibility are based upon an average tree height of 40 feet and the viewing height of 5'10", the average height of a man today.

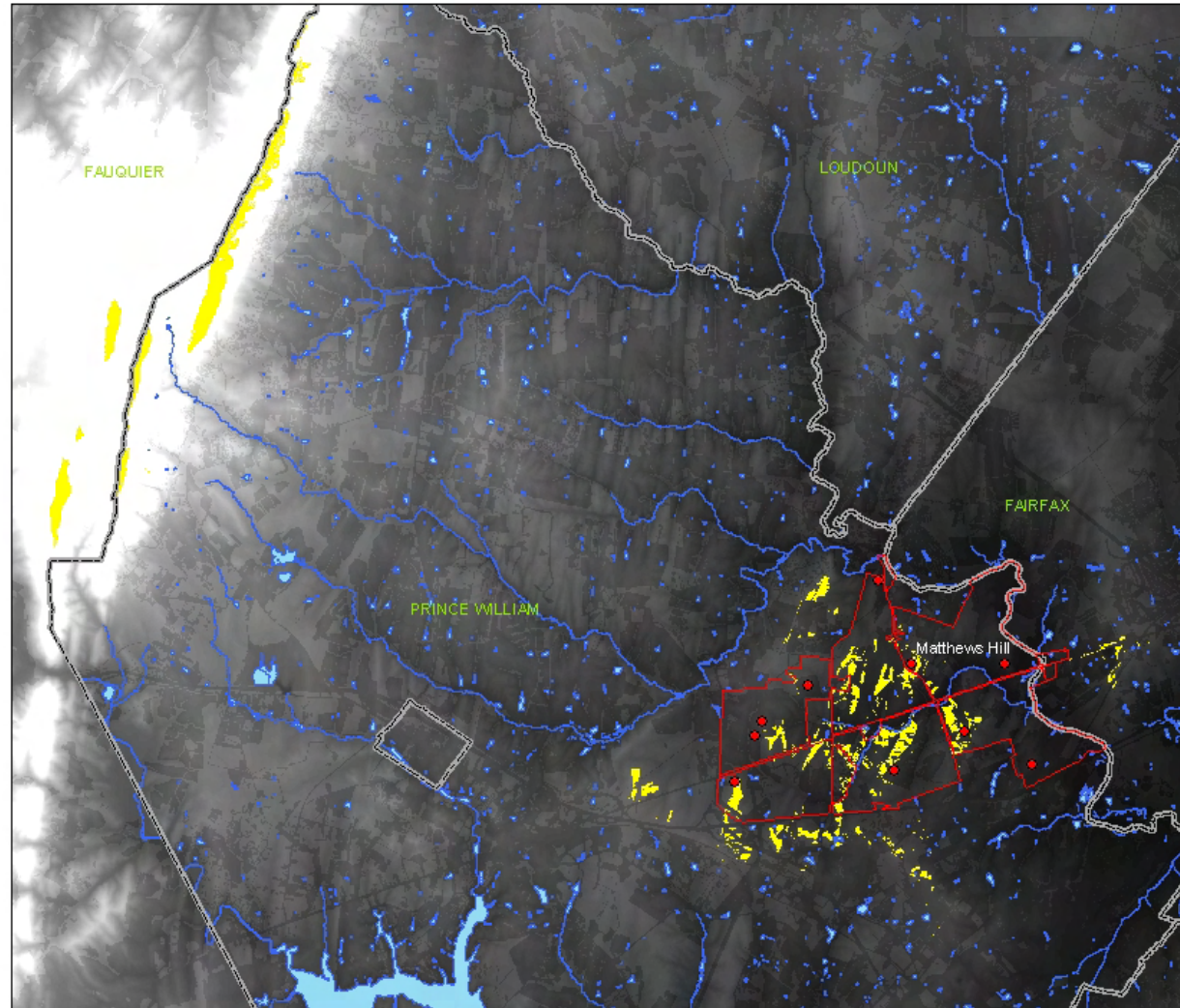
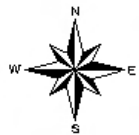
Contemporary Photographs

See the page after the following page for a 360-degree panoramic view.

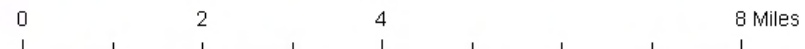
40' Vegetation Viewshed - Matthews Hill

Legend

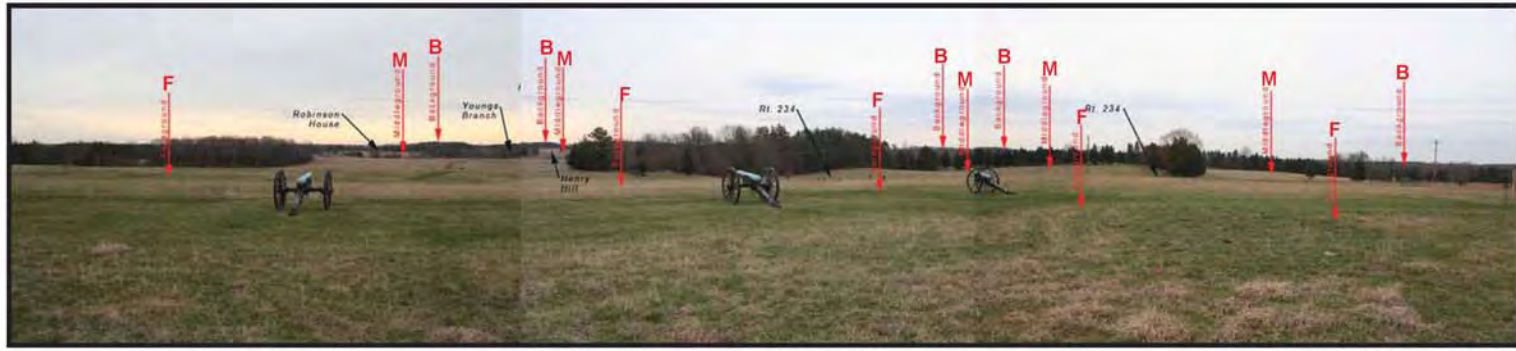
- Public Vantage Points
- MNBP Boundary
- County Boundaries
- Lakes and Rivers
- Matthews Hill Viewshed**
- Visible
- 40' Vegetation DEM Value**
- High : 428.279
- Low : 34.3394



Map by TM Danning, May 31, 2008



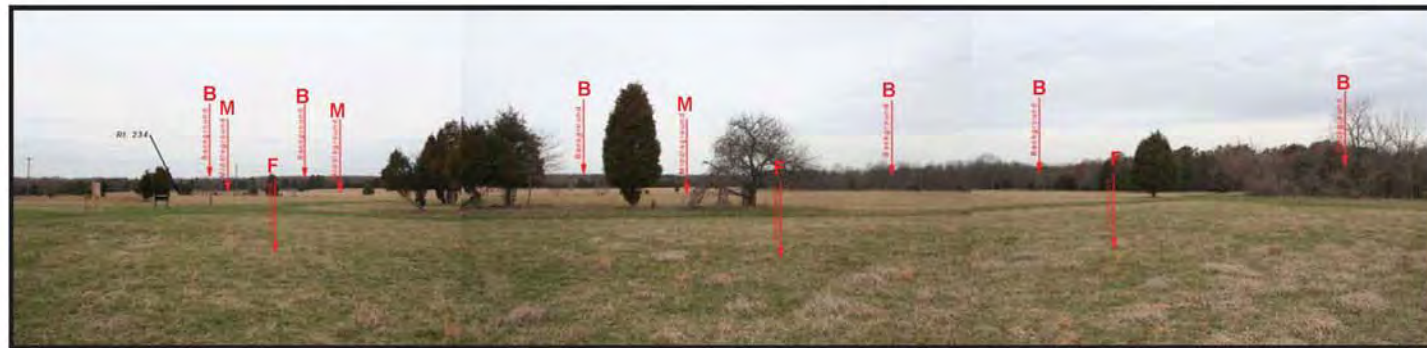
PVP #1: Matthews Hill Viewshed Panorama



SE

S

SW



W

NW

N

NE



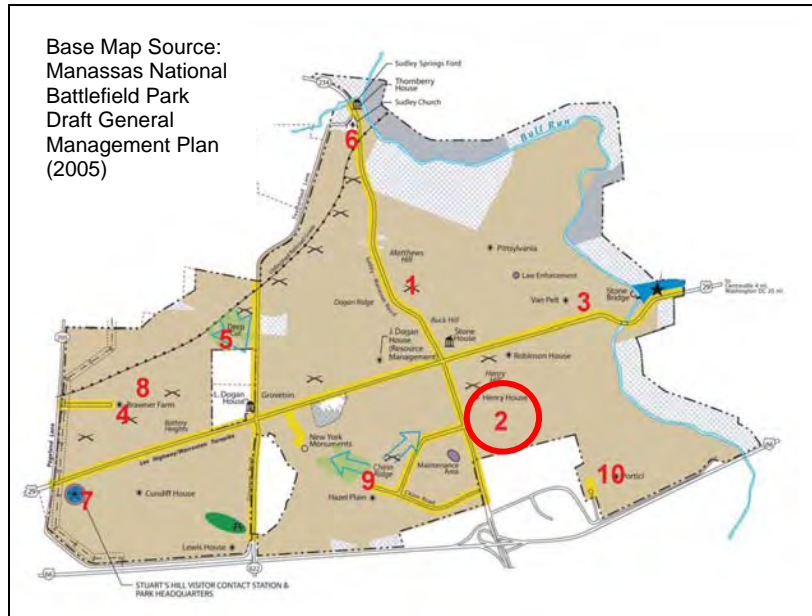
E

LEGEND

View Sequence
F Foreground
M Middleground
B Background

Compass Direction
N North
NE Northeast
E East
SE Southeast
S South
SW Southwest
W West
NW Northwest

2) HENRY HILL



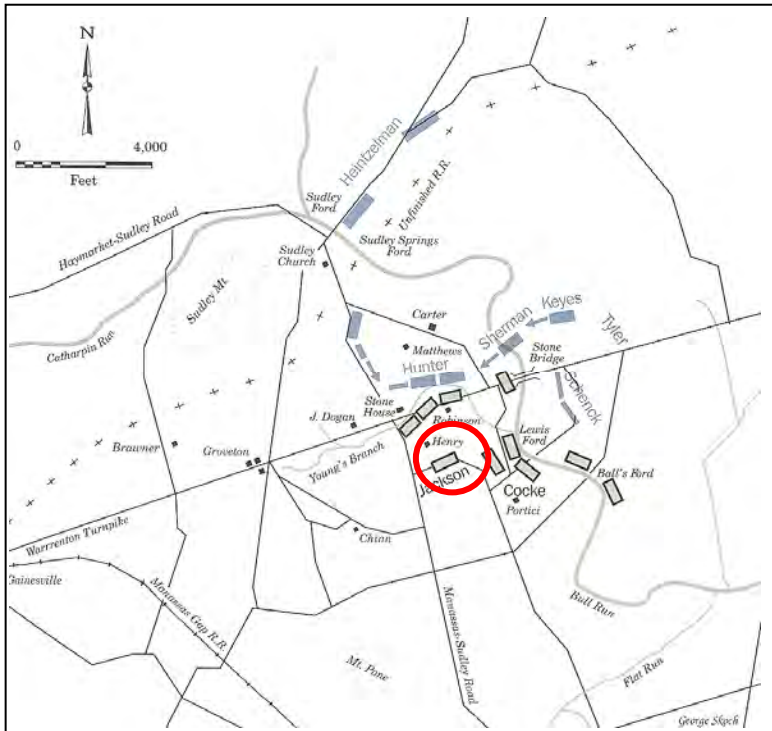
Historic Significance

Situated southeast of the intersection of the Warrenton Turnpike and the Sudley-Manassas Road, Henry Hill served as the stage for some of the most dramatic events of both Manassas battles. Confederate forces turned the tide of battle here at First Manassas, and at Second Manassas, Federal defenders made a tenacious stand that allowed the Union army to withdraw safely from the field.

The hill includes a broad plateau on which troops could maneuver and offers sweeping views, especially to the west and north, where much of the fighting occurred in both battles. Where woods blocked some of the views to the south, the trees shielded Confederate approaches to the hill. At First Manassas, Drillmaster Charles C. Wight of the Twenty-Seventh Virginia emerged from these trees and recalled, “I can never forget the sight that bursts upon us as we reach the summit of the slope. Opposite us was a hill partly wooded, partly cleared. The open portion of this was black with men and along the edge of the wood we can see the glistening of muskets.”²

The hill today, although partially obscured by the 1942 National Park Service visitor center, allows for many of the First Manassas viewsheds but does not for Second Manassas. Van Pelt Hill (Public Vantage Point #3) to the northeast and Matthews Hill (Public Vantage Point #1) to the north are clearly visible, but recent tree growth to the west and northwest obscures viewsheds toward Chinn Ridge (Public Vantage Point #9) and Dogan Ridge (near Historic Viewshed E – Dogan’s Ridge).

² Time-Life Books (eds.), *Voices of the Civil War: First Manassas* (Alexandria, VA: Time Life Books, 1997), 119.



First Battle of Manassas

Fighting on Henry Hill: 12:30 to 2:00 PM - July 21st, 1861

Source: The First Battle of Manassas – National Park Civil War Series



Artillery fire during the battle left Judith Carter Henry dead and her house severely damaged. Confederate troops scavenging for wood later took what remained of the house, leaving only part of the chimney standing.
 Courtesy Manassas National Battlefield



In this detail view the remains of the Henry House chimney are visible at center. The woods at left which taper off to the right are along Sudley Road.
 Courtesy Library of Congress



In this detail view the expanse of Henry Hill is shown just nine months after First Manassas. The battle's most intense fighting occurred on these slopes.
 Courtesy Library of Congress



The remains of the Henry House looking north-northeast, 1862. The detail of a variant view below shows the horizon and the Carter House "Pittsylvania" (Historic Viewshed C) at right center.
Courtesy Library of Congress



View toward Henry Hill from near the Robinson House (Historic Viewshed D), 1862.
Courtesy Library of Congress



Detail view toward Carter House from near the Henry House ruins (Historic Viewshed D), 1862.
Courtesy Library of Congress



Two views (above) of graves on Henry Hill, 1862. Recent scholarship suggests that these views were recorded in close proximity to the viewshed point. If so, the woods at right in the photo above border Sudley Road. Both Images Courtesy Library of Congress



View southeast from near the viewshed point looking toward the Confederate position, 1896. Courtesy Dayton History



View south from the Warrenton Turnpike to Henry Hill, c. 1940. Courtesy Manassas National Battlefield

Physical Description

Overview

Because the Henry Hill PVP is set atop a knoll that is higher in elevation than much of the surrounding landscape, distant views are available. In particular, one can see a good distance to the north and northwest to Matthews Hill and the elevated land in Loudoun County. Also visible to the northeast/east is the peak of a human-made landfill.

The most prominent distant view is to the northwest, between Henry Hill and Matthews Hill. A narrow glimpse of Matthews Hill is visible between a stand of Oak-Hickory forest growing along Rt. 234 and the riparian Bottomland Forest vegetation of Young's Branch that parallels Rt. 29. Young's Branch flows adjacent to Rt. 29, but is not directly visible; only the vegetation growing along the banks of the creek can be seen.

Views to the south, west, and east are foreshortened by stands of Virginia Pine/Eastern Red Cedar and Acidic Oak-Hickory Forest; this mix of evergreen and deciduous forest ensures that views are limited even in winter.

Elevations

The public vantage point is located at an approximate elevation of 275 feet MSL. The lowest point in the viewshed is Young's Branch, which sits at about 180 feet MSL. Matthews Hill is also located at

275 feet MSL, which accounts for its prominence within the northern viewshed. The Bull Run Mountains to the north/northwest rise about 1100 feet MSL.

Views

Foreground

Because roughly two-thirds of the viewshed is enclosed by woods to the south, west, and east, much of the viewshed exists only as foreground. The foreground is represented by mown turf ending at a stand of trees.

Middleground

Middleground views are primarily available when looking north toward Matthews Hill or toward the northeast. The Young's Branch riparian vegetation is the most obvious middleground view. Matthews Hill could also be considered middleground to the Bull Run Mountains which rise up in the distance.

Background

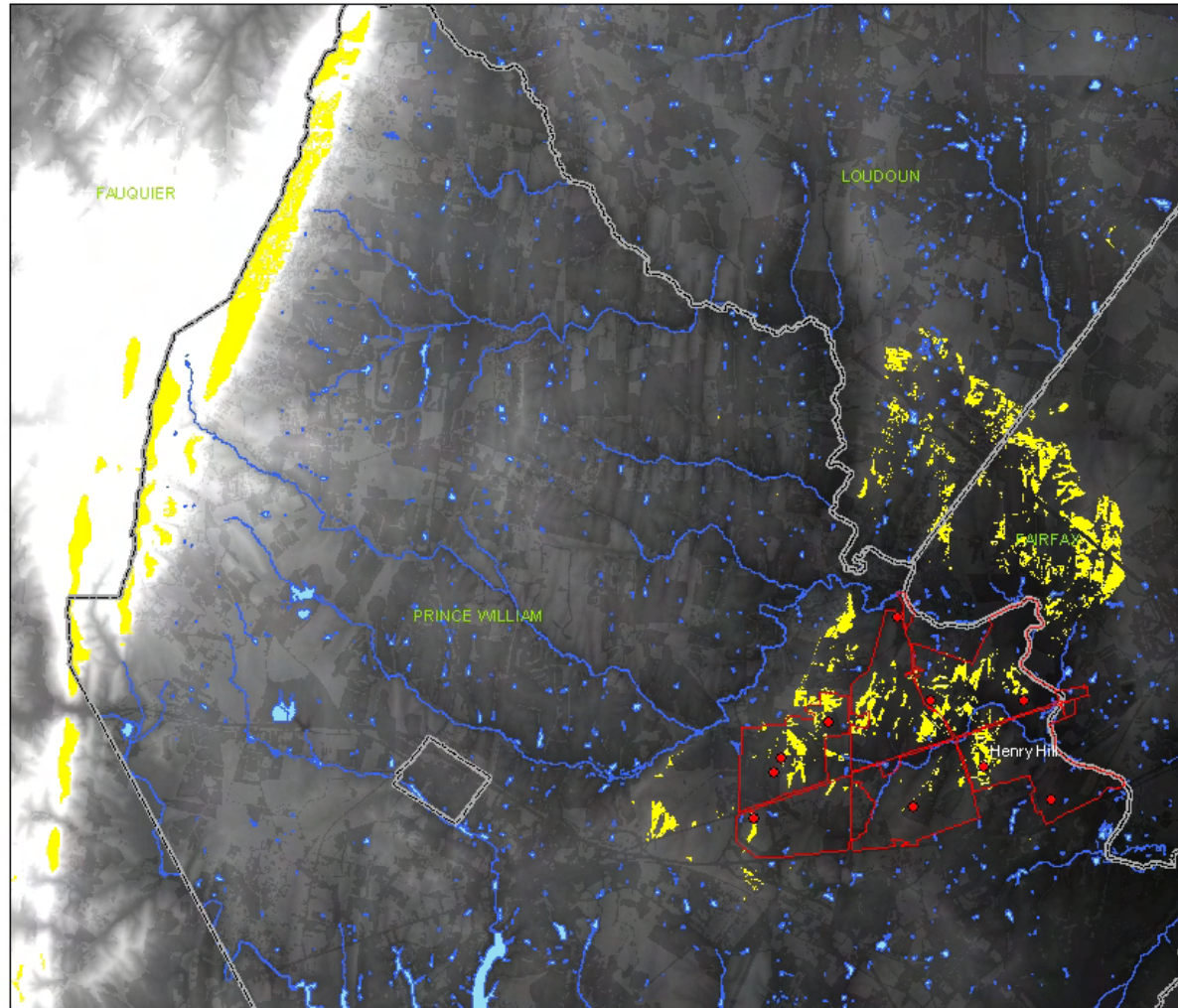
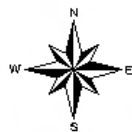
The Bull Run Mountains and lands of higher elevation to the north/northwest provide the backdrop for this viewshed.

Viewshed Visibility Map & Contemporary Photographs

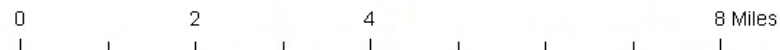
See the following page for a map illustrating those areas (highlighted in yellow) that are visible from this PVP, and the page after that for a 360-degree panoramic view.

40' Vegetation Viewshed - Henry Hill

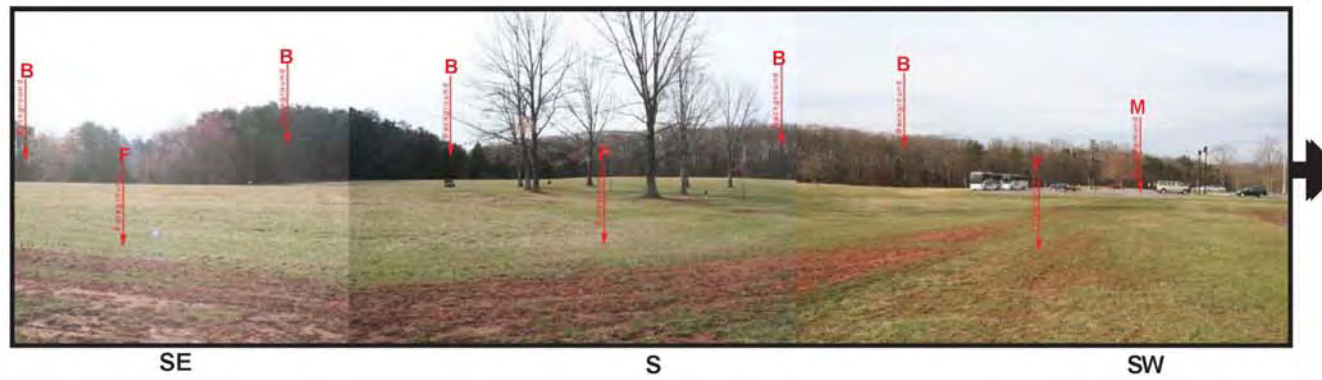
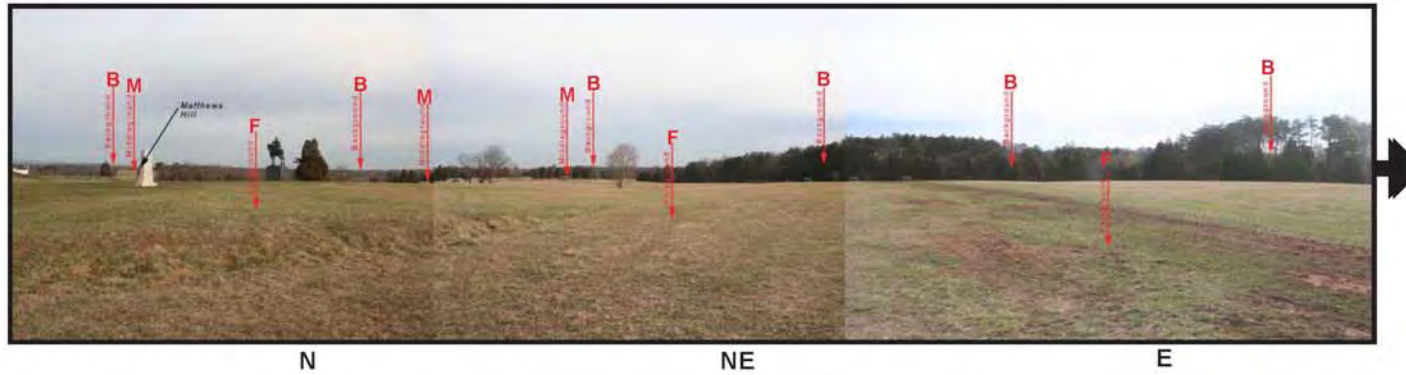
- Legend**
- Public Vantage Point
 - MNBP Boundary
 - County Boundaries
 - Lakes and Rivers
 - Henry Hill Viewshed**
 - Visible
 - 40' Vegetation DEM Value**
 - High : 428.279
 - Low : 34.3394



Map by TM Danninger, May 31, 2008

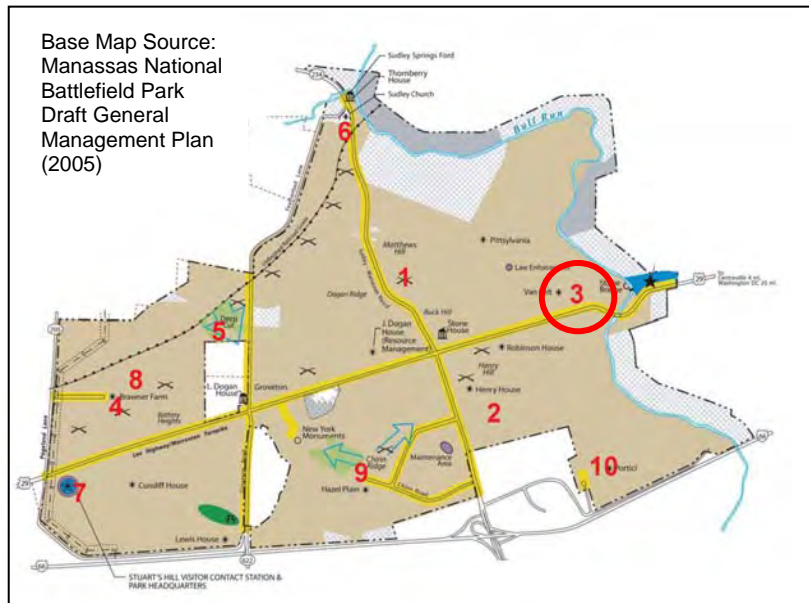


PVP #2: Henry Hill Viewshed Panorama



LEGEND	
<u>View Sequence</u>	<u>Compass Direction</u>
F Foreground	N North
M Middleground	NE Northeast
B Background	E East
	SE Southeast
	S South
	SW Southwest
	W West
	NW Northwest

3) VAN PELT



Historic Significance

The strategically important hill on which sat Abraham Van Pelt's house overlooked Bull Run near the Stone Bridge. Confederate infantry at First Manassas took position on the hill guarding the bridge from Union troops seeking to cross Bull Run. The artilleryists felled trees between their position just south of the turnpike (Rt. 29) and the Stone Bridge, providing clear fields of fire for their cannons.

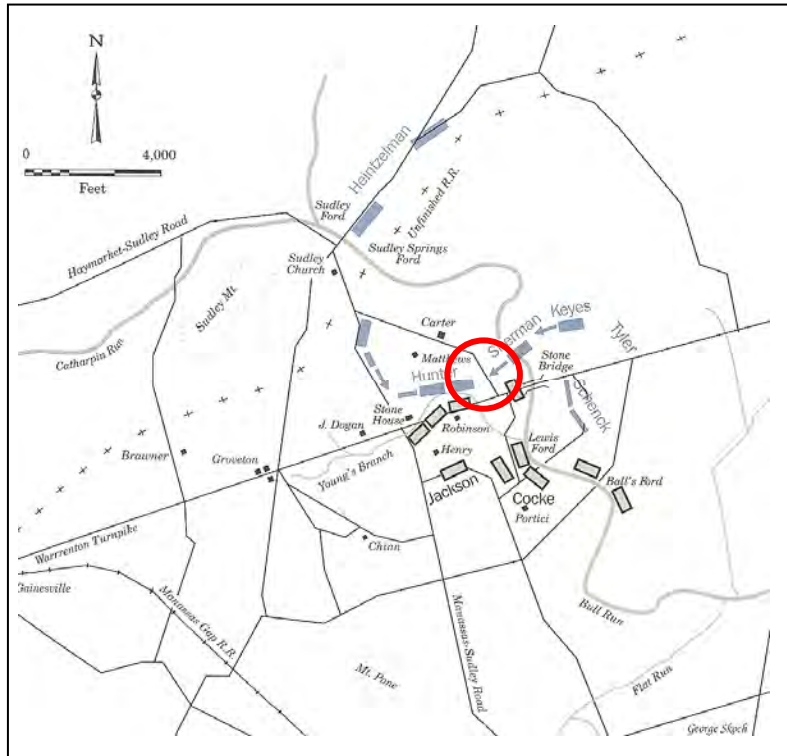
The hill with sweeping views, especially to the east and south, served as a Confederate signal station, connecting with wig-wag communication stations at McLean's Farm and Wilcoxon's Hill (Historical Viewshed L – Signal Hill). It was while receiving a message from Van Pelt Hill that Confederate signalman E. P. Alexander, stationed on Wilcoxon's Hill, spied the grand Union flanking movement beyond the Van Pelt house.³

Indeed, the hill and Van Pelt's house stood in stark relief to all around it, making a tempting target. Union artilleryist, Lt. Peter Hains, who was chosen to open the battle with his huge rifled cannon, scored a direct hit on the Van Pelt house. Hains said that the house "stood out large and white, a target for my gun which I could hardly miss."⁴ His shot was fired from about 1.5 miles to the east (near Historic Viewshed A - Stone Bridge Overlook). The Van Pelt house survived both battles but was destroyed by fire in 1932.

The Van Pelt landscape retains much of its open appearance. To the east, however, forest growth covers the slopes of the hill facing Bull Run. Modern vegetation blocks historic views of the stream and the nearby Stone Bridge.

³ John Hennessy, *The First Battle of Manassas: An End to Innocence* (Lynchburg, VA: H. E. Howard Inc., 1989), 46.

⁴ Peter C. Hains, "The First Gun at Bull Run," *Cosmopolitan Magazine*, vol. 51 (1911), 390.



First Battle of Manassas

Fighting Near Van Pelt: 12:30 to 2:00 PM - July 21st, 1861

Source: The First Battle of Manassas – National Park Civil War Series



View west showing the wrecked Stone Bridge in the foreground and Van Pelt Hill in the center distance, 1862. The detail below shows a close-up of the house.

Courtesy Library of Congress





Van Pelt house and Hill from the Robinson House (Historic Viewshed D)
Courtesy Manassas National Battlefield



This c. 1910 drawing looks roughly northward showing the outline of Van Pelt Hill and the open character of the ground.
Courtesy Manassas National Battlefield



View toward the Robinson House (Historic Viewshed D) from Van Pelt House.
Courtesy Manassas National Battlefield

Physical Description

Overview

The PVP at Van Pelt is located on an elevated knoll in the far eastern portion of the park. The majority of the knoll is surrounded by mown fields that slope downward. This position affords the PVP a multitude of both distant and close-in views. The most far-reaching view is that afforded when looking northwest across the Van Pelt access road and a wide expanse of open fields. During winter, the Law Enforcement Office building can be seen through the trees.

To the south, views are interrupted by the tops of a stand of Piedmont/Mountain Swamp Forest community located across Rt. 29. To the west/southwest, most views are terminated by a lengthy stretch of Virginia Pine/Eastern Red Cedar and Oak/Hickory forest. The upward sloping topography, however, of the Robinson House property is visible through a gap in the woods. Young's Branch flows to the east of this stretch of woods, but only the riparian vegetation growing along its banks is visible. To the southeast, Signal Hill is visible when vegetation is not a factor during the winter months. This view is critical because from Signal Hill Capt. Alexander's signal flag gave a timely warning to Col. Evans that allowed him to intercept and delay the Union flanking column until Confederate reinforcements could arrive during the First Battle of Manassas.

To the west/northwest, expansive views of warm-season grass fields dotted with Eastern Red Cedar trees can be seen. To the north, views extend over more warm-season grass fields to Virginia Pine/Eastern Red Cedar and Oak-Hickory forests. To the east, a stand of primarily Virginia Pine and Eastern Red Cedar woods hems the viewshed in at close range

Elevations

The Van Pelt PVP sits at about 240 feet MSL. Much of the land to the north/northeast sits at between 240 and 250 feet MSL, making it very visible.

Views

Foreground

Because the Van Pelt PVP is located within a copse of trees, the trees make up much of the foreground element.

Middleground

Open fields comprise the majority of middleground within the viewshed. In most directions, they extend between the foreground vegetation and the background trees and topography that terminate the viewshed.

Background

In all directions, woodland vegetation acts as a background. The singular exception is the narrow view to the Robinson House area, where the topography of the open field stops the view.

Viewshed Visibility Map

See the following page for a map illustrating those areas (highlighted in yellow) that are visible from this PVP. This computer generated map and all others indicating land visibility are based upon an average tree height of 40 feet and the viewing height of 5'10", the average height of a man today.

Contemporary Photographs

See the page after the following page for a 360-degree panoramic view.

40' Vegetation Viewshed - Van Pelt

Legend

Public Vantage Point



MNBP Boundary



County Boundaries



Lakes and Rivers



Van Pelt Viewshed



Visible

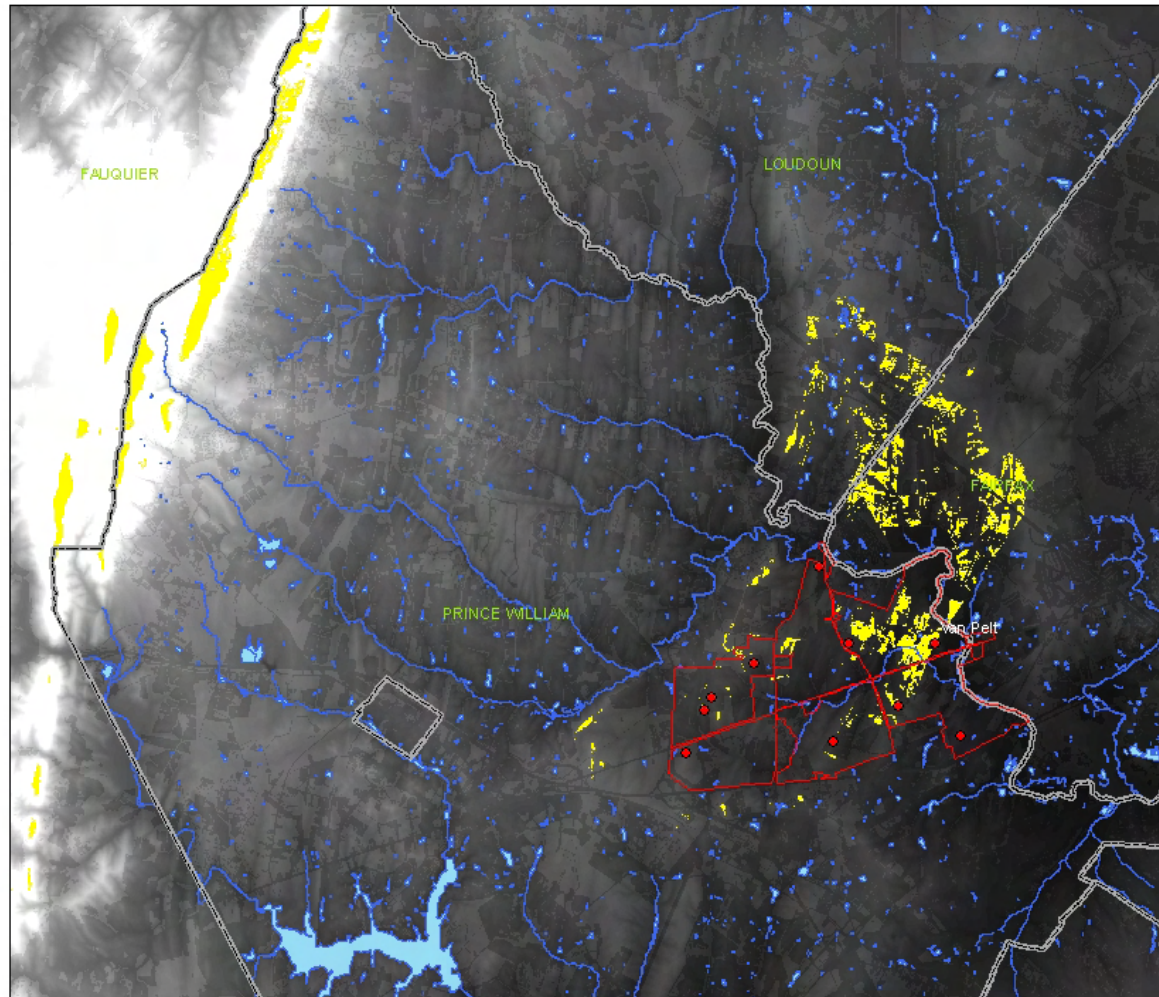
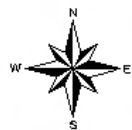
40' Vegetation DEM

Value

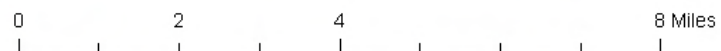


High : 428.279

Low : 34.3394



Map by TM Danninger, May 31, 2008



PVP #3: Van Pelt Viewshed Panorama



SE

S

SW



NW

N



NE

E

LEGEND

View Sequence
F Foreground
M Middleground
B Background

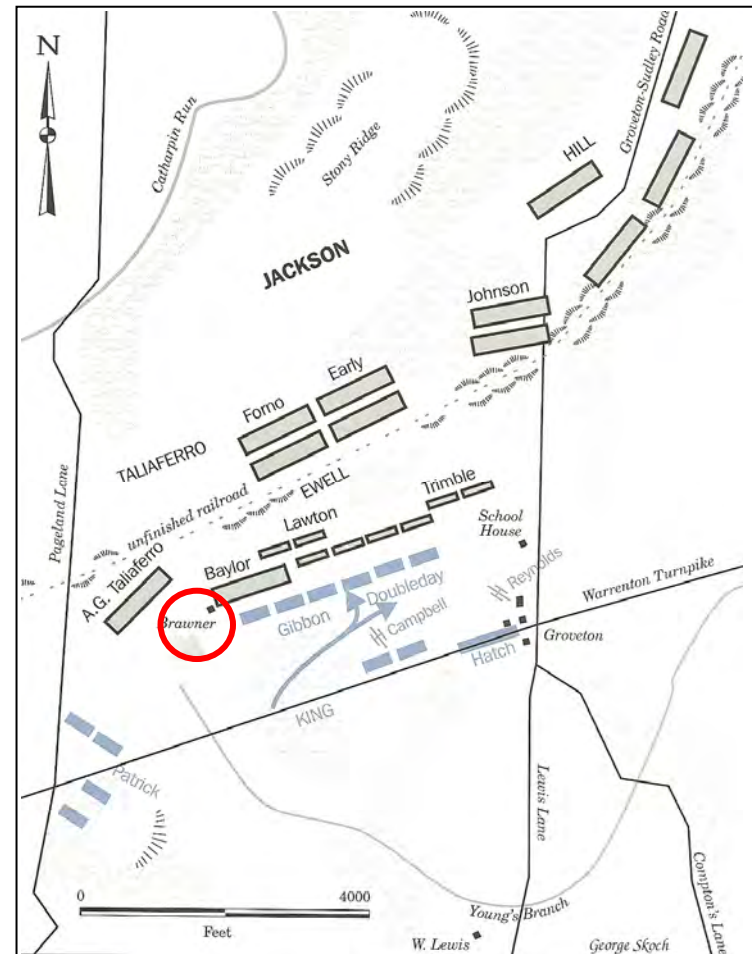
Compass Direction
N North
NE Northeast
E East
SE Southeast
S South
SW Southwest
W West
NW Northwest



View north from the Warrenton Turnpike to the Brawner Farm, date unknown. Courtesy Manassas National Battlefield



View east from the Warrenton Turnpike showing the Brawner Farm in the left distance, c. 1950. Brawner's Woods are at right center. Courtesy Manassas National Battlefield



Second Battle of Manassas
 Battle of Brawner Farm: August 28th, 1862
 Source: The Second Battle of Manassas – National Park Civil War Series

Physical Description

Overview

The Brawner House is located at the southernmost toe of the Stony Ridge geologic formation. Although the house is surrounded by open fields, the views to the immediately surrounding landscape are limited by the mixed deciduous-Eastern Red Cedar hedgerows and riparian vegetation. These views are likely even more limited when the vegetation is in full leaf.

The most extensive view is to the Stuart's Hill PVP, available when looking southwest. The upward sloping topography can just be seen above the trees skirting Rt. 29.

Another long view is available when looking south toward Rt. 29. Cars are visible as they drive along this road. This view is partially obscured by a stand of Virginia Pine/Eastern Red Cedar woods that grow on the southern edge of Rt. 29, but they do not terminate the view.

Tributaries of Young's Branch extend into the Brawner House landscape to the east and west of the house, but are not directly visible due to the riparian vegetation that grows along their banks.

Elevations

The Brawner House PVP sits at about 305 feet MSL. Elevations to the north are generally higher, as they are part of the Stony Ridge

formation, while elevations in all other directions are generally lower. The lowest point in the viewshed occurs along Rt. 29, where the road sits at about 265 feet MSL. The Stuart's Hill PVP is located at an elevation of 325 feet, which explains its visibility from the Brawner House.

Views

Foreground

The foreground of all the views is the long, open ridge that extends to Rt. 29. Toward the south, the foreground is much more extensive, given the distance from the PVP to Rt. 29, while it is very limited by vegetation and the Brawner House in all other directions. The hedgerows and riparian vegetation serve as the divisions between the foreground and middleground.

Middleground

To the south, the middleground consists of Rt. 29 and the vegetation that grows along it. When looking toward Stuart's Hill, the middleground is comprised of the vegetation that encloses the Stuart's Hill PVP site. The only other true middleground can be seen when looking to the east and southeast; the open fields that are visible through the row of vegetation divide the PVP site foreground from the background of woods.

Background

In all directions, the viewshed background is comprised of stands of woodland vegetation that grow either fairly close to the PVP site (to the east), across Rt. 29 (to the south), or off NPS land (to the west). The most distant visual termini are found to the southwest in the vicinity of Stuart's Hill.

Viewshed Visibility Map

See the following page for a map illustrating those areas (highlighted in yellow) that are visible from this PVP. This computer generated map and all others indicating land visibility are based upon an average tree height of 40 feet and the viewing height of 5'10", the average height of a man today.

Contemporary Photographs

See the page after the following page for a 360-degree panoramic view.

40' Vegetation Viewshed - Brawner House

Legend

Public Vantage Point



MNBP Boundary



County Boundaries



Lakes and Rivers



Brawner House Viewshed



Visible

40' Vegetation DEM

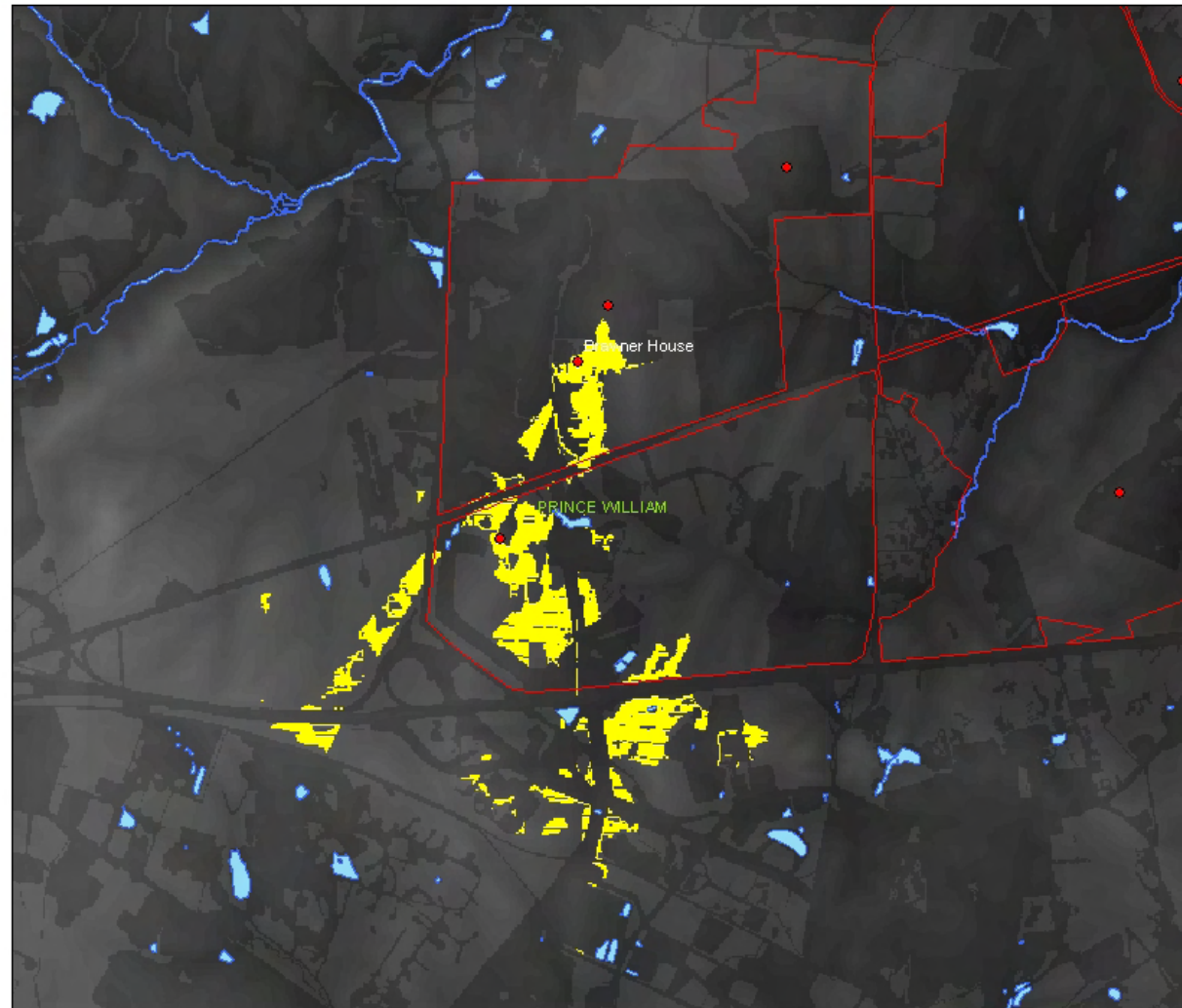
Value



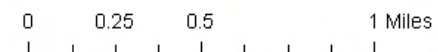
High : 428.279



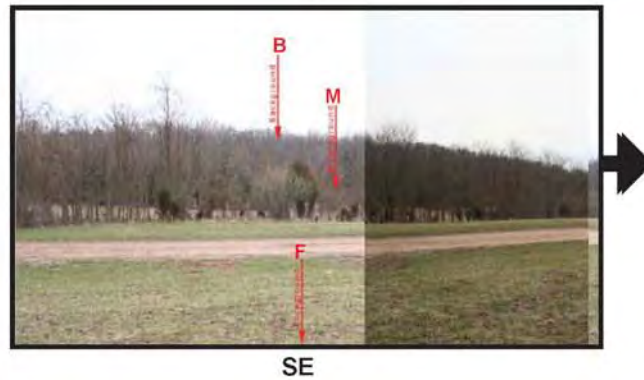
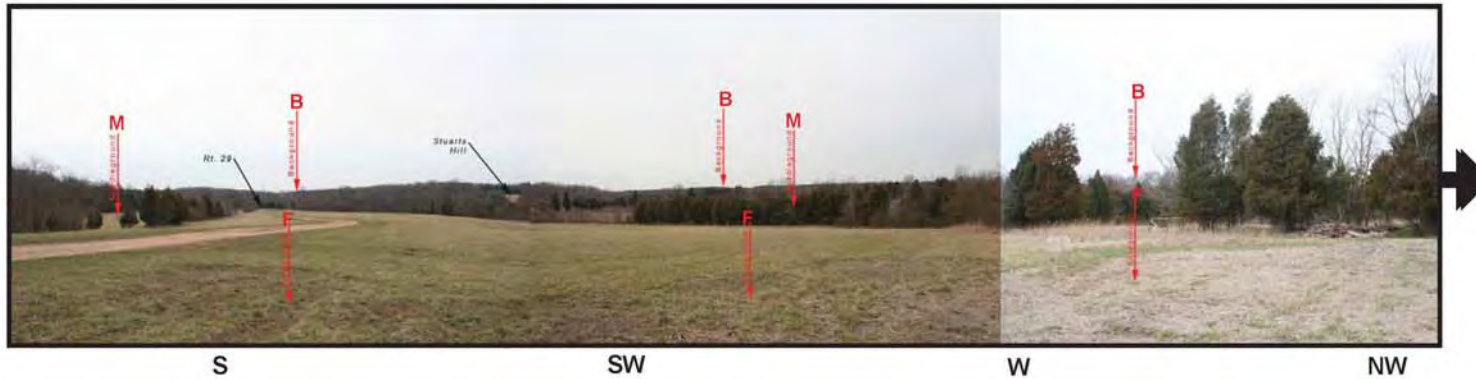
Low : 34.3394



Map by TM Danninger, May 31, 2008

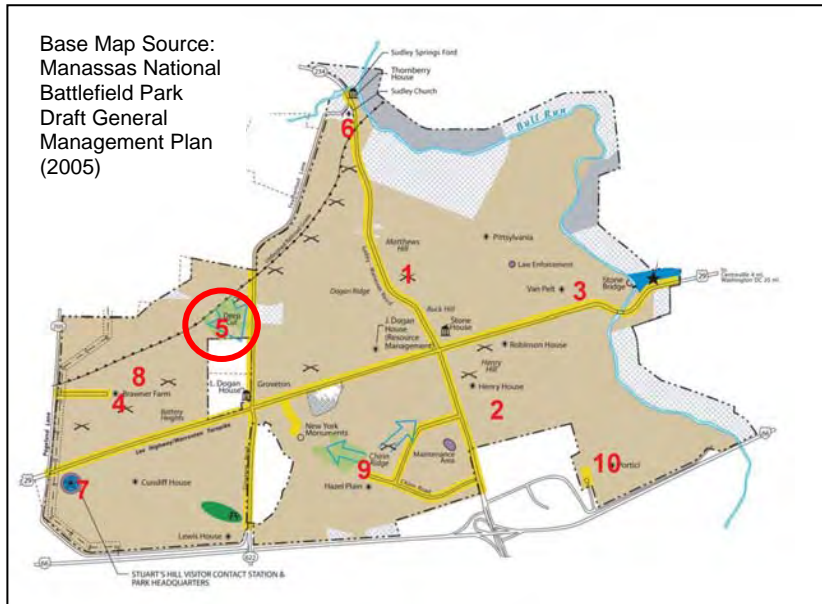


PVP #4: Brawner House Viewshed Panorama



LEGEND	
<u>View Sequence</u>	<u>Compass Direction</u>
F Foreground	N North
M Middleground	NE Northeast
B Background	E East
	SE Southeast
	S South
	SW Southwest
	W West
	NW Northwest

5) DEEP CUT

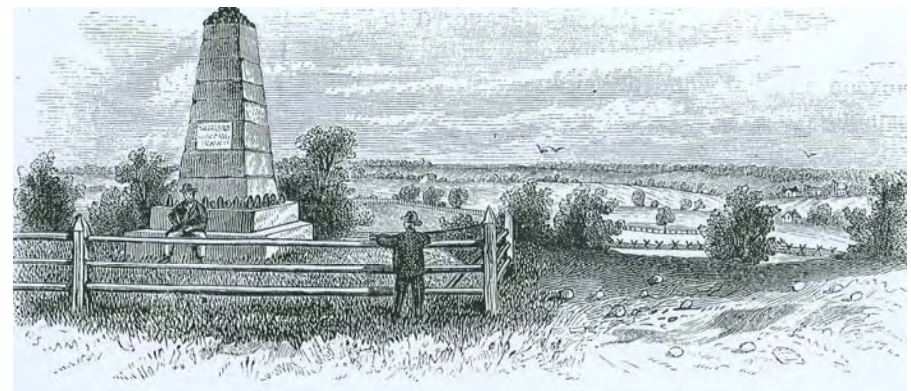


Historic Significance

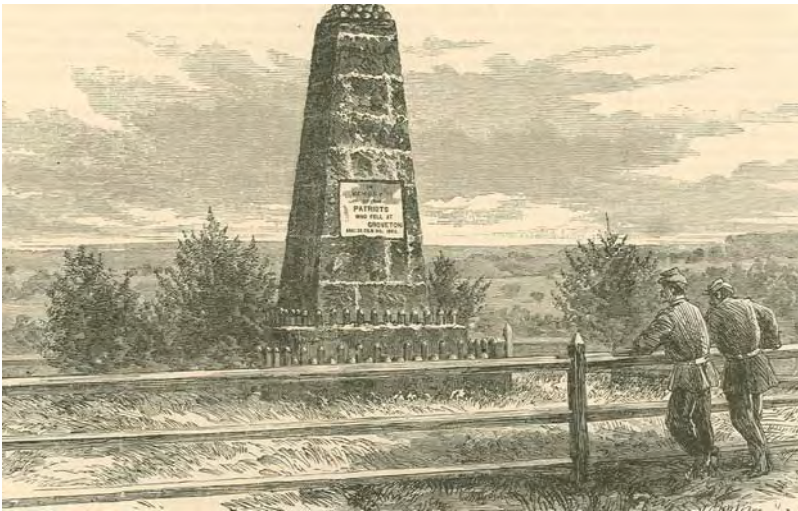
The Independent Line of the Manassas Gap Railroad was intended to connect Gainesville, Virginia, and Alexandria, Virginia. It was begun in 1854, but by the time of the Civil War the company was bankrupt and only the bed had been laid. Where the railroad bed was gouged into ridges, it formed “railroad cuts,” which made natural defensive earthen positions. During the Battle of Second Manassas, these railroad cuts, as well as the “fill” areas, served as defensive positions for troops of General Stonewall Jackson. One particular

cut, the “Deep Cut,” witnessed some of the heaviest fighting of the battle.

The Deep Cut, like most of the railroad grade on the west side of the Groveton-Sudley Road, was largely free of timber during the battle, allowing relatively clear viewsheds to the south (toward Groveton - Historically Based Viewshed G), southwest (toward the Brawner Farm - Public Vantage Point 4), and west (toward Stephen D. Lee’s Artillery Position - Public Vantage Point 8). Most of the railroad grade east of the Groveton-Sudley Road was wooded in 1862. Until 2007, the views to the west of the road, now called Featherbed Lane, were blocked by twentieth-century forest growth precluding not only views out from the Deep Cut, but of much of the railroad grade itself. Under the Historic Landscape Rehabilitation Project, trees in non-historic areas around the Deep Cut were removed in late-2007 and early-2008.



View southeast showing monument at Deep Cut, c. 1890.
 Courtesy Manassas National Battlefield



View south showing monument at Deep Cut, c. 1890. Note the open character of the ground.
Courtesy Manassas National Battlefield



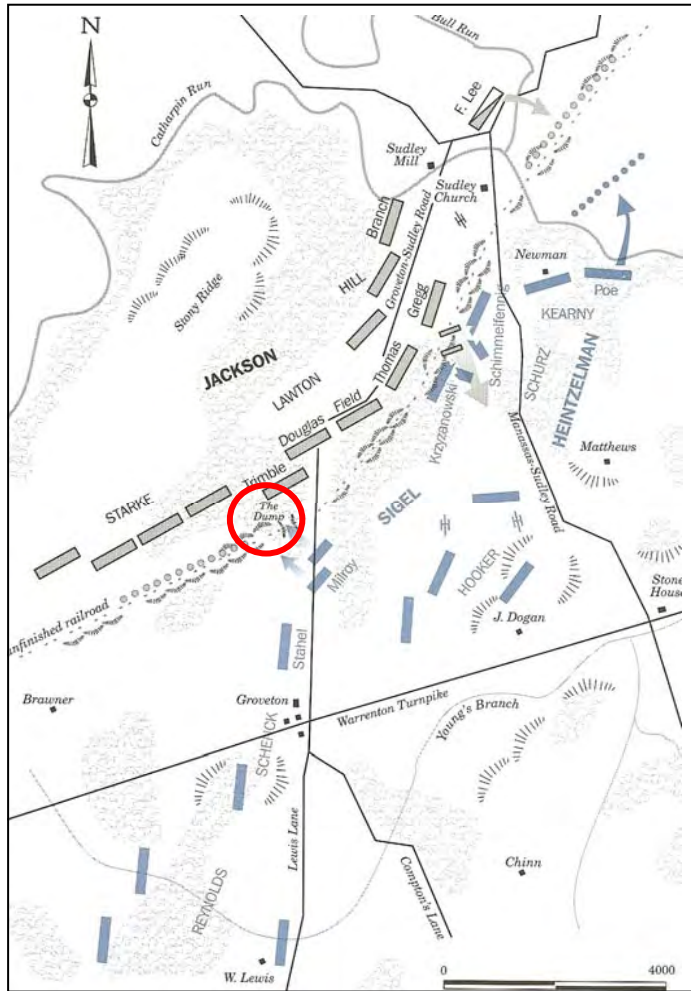
View of unfinished railroad bed looking southwest, 1940. Note the clear terrain just sixty-eight years ago.
Courtesy Manassas National Battlefield



View northwest from the Groveton-Sudley Road toward the Railroad Cut, in front of the tree line, 1905.
Courtesy Dayton History



View of unfinished railroad bed looking east, 1940.
Courtesy Manassas National Battlefield



Second Battle of Manassas
 Sigel's Attack: Late Morning - August 29th, 1862
 Source: The Second Battle of Manassas – National Park Civil War Series

Physical Description

Overview

Deep Cut has recently undergone a large amount of forest clearing as part of viewshed restoration efforts called for in the NPS's General Management Plan for the park. The viewshed is now much more expansive than before, particularly when looking west/southwest.

The PVP is located on one of the Stony Ridge sideslopes and at an elevated height. This height gives the PVP a commanding view of the landscape to the north, east and south. The land to the west of the PVP is at the same or higher elevation.

The most extensive view occurs when looking eastward toward Featherbed Lane. Although much of the Virginia Pine/Eastern Red Cedar and Oak-Hickory forest that once enclosed the PVP has been cleared, the remaining woods to the north, south (on privately owned land), and west still limit views in those directions. A filtered view through semi-vegetated land is available when looking toward a clearing southwest of the PVP.

The actual Deep Cut feature is barely visible because it is incised into the ground, rather than elevated. It is located to the west of the PVP.

Elevations

The Deep Cut PVP sits at about 310 feet MSL and along the eastern edge of the Stony Ridge geologic formation. The land falls away fairly quickly to the east down to a drainage swale and then rises slightly to Featherbed Lane, which sits at about 265 feet MSL as it passes by the PVP. The Brawner House, located to the southwest of Deep Cut, sits at approximately the same elevation (310 feet MSL). Should enough woodland be cleared in between the two PVPs, the house and farm property could easily be seen.

Views

Foreground

When looking in any direction, the viewshed foreground for this PVP is the knoll upon which the site is located. To the west, the Deep Cut landform serves as the foreground terminus.

Middleground

The viewshed middleground is the open clearing that exists to the northeast, east, and south of the PVP site.

Background

For much of the viewshed, the background is comprised of the remaining woodland vegetation. To the east and across Featherbed Lane, the background consists of the Oak-Hickory forest that grows along the eastern edge of Featherbed Lane.

Viewshed Visibility Map

See the following page for a map illustrating those areas (highlighted in yellow) that that are visible from this PVP. This computer generated map and all others indicating land visibility are based upon an average tree height of 40 feet and the viewing height of 5'10", the average height of a man today.

Contemporary Photographs

See the page after the following page for a 360-degree panoramic view.

40' Vegetation Viewshed - Deep Cut

Legend

Public Vantage Point



MNBP Boundary

County Boundaries

Lakes and Rivers

Deep Cut Viewshed

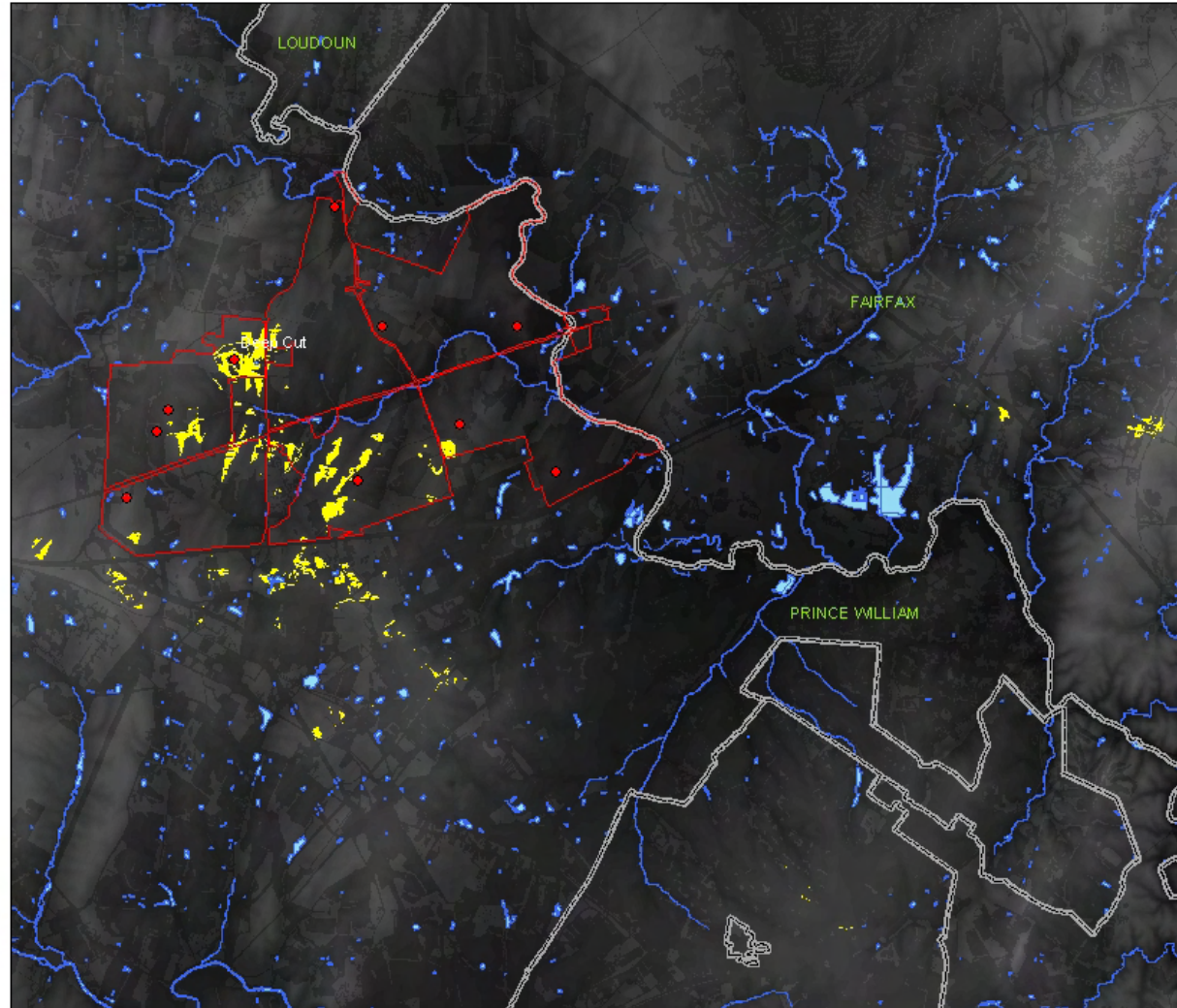
Visible

40' Vegetation DEM

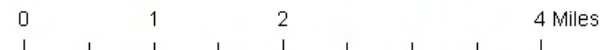
Value

High : 428.279

Low : 34.3394



Map by TM Danninger, May 31, 2008



PVP #5: Deep Cut Viewshed Panorama



SE

S

SW



W

NW

N

NE



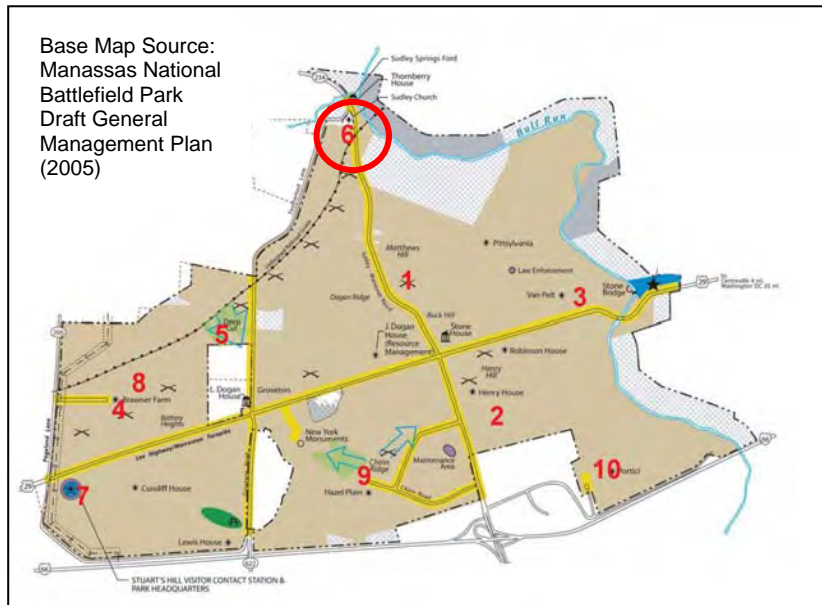
E

LEGEND

View Sequence
F Foreground
M Middleground
B Background

Compass Direction
N North
NE Northeast
E East
SE Southeast
S South
SW Southwest
W West
NW Northwest

6) SUDLEY (Auto Tour Stop 4)

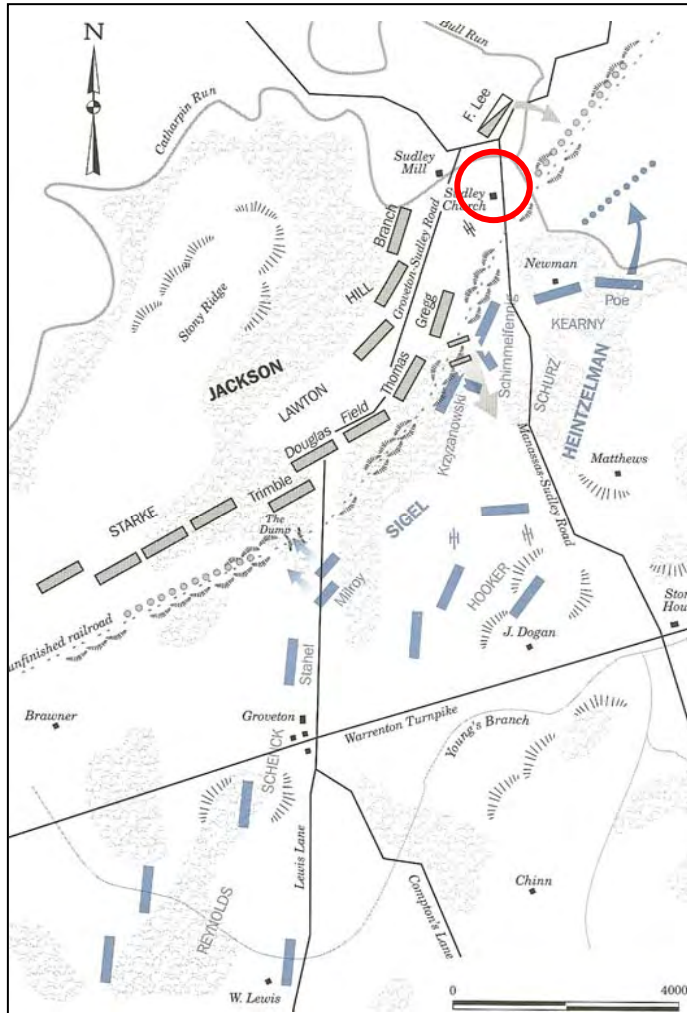


Sudley Ford and the Sudley-Manassas Road served as the key crossing point and line of advance in the Union turning movement at First Manassas. These same features became the natural route of retreat when the Federals met with disaster later that day. Sudley Church and other nearby structures, including the Thornberry House, served as temporary hospitals for Union soldiers wounded at First Manassas. Today, a newer church structure occupies the Sudley Church site, while the Thornberry House is partially original.

Compared to 1861-62, the modern viewsheds from the elevation just south of Sudley Church are limited. Woods to the east preclude the wartime view to the east, on the far side of the Sudley-Manassas Road. To the southwest, forestation now obscures the position of General Maxcy Gregg's South Carolina brigade during Second Manassas.

Historic Significance

The village of Sudley was the scene of major events in both battles. At the confluence of Catharpin Run and Bull Run, Sudley was a key point along the route of the Federal advance and retreat at First Manassas, and major action occurred in the area during Second Manassas, when Sudley marked the left flank of the Confederate line. Important portions of Civil War-era yet remain, notably: the site of Sudley Church, the Thornberry House, the Sudley-Manassas Road and Sudley Ford.



View southwest from Sudley Ford toward Sudley Church (in trees at right center distance), 1862. The viewshed point is on the distant ridge just to the left of the church. Today, this view is obstructed by trees. Courtesy Library of Congress

Second Battle of Manassas
 Sigel's Attack: Late Morning - August 29th, 1862
 Source: The Second Battle of Manassas – National Park Civil War Series



View northeast from Sudley Ford, 1862.
Courtesy Library of Congress



View north to the Thornberry House, 1862.
Courtesy Library of Congress



View from near modern Featherbed Lane looking southeast toward Sudley Church (on rise through trees), 1862.
Courtesy Library of Congress

Physical Description

Overview

The viewshed from the Sudley gathering area is fairly limited and close-in. The most distant view is to the south when looking across a mown field. The second-most distant view is afforded when looking north to the Sudley church and cemetery and portions of Rt. 234. At other angles, such as to the west and east, views are limited by

stands of Virginia Pine and Eastern Red Cedar. These primarily evergreen woodlands block views even in wintertime.

Elevations

This PVP sits on the descending slope of a long ridge. From standing at an elevation of roughly 220 feet above MSL just south of the church cemetery, the surrounding visible elevations vary from 225 feet MSL to the south, to 230 feet MSL to the west, to 215 feet MSL at the church to the north and across Rt. 234 to the east.

View

Foreground

For the majority of the viewshed, only foreground exists due to the close proximity of the woods.

Middleground

Middleground views are available when looking toward Sudley church to the north, and across the mown field to the south.

Background

The sole background view is available when looking southward; the view is terminated by the oak-hickory woods that grow between the unfinished railroad and Rt. 234.

Viewshed Visibility Map

See the following page for a map illustrating those areas (highlighted in yellow) that that are visible from this PVP. This computer generated map and all others indicating land visibility are based upon an average tree height of 40 feet and the viewing height of 5'10", the average height of a man today.

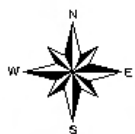
Contemporary Photographs

See the page after the following page for a 360-degree panoramic view.

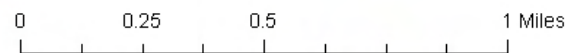
40' Vegetation Viewshed - Sudley

Legend

- Public Vantage Point
- MNBP Boundary
- County Boundaries
- Lakes and Rivers
- Sudley Viewshed**
- Visible
- 40' Vegetation DEM Value**
- High : 428.279
- Low : 34.3394



Map by TM Danninger, May 31, 2008



PVP #6: Sudley Viewshed Panorama



E

SE

S



SW

W

NW



N

NE

LEGEND	
<u>View Sequence</u>	<u>Compass Direction</u>
F Foreground	N North
M Middleground	NE Northeast
B Background	E East
	SE Southeast
	S South
	SW Southwest
	W West
	NW Northwest

7) STUART’S HILL



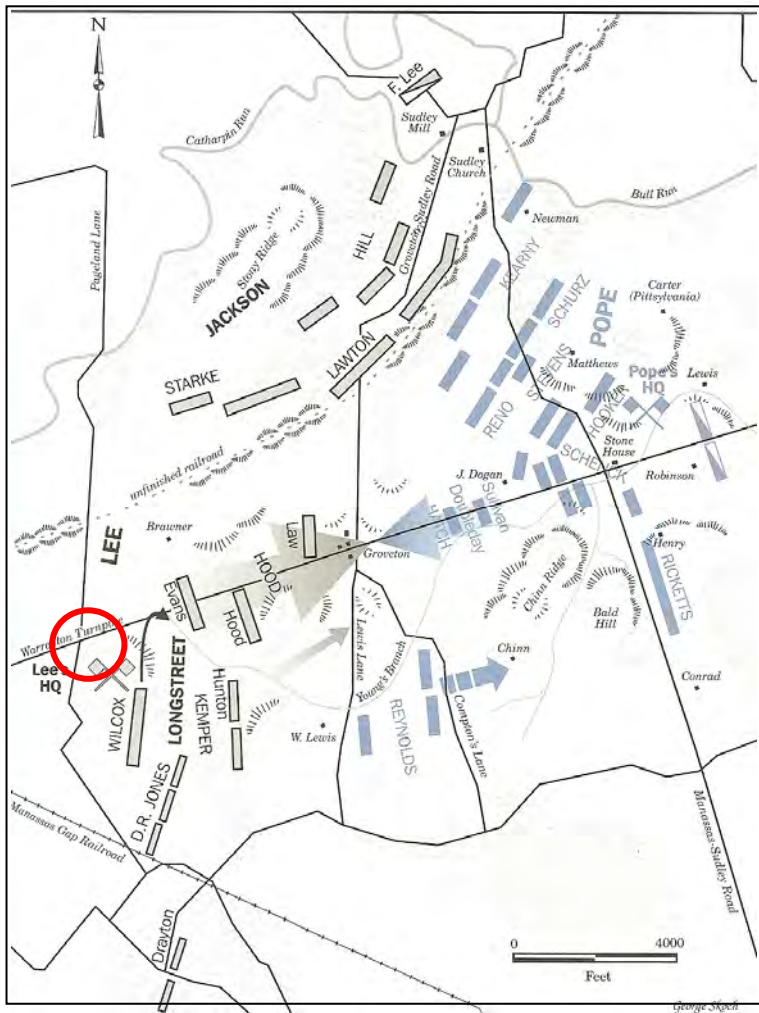
Confederate General James Longstreet’s Right Wing of Lee’s army staged and rested around Stuart’s Hill in advance of its assaults against Union forces to the east.

During the Civil War, some of Stuart’s Hill was part of the Cundiff Plantation, known as Meadowville. The hill’s summit and eastern slopes were clear of trees, providing a clear view to most of the battlefield of Second Manassas. Today, modern forest growth blocks most of the 1862 viewsheds. Only a slim opening, cleared by the National Park Service, allows for a northward vista toward the Brawner Farm.

No historic images directly related to this viewshed were found as part of this study. However, there reportedly may be an image from the time of the U.S. army maneuvers in 1904 looking eastward across the Cundiff Planation. The camera position, however, is uncertain.

Historic Significance

At the Second Battle of Manassas, General Robert E. Lee established his headquarters on Monroe Heights, later known as Stuart’s Hill. The elevation provided good lines of sight toward the field of action and was suitable for use as a signal station, allowing Lee to keep in contact with elements of his army not yet on the field. Lee could also maintain contact with Jackson, who was already on the field. These viewsheds and the prominent elevation helped General Lee to implement his victory at Second Manassas.



Second Battle of Manassas
Hood's Twilight Attack: 7:00 PM - August 29th, 1862
 Source: The Second Battle of Manassas – National Park Civil War Series



Early-1950s photograph taken from Stuart's Hill looking east.
 Source: "Bull Run Remembers" – Joseph Mills Hanson, pg. 115.

Physical Description

Overview

Stuart's Hill PVP is located near the intersection of Rt. 29 and Pageland Lane. For the most part, the viewshed only exists in one direction—to the northeast—due to that fact that dense vegetation hems in the PVP site on three sides. The General Management Plan calls for much of the woods to the east to be removed as part of viewshed rehabilitation efforts.

The singular distant view is toward the Brawner House in a northeasterly direction. The narrow gap through the Virginia Pine/Eastern Red Cedar vegetation on the Stuart's Hill site frames the house and hill upon which it sits.

To the west, a portion of the park's administration complex is clearly visible, as are the high-tension piers and wires that follow Pageland Lane. Rt. 29 is only truly visible when cars pass by the site.

Elevations

The Stuart's Hill PVP sits at about 325 feet MSL. The ground slopes steeply downward to the northeast and toward Rt. 29. The Brawner Farm property sits at about 305 feet MSL, yet higher than the land which surrounds it, making it very visible from Stuart's Hill.

View

Foreground

Because much of the vegetation is so close to the actual PVP site, most of the viewshed exists as foreground. In the direction of the Brawner House, the open field that slopes down to Rt. 29 serves as the foreground.

Middleground

The land stretching from Rt. 29 up to and including the Brawner House acts as the middleground for the viewshed.

Background

The background for the Brawner House view is comprised of the Virginia Pine/Eastern Red Cedar and Oak-Hickory woods located to the north of the house and along Stony Ridge. The vegetation surrounding the house also serves as background.

Viewshed Visibility Map

See the following page for a map illustrating those areas (highlighted in yellow) that that are visible from this PVP. This computer generated map and all others indicating land visibility are based upon an average tree height of 40 feet and the viewing height of 5'10", the average height of a man today.

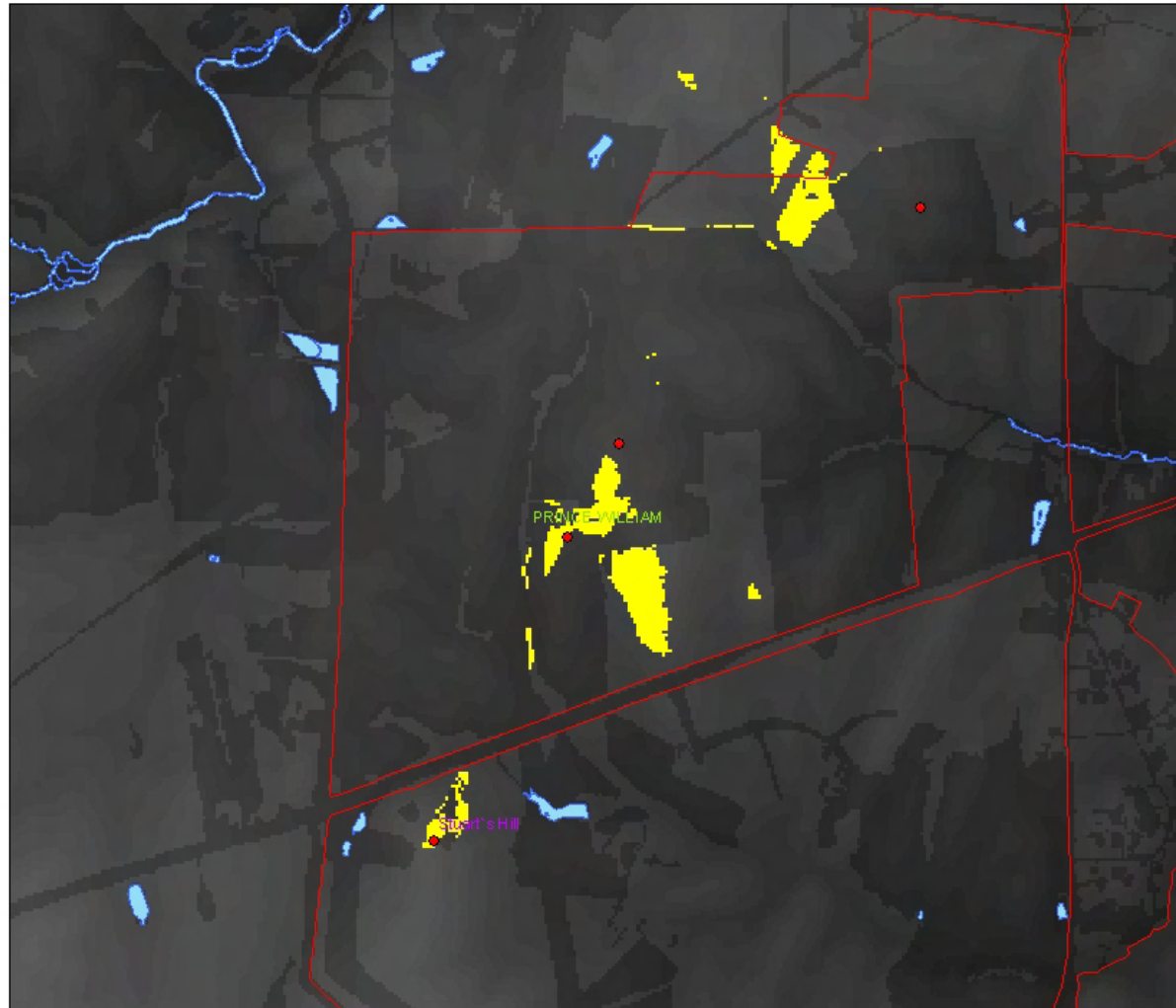
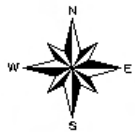
Contemporary Photographs

See the page after the following page for a 360-degree panoramic view.

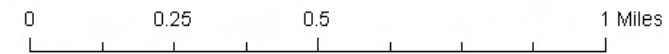
40' Vegetation Viewshed - Stuart's Hill

Legend

- Public Vantage Point
- MNBP Boundary
- County Boundaries
- Lakes and Rivers
- Stuart's Hill Viewshed**
- Visible
- 40' Vegetation DEM Value**
- High : 428.279
- Low : 34.3394



Map by TM Danninger, May 31, 2008



PVP #7: Stuart's Hill Viewshed Panorama



NE

E

SE



S

SW

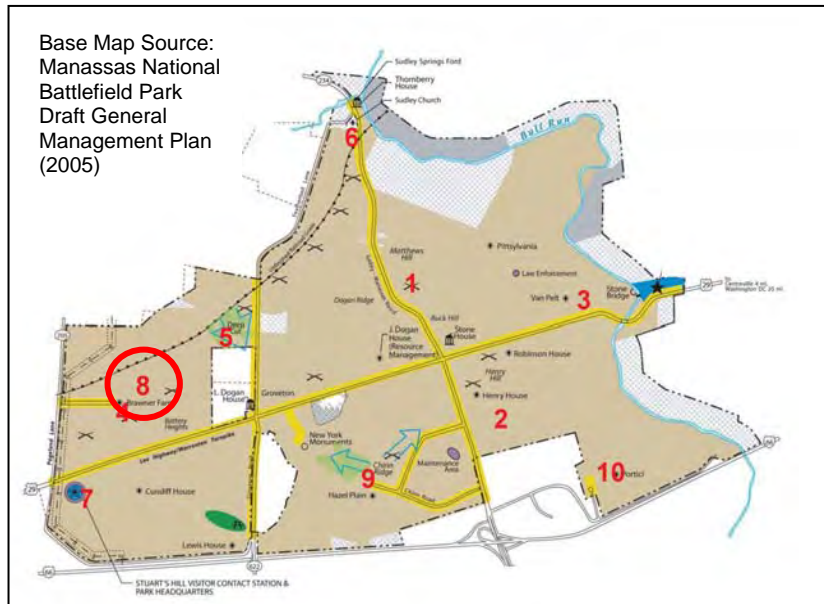
W



N

LEGEND	
<u>View Sequence</u>	<u>Compass Direction</u>
F Foreground	N North
M Middleground	NE Northeast
B Background	E East
	SE Southeast
	S South
	SW Southwest
	W West
	NW Northwest

8) ARTILLERY POSITION



Historic Significance

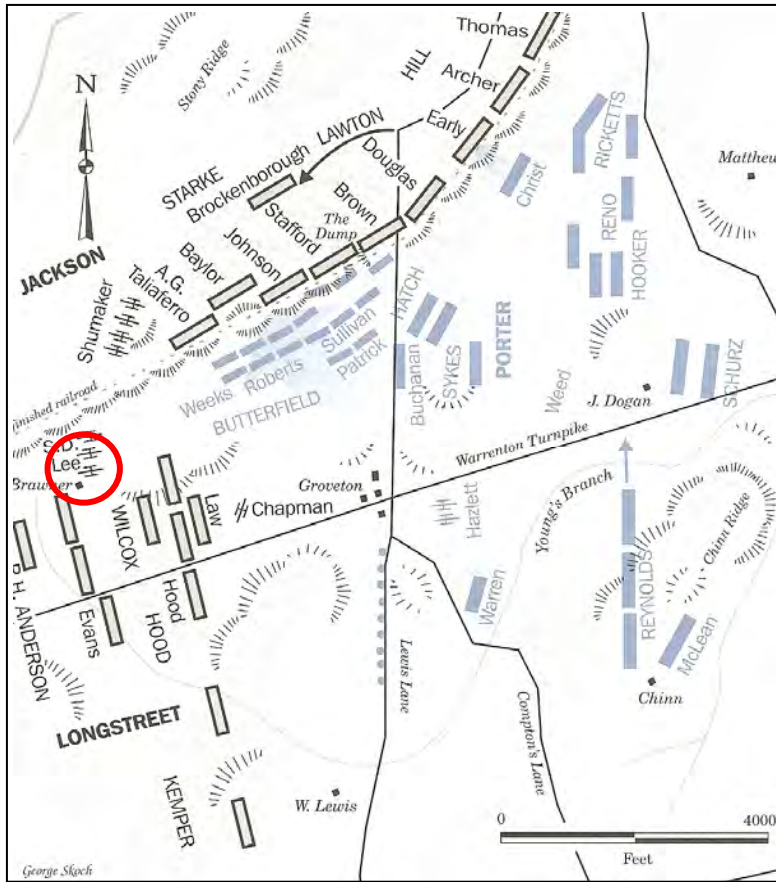
Situated northeast of the Brawner Farm (Public Vantage Point 4) on Stony Ridge, this site marks the location of eighteen Confederate artillery pieces during the Battle of Second Manassas. The cannons, under the command of Colonel Stephen D. Lee, delivered devastating fire into the ranks of Union troops attacking General Stonewall Jackson's position in the railroad bed and also supported the advance of Confederate General James Longstreet's troops on the battle's final day. Southern civilians may have also watched

some of the fighting at the First Battle of Manassas from this position.

The position's elevation on the ridge, one of the highest in the park, and clear views to the south and east made the site militarily important on August 30, 1862. The open ground allowed for Lee's guns to flank and dominate Union attacks against the railroad grade. Union staff officer Lieutenant Stephen Weld and many others wrote about the cross fire created by Lee's guns.

Until 2008, the critical viewshed to the east, toward Dogan Ridge, was obscured by timber. Work under the Historic Landscape Rehabilitation Project has restored this viewshed. Views to the south are still compromised by modern growth.

No historic images directly related to this viewshed were found, although portions of the viewshed are reportedly shown in the late-nineteenth century Second Bull Run cyclorama. Furthermore, a guidebook produced for the cyclorama's exhibition in Washington included a 360 degree drawing illustrating prominent landmarks as viewed from Stony Ridge.



Second Battle of Manassas
 Porter's Attack: 3:00 PM - August 30th, 1862
 Source: The Second Battle of Manassas – National Park Civil War Series

Physical Description

Overview

The Artillery Position PVP has perhaps the highest elevation of any viewshed within this study. The most distant views are as far-reaching as Centreville to the northeast. Some of these expansive views are available due to recent NPS landscape rehabilitation activities that are part of viewshed restoration efforts.

Another view that is fairly extensive can be found when looking toward the southwest. This view encompasses open fields and high tension wires that are located on NPS property, and extends to woodlands growing at similar elevations far west of Pageland Lane. The crest of the Bull Run Mountains is visible when looking to the west, above the tops of the riparian plantings.

Views to the north and south are limited by mixed deciduous-Eastern Red Cedar hedgerows. Directly to the west, riparian vegetation that grows along a small stream limits views in this direction.

Elevations

The Artillery Position PVP sits at about 325 feet MSL. According to GIS data, there are few higher elevations within the park boundary. This allows for commanding views in many directions.

View

Foreground

In all directions, the foreground for this viewshed is the warm-season grass field that is bordered by hedgerows and riparian vegetation.

Middleground

To the northeast and east, the middleground is the recently clear-cut land and another open field. To the southwest, the middleground is the open field that exists between the tributary stream and Pageland Lane. There is no middleground to the direct south, west, or north, as hedgerows and riparian vegetation terminate the view at the foreground.

Background

Key background views worth mentioning are those available when looking southwest and northeast/east. To the southwest, the background is formed by the woods growing outside the park boundary. To the northeast/east, the background ranges from treetops growing between the Artillery Position and Deep Cut and to the north of the privately owned Stonewall Memory Gardens toward Centreville. Also, in the far distance to the northwest the Bull Run Mountains can be seen.

Viewshed Visibility Map

See the following page for a map illustrating those areas (highlighted in yellow) that that are visible from this PVP. This computer generated map and all others indicating land visibility are based upon an average tree height of 40 feet and the viewing height of 5'10", the average height of a man today.

Contemporary Photographs

See the page after the following page for a 360-degree panoramic view.

40' Vegetation Viewshed - Artillery Position

Legend

Public Vantage Point



MNBP Boundary



County Boundaries



Lakes and Rivers



Artillery Position Viewshed



Visible

40' Vegetation DEM

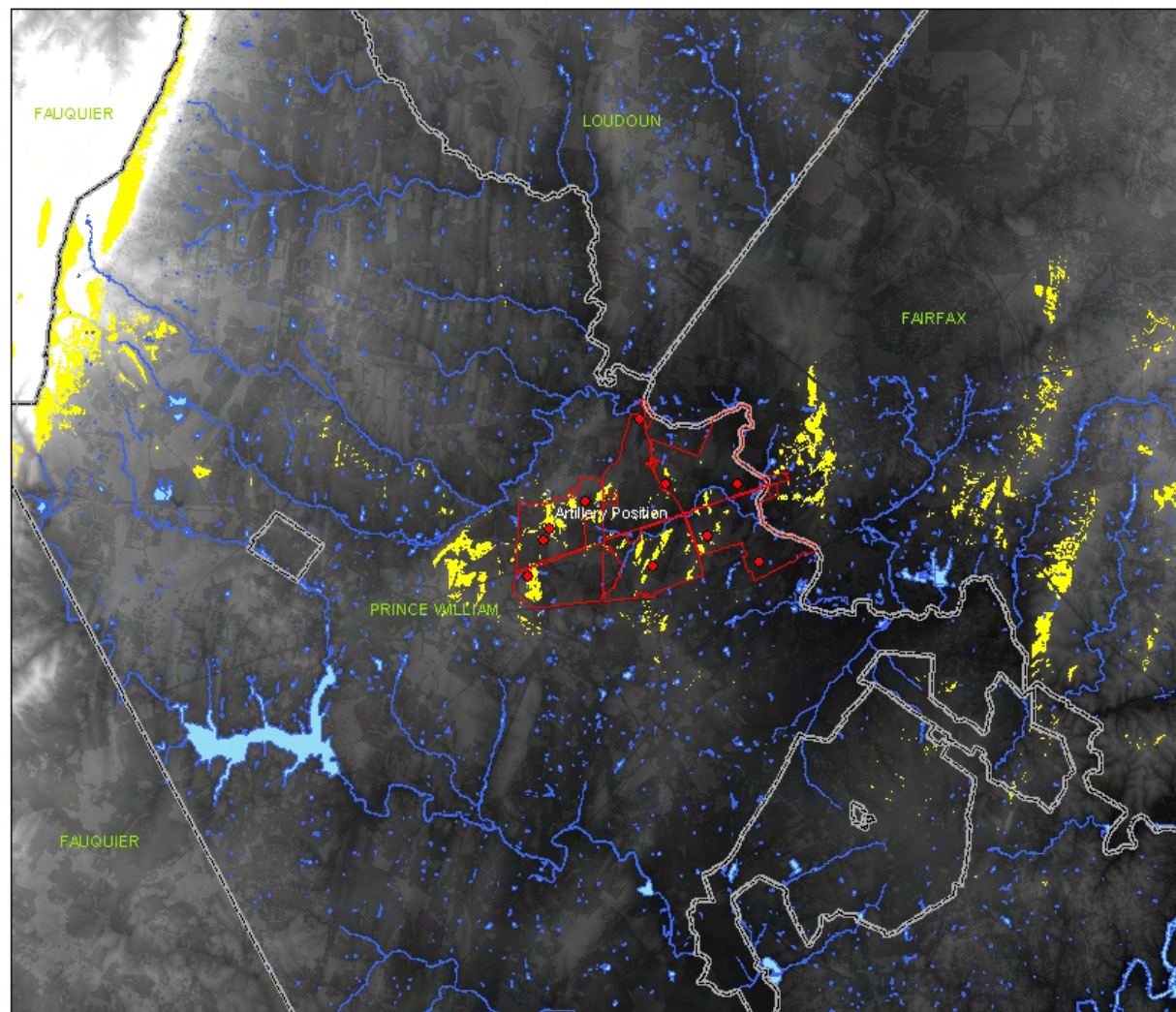
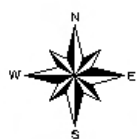
Value



High : 428.279



Low : 34.3394



Map by TM Danning, May 30, 2008



PVP #8: Artillery Position Viewshed Panorama



NW

N

NE



E

SE

S



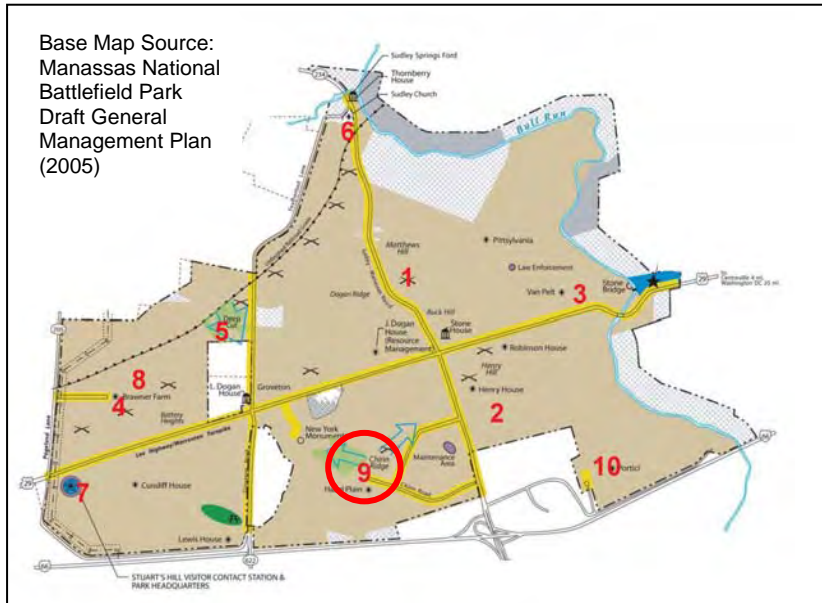
SW

LEGEND

View Sequence
F Foreground
M Middleground
B Background

Compass Direction
N North
NE Northeast
E East
SE Southeast
S South
SW Southwest
W West
NW Northwest

9) CHINN RIDGE



Historic Significance

The crest and undulating slopes of Chinn Ridge witnessed bloody and important fighting at both Battles of Manassas. At First Manassas, Confederate troops flanked Union positions on the ridge, ensuring their ultimate victory. At Second Manassas, Union troops made a determined stand on the ridge before being forced back by Confederate assaults. Private Samuel Lowry of the 17th South Carolina wrote about his northeastward advance from near the Chinn house. “On clearing the woods at Mrs. Chinn’s House, we came in full sight of the enemy drawn up in good line...” on Chinn Ridge

backing the Warrenton Turnpike.⁵

The area around the Chinn House was largely open fields except for a patch of woods west of the house and a U-shaped belt of timber around Bald Hill to the east. During the Civil War, Chinn Ridge afforded clear views toward other key battlefield locales including Henry Hill (Public Vantage Point 2) to the northeast, Dogan Ridge (Historically Based Viewshed E) to the north, and the heights around Groveton (Historically Based Viewshed G) to the west. Even with the substantial height of the ridge, whose crest is largely free of timber, the key viewsheds are completely blocked today by modern tree growth. It is noteworthy that during the Civil War the ridge known today as “Chinn Ridge” was referred to as “Bald Hill”. The latter name is now applied to the ridge to the east of Chinn Ridge.



View from Chinn Ridge, 1949.
Courtesy Manassas National Battlefield

⁵ Time-Life Books (eds.), *Voices of the Civil War: Second Manassas* (Alexandria, VA: Time Life Books, 1997), 138.



View showing Chinn House and Chinn Ridge in distance, 1941.
Courtesy Manassas National Battlefield



View southeast from Chinn Ridge to Bald Hill, 1936.
Courtesy Manassas National Battlefield



View showing Chinn House and Chinn Ridge in distance, 1940. The frame house, known as Hazel Plain, was owned by Benjamin T. Chinn. The NPS razed the structure in 1950. Courtesy Manassas National Battlefield



View from Chinn Ridge looking north, c. 1946.
Courtesy Manassas National Battlefield

Physical Description

Overview

The Chinn Ridge PVP occupies some of the highest topographical elevations within the park boundary. This height affords viewers a few far-reaching views to the northeast, east, and south. To the north and west, however, mixed Oak-Hickory and Virginia Pine-Eastern Red Cedar woods prevent views due to its density and the fact that it sits at the same elevation as the PVP.

To the northeast, the view along the open field of the ridge extends between a narrow gap in the vegetation found about two-thirds of the way along the ridge. Through this gap, one can see a portion of woods growing atop Buck Hill.

To the northeast/east, the ridge slopes steeply down toward the drainage way of Chinn Branch. The riparian vegetation of Chinn Branch is visible, although the stream itself is not. This drop in elevation allows views to carry over Chinn Branch and further to the east where they terminate at what appears to be woodlands growing atop the northern knoll of Bald Hill.

To the southeast, the view extends along the open field and entry drive, over Chinn Branch, and to the Virginia Pine/Eastern Red Cedar forest that blocks views of the Northern Virginia Community College.



Second Battle of Manassas
 Fight of Chinn Ridge: 4:00 PM - August 30th, 1862
 Source: The Second Battle of Manassas – National Park Civil War Series

To the south, views across the open field terminate fairly quickly at the adjacent Virginia Pine/Eastern Red Cedar woods.

Elevations

The Chinn Ridge PVP sits at about 280 feet MSL. Chinn Ridge flows northward at an average elevation of 200 feet about MSL.

Views

Foreground

The foreground composition varies because of the disparate views. To the north and west, the foreground consists of the strip of land adjacent to the pavement and the snake fence. To the northeast, the foreground consists of the open field that extends up to the clump of trees growing partway down the viewshed. To the east, the foreground consists of the open field that slopes down to Chinn Branch. Lastly, to the south, the foreground consists of the parking lot and access drive.

Middleground

To the north and west, the middleground is comprised of open fields that lead up to the woodland edge. To the northeast, the clump of trees growing partway down the view makes up the middleground. The riparian vegetation along Chinn Ridge comprises the middleground. Toward the south, the open field that leads up to the woodland edge comprises the middleground.

Background

The background views of note exist to the northeast and east. The vegetation growing atop Buck Hill comprises the background when looking toward the northeast, while the vegetation growing atop Bald Hill comprises the background to the east.

Viewshed Visibility Map

See the following page for a map illustrating those areas (highlighted in yellow) that that are visible from this PVP. This computer generated map and all others indicating land visibility are based upon an average tree height of 40 feet and the viewing height of 5'10", the average height of a man today.

Contemporary Photographs

See the page after the following page for a 360-degree panoramic view.

40' Vegetation Viewshed - Chinn Ridge

Legend

Public Vantage Point



MNBP Boundary



County Boundaries



Lakes and Rivers



Chinn Ridge Viewshed



Visible

40' Vegetation DEM

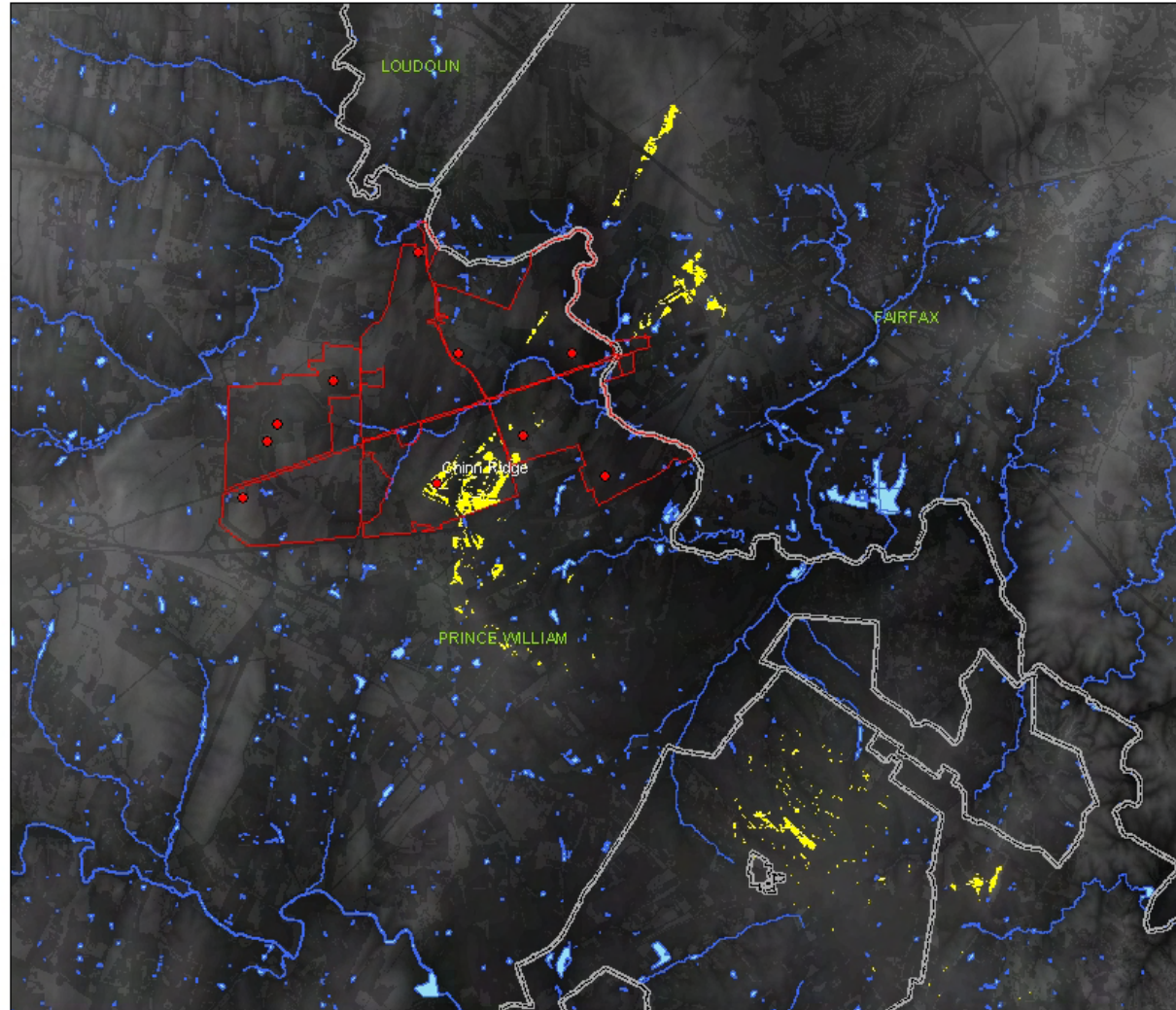
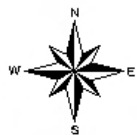
Value



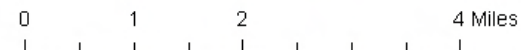
High : 428.279



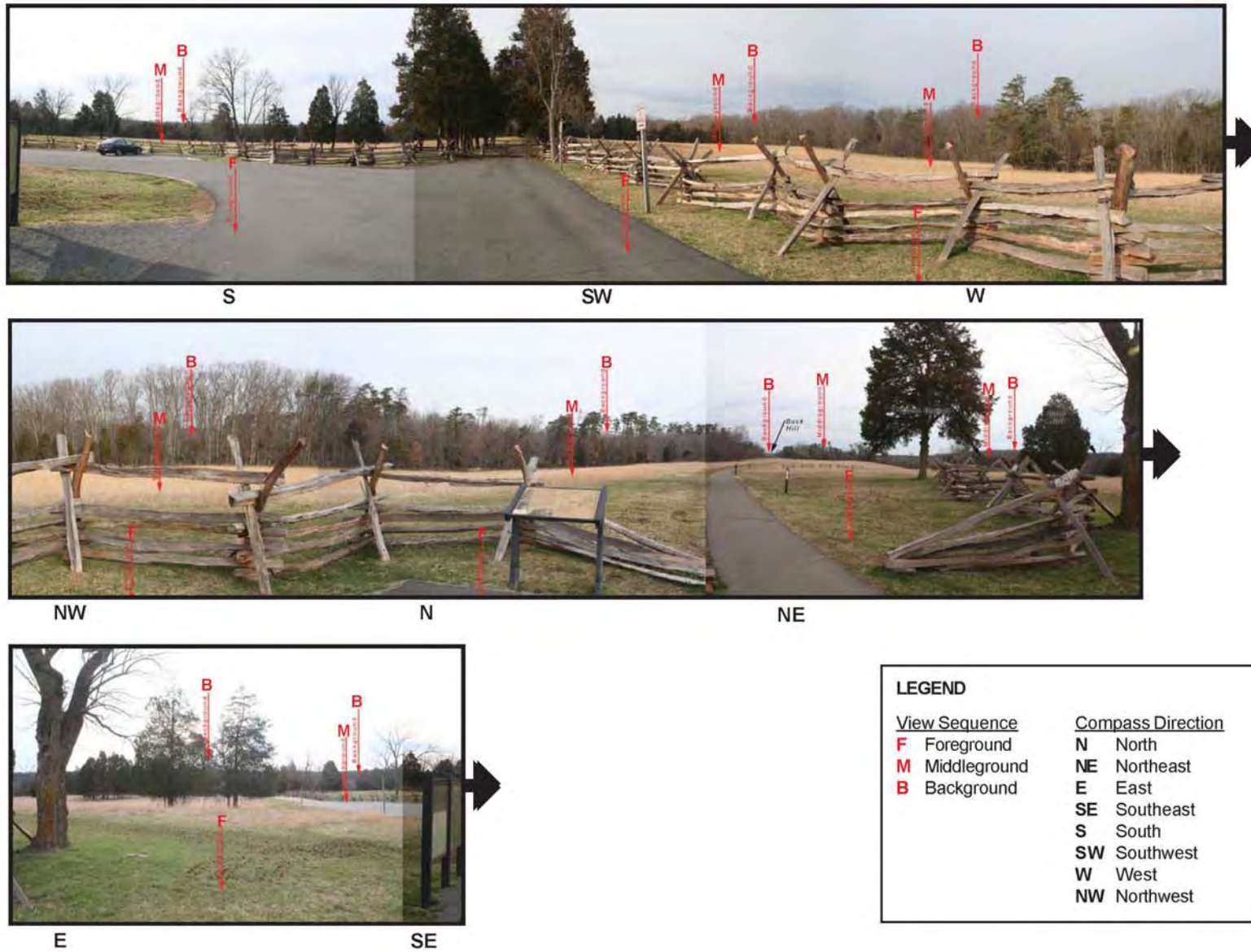
Low : 34.3394

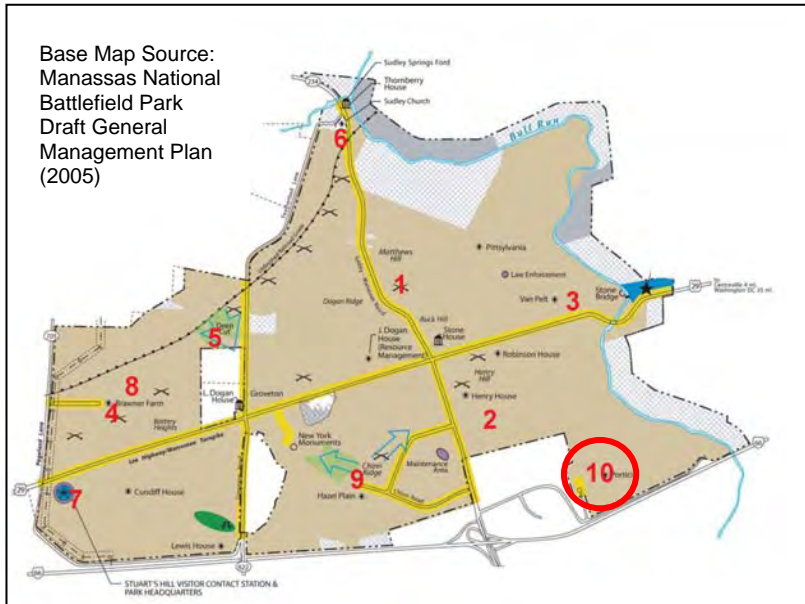


Map by TM Danninger, May 31, 2008



PVP #9: Chinn Ridge Viewshed Panorama



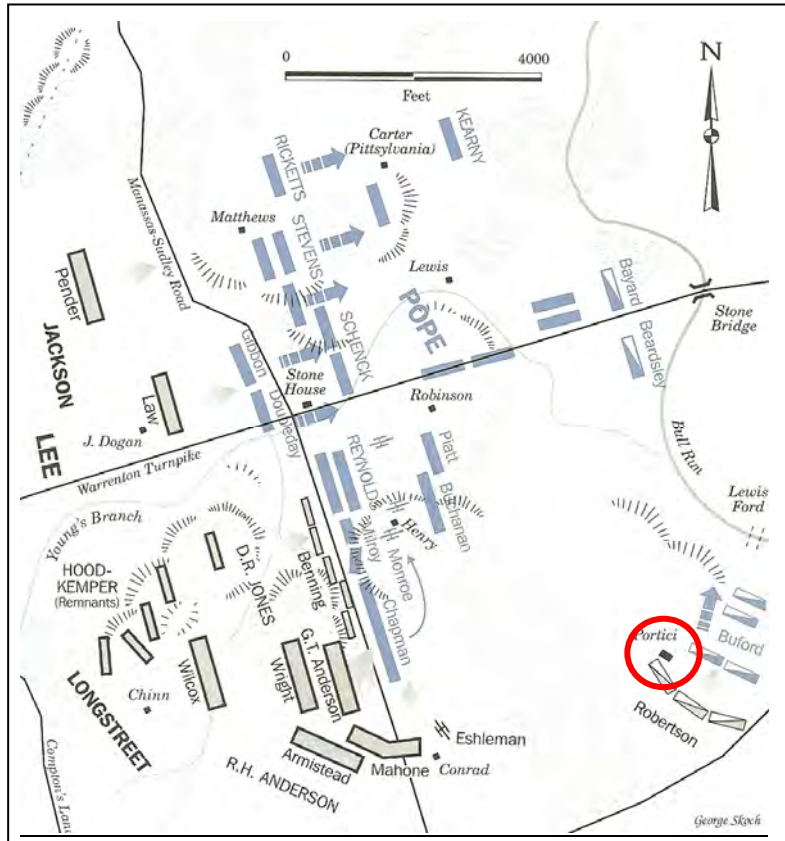
10) PORTICI (Auto Tour Stop 10)**Historic Significance**

At the time of the Battles of Manassas, Portici was the main residence of the Francis W. Lewis family's plantation. Although somewhat removed from the main areas of fighting, Portici played an important role in both Battles of Manassas. During First Manassas, Confederate General Joseph E. Johnston established his headquarters at Portici. Thousands of Confederates marched past here on their way to Henry Hill (Public Vantage Point #2), and wounded soldiers were treated here after the battle. The house

served as a Confederate field hospital after General Johnston no longer needed it for his headquarters, although a few notable Union prisoners (Col. Willcox and Capt. Ricketts) were treated here as well. Throughout the winter of 1861-62, Confederates camped to the west of the house and, when they evacuated, Union troops camped here for a time in March 1862. Near the end of the Battle of Second Manassas, Union and Confederate cavalry clashed for a short time near the house in a brief but particularly vicious fight.

The Portici house itself stood on a commanding ridge with views to the northeast and southeast toward the Warrenton Turnpike (on which the Federals advanced at First Manassas) and the Washington-Old Warrenton Road, respectively. The latter road had multiple names, including the "Old Warrenton, Alexandria and Washington Road." It had an east-west axis running roughly along the alignment of today's Interstate 66. To the east toward Balls and Lewis Fords over Bull Run and to the north and northwest toward the battlefield proper, General Johnston would have had ample lines of sight.

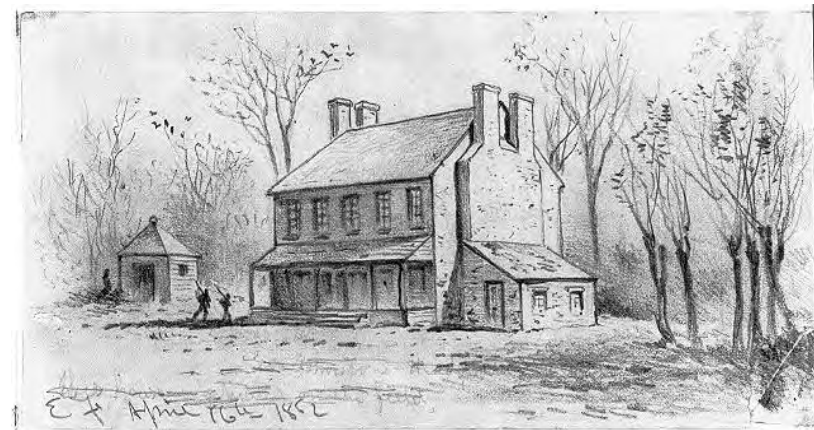
Today, modern growth blocks the eastern vista toward Bull Run and the Warrenton Turnpike. Interstate 66 and Vandor Lane cut across the southern portion of the wartime plantation (as well as the scene of part of the cavalry fight) and allow for an expansive, even if compromised, view to the south.



Second Battle of Manassas
 Cavalry Fighting at Portici: 5:00 PM - August 30th, 1862
 Source: The Second Battle of Manassas – National Park Civil War Series



Portici looking northeast, March 1862. The house survived the Battles of Manassas, but was destroyed by fire sometime thereafter. The date of the fire has not been established. Courtesy Manassas National Battlefield



Portici looking roughly northwest, April 1862. Courtesy Library of Congress



Portici Ridge looking northwest from near I-66, 1988.
 Courtesy Manassas National Battlefield



Portici Ridge looking northeast from near I-66, 1988.
 Courtesy Manassas National Battlefield

Physical Description

Overview

Portici is perhaps the most exposed PVP in terms of vulnerability to intrusive views. The PVP’s position atop a knoll provides it with sweeping views of open fields, but also of I-66 and commercial and office development to the south and west. However, dense stands of vegetation to the west, north, and east help to limit non-compatible views. Multiple hedgerows of Eastern Red Cedar on NPS property do not block intrusive views, but help to stop the viewer’s eye from going directly to the development.

Elevations

The Portici PVP sits at about 240 feet MSL. The majority of the landscape surrounding the PVP and within view is at a lower elevation, including I-66 and the development to the south and west.

View

Foreground

The open field surrounding the PVP site serves as the viewshed foreground. The nearest hedgerows box in the foreground and divide it from the middleground.

Middleground

The middleground is comprised of the open fields that surround the PVP on NPS property, as well as the hedgerows within them.

Background

The viewshed background exists as views to development to the south and west, views of the Virginia Pine/Eastern Red Cedar and Oka-Hickory woods to the north, northeast, and southeast, and distant views to the Cities of Fairfax and Manassas to the east and south.

Viewshed Visibility Map

See the following page for a map illustrating those areas (highlighted in yellow) that that are visible from this PVP. This computer generated map and all others indicating land visibility are based upon an average tree height of 40 feet and the viewing height of 5'10", the average height of a man today.

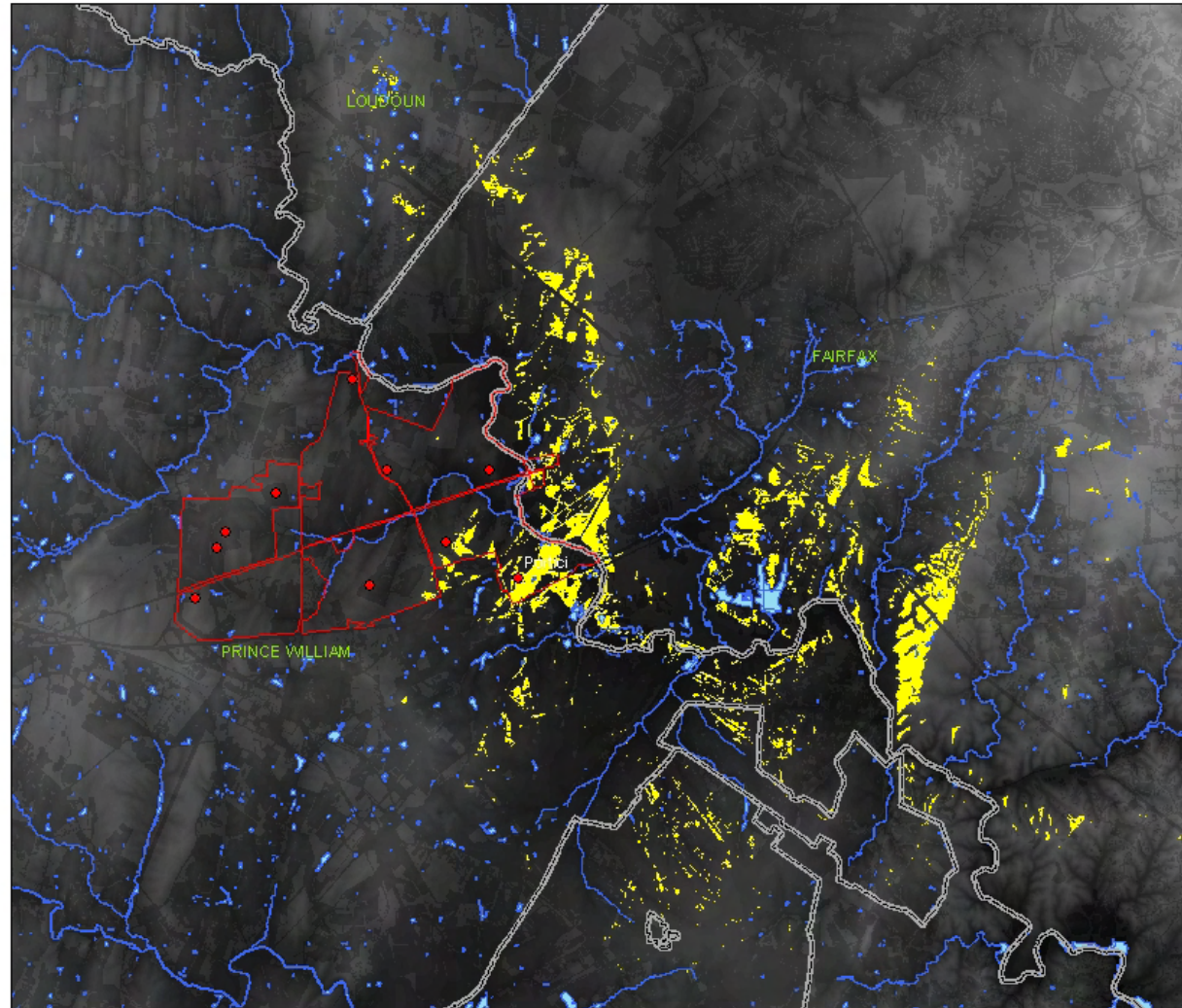
Contemporary Photographs

See the following page for a 360-degree panoramic view.

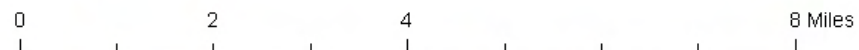
40' Vegetation Viewshed - Portici

Legend

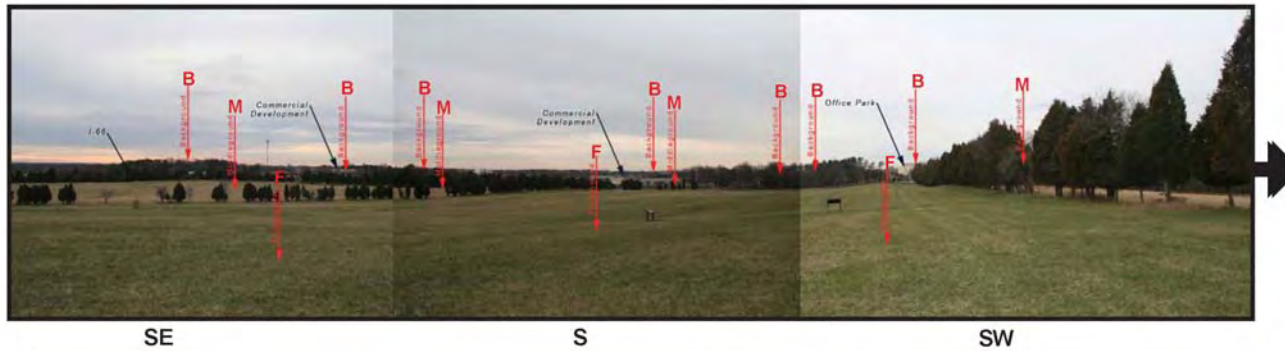
- Public Vantage Point
●
- MNBP Boundary
▭
- County Boundaries
▭
- Lakes and Rivers
▭
- Portici Viewshed**
▭ Visible
- 40' Vegetation DEM Value**
Value
High : 428.279
Low : 34.3394



Map by TM Danninger, May 31, 2008



PVP #10: Portici Viewshed Panorama



LEGEND	
View Sequence	Compass Direction
F	N North
M	NE Northeast
B	E East
	SE Southeast
	S South
	SW Southwest
	W West
	NW Northwest

III. Viewsheds: Historically Based

Viewsheds Selection Principles

Page 15 outlines five principles used to select the ten key Public Vantage Points (PVPs), which were analyzed in the previous section of this study. Those principles included high elevations, historical significance, accessibility, representation of both battles, and geographic variety. In selecting the fifteen “historically based viewsheds” (HBVs) to be studied, these same basic considerations came into play. In short, they constitute the second tier of viewsheds that did not make the initial cut that determined the PVPs. Furthermore, while the PVPs were intended to focus on viewshed anchors within the National Park Service (NPS) boundaries, this category was intended to consider viewsheds both internal and external to the park.

Selected Historically Based Viewsheds

The following fifteen HBVs were selected for the study:

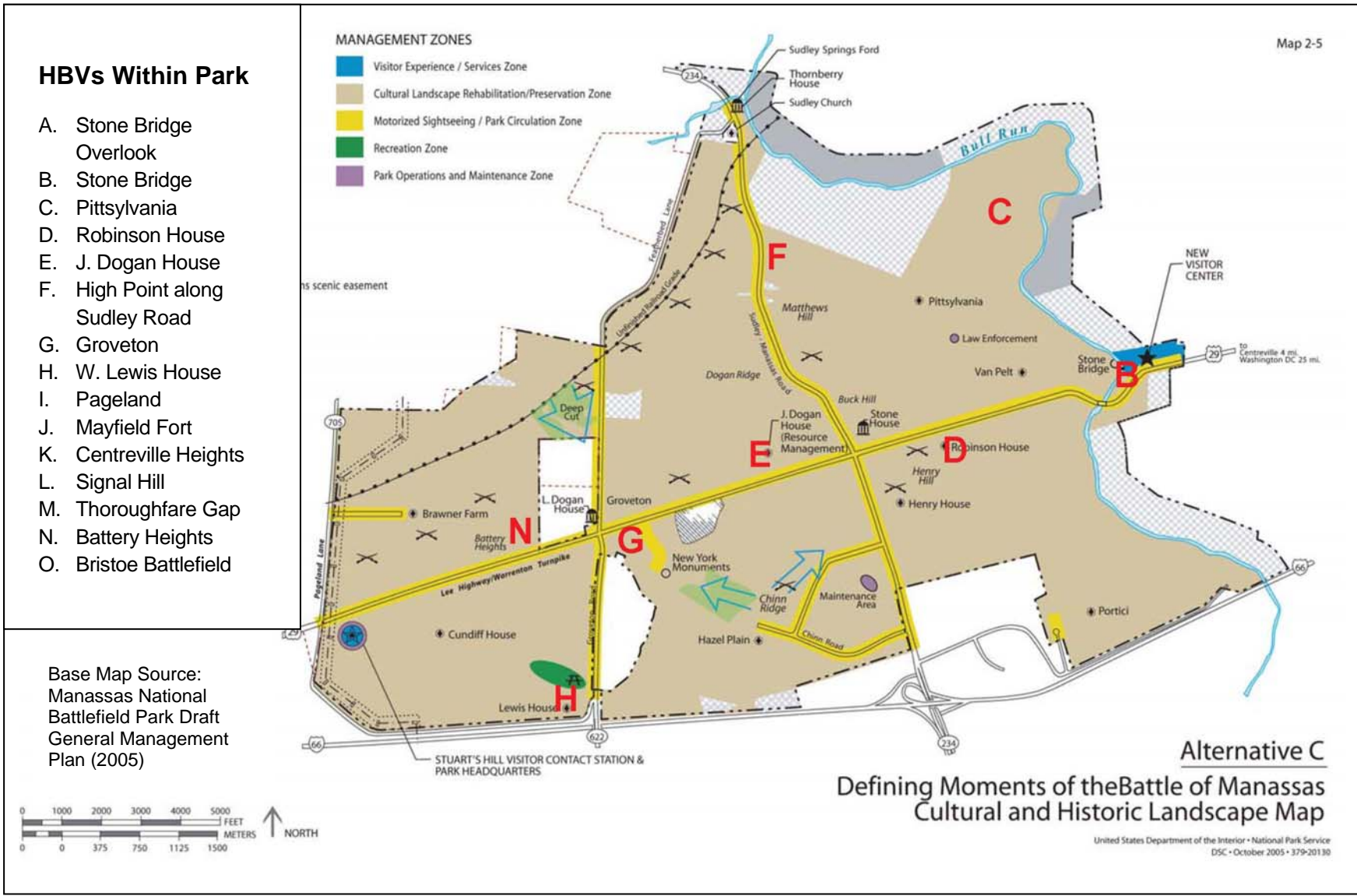
- A. Stone Bridge Overlook
- B. Stone Bridge
- C. Pittsylvania
- D. Robinson House
- E. J. Dogan House
- F. High Point along Sudley Road
- G. Groveton
- H. W. Lewis House
- I. Pageland
- J. Mayfield Fort

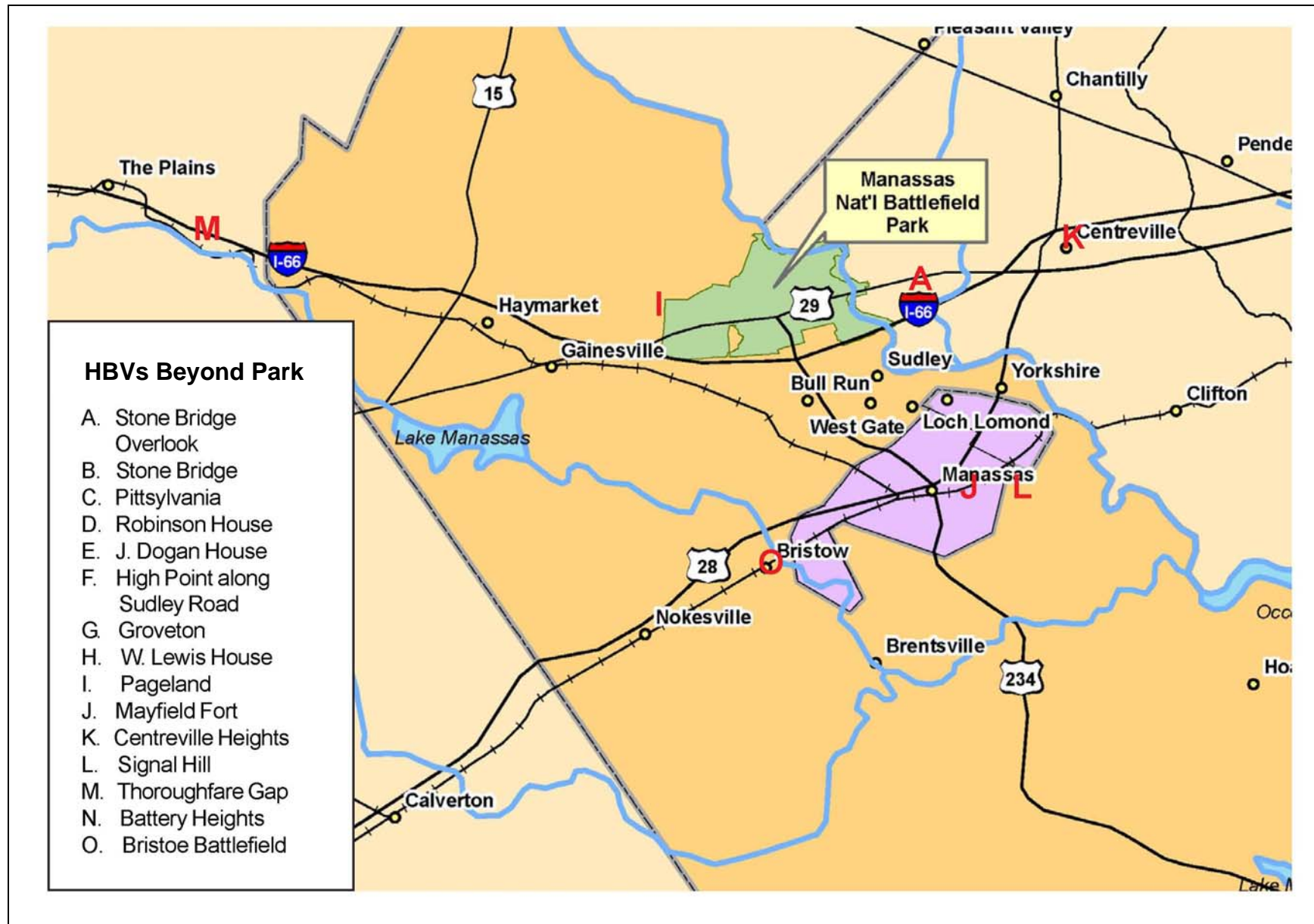
- K. Centreville Heights
- L. Signal Hill
- M. Thoroughfare Gap
- N. Battery Heights
- O. Bristoe Battlefield

Other viewsheds considered, but not selected, for further study include Stone Bridge, Stone House, High Point Along Featherbed Road, Mitchell’s Ford, Bull Run Railroad Bridge, Blackburn’s Ford, Dawkin’s Branch and McLean’s Ford. See pages 9-10 of the Purpose section of the Plan document regarding the selection methodology applied to the selection process for viewsheds, both PVPs and HBVs. The following two pages contain two maps. The map on page 80 illustrates all of the HBVs located within the NPS boundaries. The map on page 81 shows HBVs located beyond the NPS boundaries.

Visibility from Historically Based Viewsheds

The map on page 82 illustrates visibility from the fifteen HBVs. The HBVs are pin-pointed by a light blue dot. The legend at left of the map shows 14 different color-shaded levels of visibility. The number indicates the number of HBVs from which the colored areas are visible. For example, areas featuring the darkest shading are visible from 14 separate HBVs, while areas with the lightest shading are visible from only one HBV. This map is based upon a vegetation height of 40 feet and the viewing height of 5’10”, the average height of a man today.

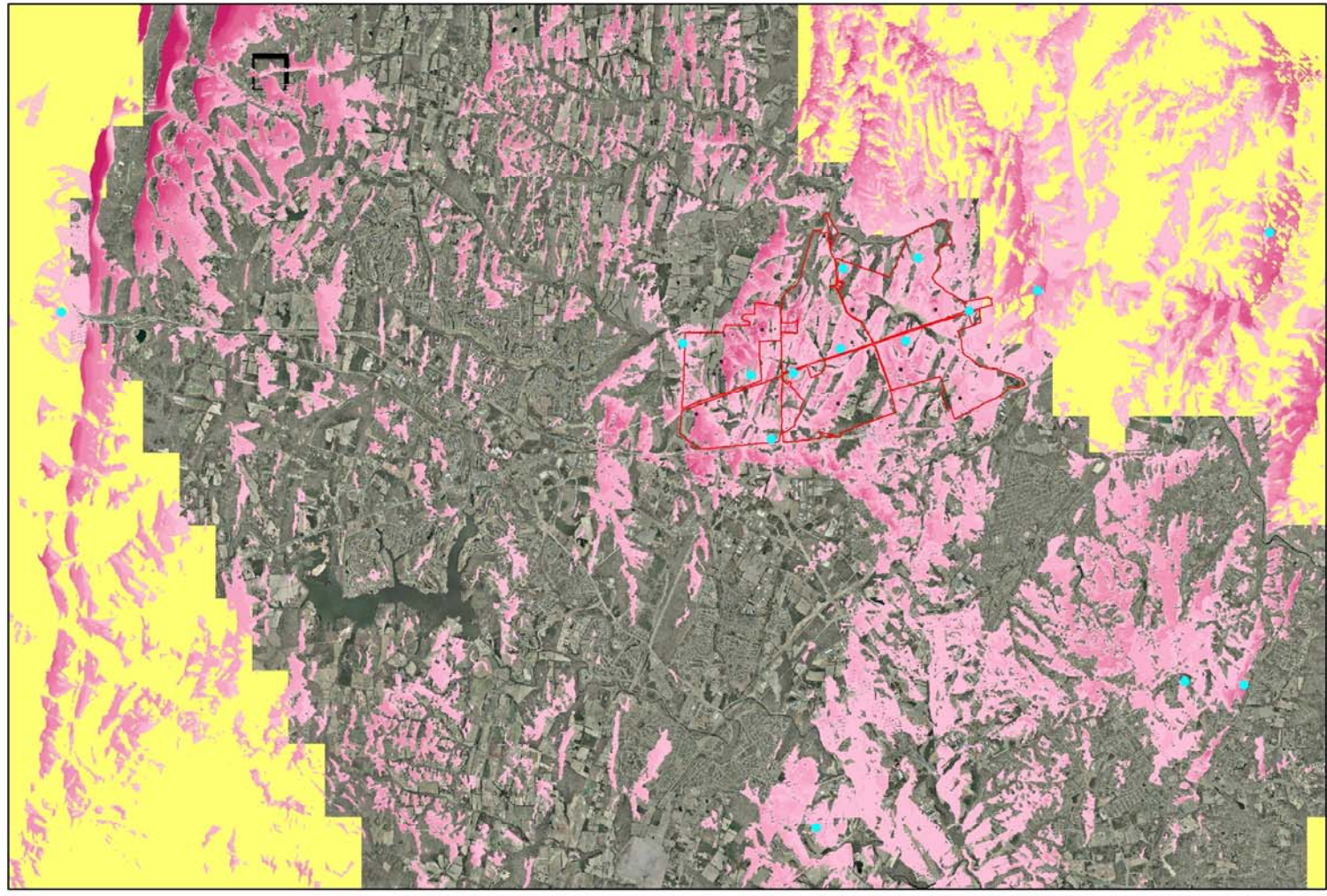
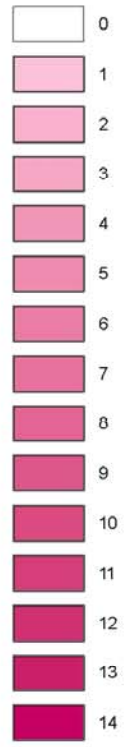






Legend

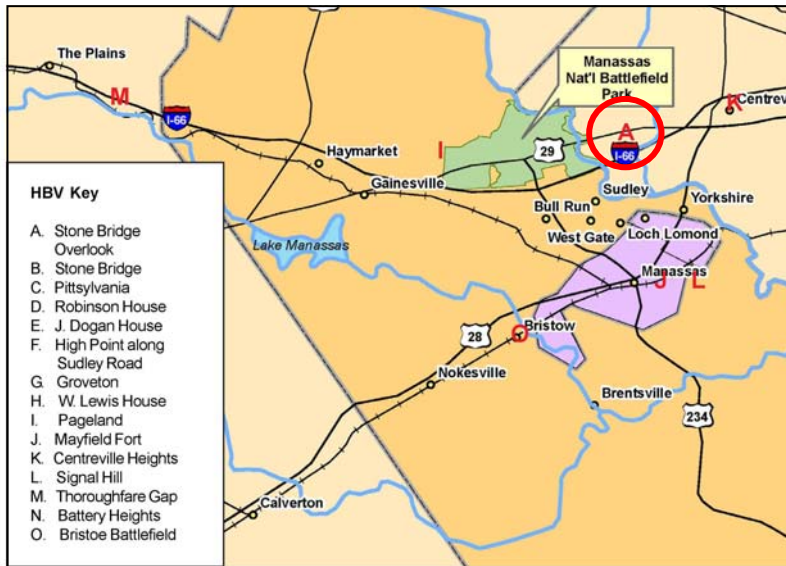
All HBV's



Historically Based Viewsheds Visibility



A) STONE BRIDGE OVERLOOK



Historic Significance

Situated along the Warrenton Turnpike, this high ground provided clear views east and west toward Centreville and the Manassas Battlefields. The opening artillery shots of the First Battle of Manassas were fired from near this location. Among those first

shots was at least one that struck the Van Pelt House (Public Gathering Area 3).

Physical Description

The views associated with this historically based viewshed (HBV) are most significant looking east toward Centreville and looking west toward the battlefield, including toward the Van Pelt House. As reflected in the photographs on the following page, this HBV anchor is a high point along Route 29.

Consequently, when looking east, the ground gradually drops off in elevation and the road disappears, although the landscape can be seen in the distance. Both sides of the road are primarily flanked by evergreen trees, and man-made improvements include road signage, utility poles, overhead wires, and street lights.

When looking west toward the battlefield, the same types of physical features are evident as viewed to the east, although there are fewer trees. Another distinction is that the slope of the land is relatively flat and the elevation does not drop off until further into the background. This view is terminated by the battlefield lands far off in the horizon.

HBV A: Stone Bridge Overlook



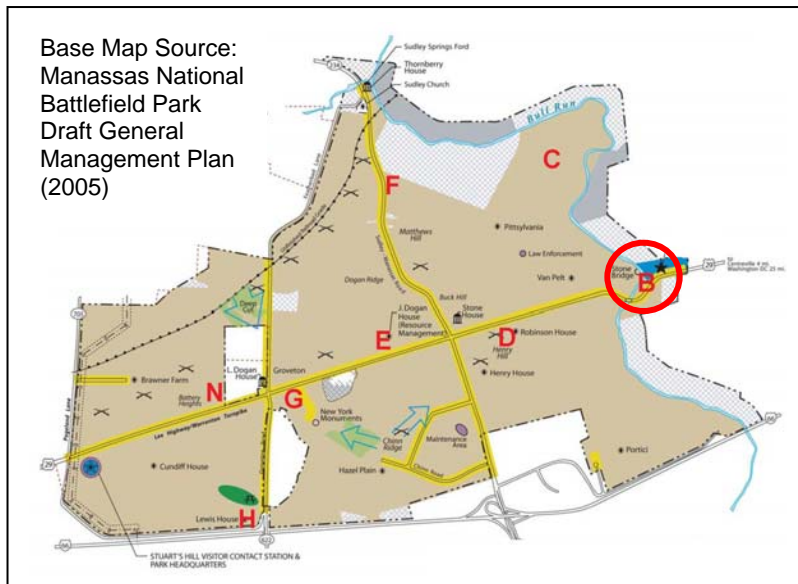
W



E

LEGEND	
<u>Compass Direction</u>	
N	North
NE	Northeast
E	East
SE	Southeast
S	South
SW	Southwest
W	West
NW	Northwest

B) STONE BRIDGE (Auto Tour Stop 11)



Historic Significance

Built in the 1820s, the Stone Bridge spanned Bull Run on the Warrenton Turnpike. It was the location of the opening shots of First Manassas and the location of the primary route of retreat for Federals at Second Manassas. The bridge came through the first battle unscathed, but had been destroyed by Confederates prior to Second Manassas. A reconstructed bridge remains in place today.

The impact of the stream and bridge upon both battles cannot be overemphasized. The creek's steep banks created a physical

obstacle that resulted in all military traffic "bottlenecking" at the bridge. This was disruptive both for troop and supply transit and for military maneuvering. Similarly, the trees associated with Bull Run created a visual barrier.

Physical Description

Unlike many of the other viewshed anchors associated with this study, this particular location is relatively low topographically. Given that it is located at a creek – Bull Run – that situation is understandable. Thus, when looking both east and west, the ground elevation gradually climbs as the views extend further out. To the north and west of the bridge, a narrow trail can be seen meandering along the west side of the creek. Views to the east, south and west are dominated by Route 29 and its associated bridge running parallel to the Stone Bridge. Because of the existence of the creek, there is a good deal of tree cover within this viewshed. The east side of the creek is dominated by evergreen trees, while the west side is dominated by deciduous trees. Views extending significantly beyond the Stone Bridge are only along corridors free of trees - the trail, Route 29 and Bull Run. Other than the guard rail near the Route 29 bridge, this viewshed appears to be relatively free of modern intrusions such as overhead lines, signage, and street lights. While they actually exist to some extent, the trees flanking Route 29 visually obscure them. Also, the split rail fence along the path adds to the historic and natural character of this viewshed area.

HBV B: Stone Bridge Viewshed Panorama



NW

N

NE



E

SE

S



SW

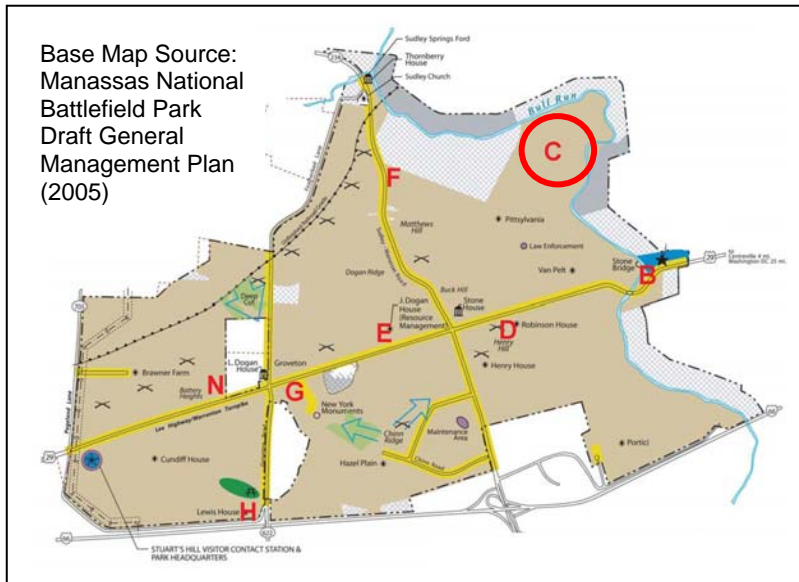
W

LEGEND

Compass Direction

- N North
- NE Northeast
- E East
- SE Southeast
- S South
- SW Southwest
- W West
- NW Northwest

C) PITTSYLVANIA



especially to the west toward Matthews Hill and toward Bull Run fords to the east.

Physical Description

In general, this viewshed is very open and free of obscuring vegetation within the foreground and middleground. The foreground and middleground in all directions feature flat to gently rolling fields. The view to the north, east and southeast – toward Bull Run – features a background in which the topography drops off toward the creek and primarily deciduous trees line the creek. The views in the opposite direction – to the south and west – are not as extensive before tree cover terminates the view. The tree line visible in these directions is comprised primarily of evergreens.

Historic Significance

Pittsylvania, the Landon Carter plantation, saw important troop movements during both battles. At First Manassas, Confederates stopped here at the battle's opening and later, Union troops staged and fell back over the area. At Second Manassas, Union soldiers again retreated here. At some point in time the house burned down. Modern woods block much of the 1860s viewshed,

HBV C: Pittsylvania Viewshed Panorama



NE

E



SE

S

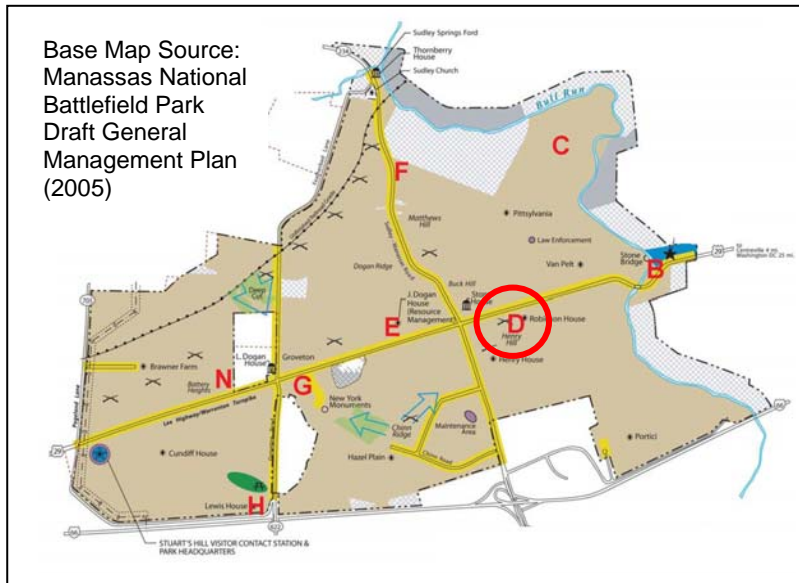


W

NW

LEGEND	
<u>Compass Direction</u>	
N	North
NE	Northeast
E	East
SE	Southeast
S	South
SW	Southwest
W	West
NW	Northwest

D) ROBINSON HOUSE



Historic Significance

The home of a freed slave, the Robinson House stood during both the First and Second Battles of Manassas. Although it sustained little damage as the Confederates retreated through its yard during the First Battle of Manassas, it sustained damage when used as a Union field hospital during Second Manassas. The original house was razed by the Robinson Family in 1926 to make room for an addition to the post-war north wing of the dwelling. No house survives on this site today.

Physical Description

The view from this viewshed anchor is relatively flat and open. To the north, northeast and northwest is Route 29. Located in the middleground, the road itself is slightly topographically depressed and out of view, although it is lined with a split rail fence. The northerly side of the road consists of open fields, and the view is terminated in the background by wooded areas in the far distance. The woods directly north are predominantly evergreens, while the woods flanking either side to the east and west transition to primarily deciduous trees. Toward the south and west of the viewshed anchor the landscape is extremely open and unobstructed. The topography is gently rolling and the elevation level gradually declines in this direction. Patches of wooded area terminate the viewshed in the distant horizon, while the foreground features a split rail fence and a few random trees, both deciduous and evergreen (cedars). In general, this viewshed, in all directions, is void of any significant modern intrusions that detract from its overall historic character.

HBV D: Robinson House Viewshed Panorama



NE

E



SE

S



SW

W

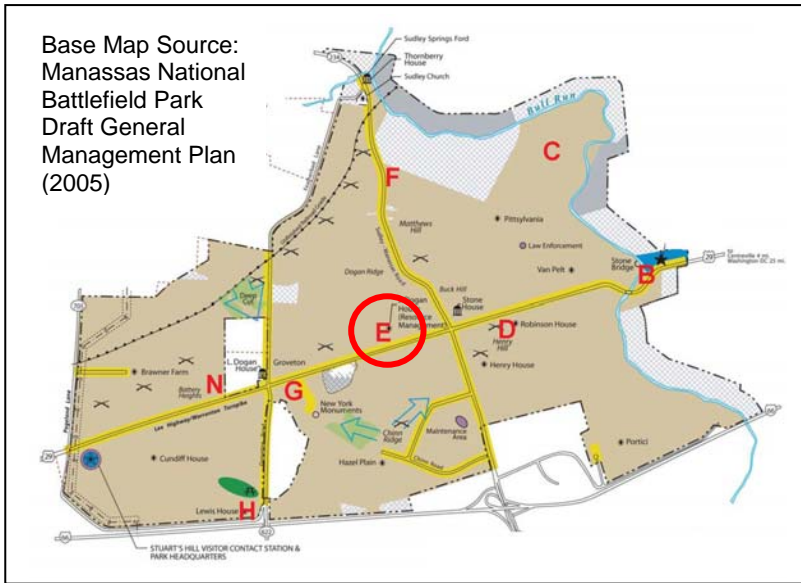
NW

LEGEND

Compass Direction

- N North
- NE Northeast
- E East
- SE Southeast
- S South
- SW Southwest
- W West
- NW Northwest

E) J. DOGAN HOUSE



Physical Description

This site is on a natural ridge that runs roughly along a north-south axis perpendicular to Route 29. The house site is located just north of Route 29. The views in all directions are very open and visually unobstructed, and the terrain gradually falls away in all directions. The only significant foreground feature is the post Civil War historic house that replaced the original structure, which is just north of the viewshed anchor. This building is accompanied by a few outbuildings and trees, as well as a driveway and small parking area. There is also a system of utility poles and utility lines along Route 29, and a lateral line connects the house to this system. In all directions, the viewshed is terminated in the distant horizon with wooded areas, which are dominated by deciduous trees, but include some evergreen trees interspersed throughout.

Historic Significance

John Dogan's house, which stood on the crest of a ridge, was built in the 1790s and destroyed by fire during the Civil War. The current structure, built in the 1880s, stands near the original house site. Due to its clear lines of site and tactically central location, Dogan Ridge served as Union infantry and artillery positions during both battles.

HBV E: J. Dogan House Viewshed Panorama



N NE E SE



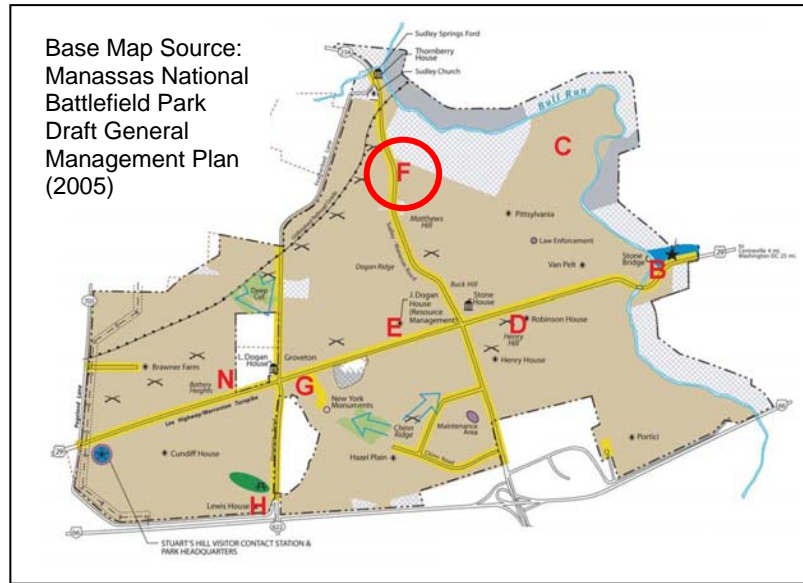
S SW



W NW

LEGEND	
<u>Compass Direction</u>	
N	North
NE	Northeast
E	East
SE	Southeast
S	South
SW	Southwest
W	West
NW	Northwest

F) HIGH POINT ALONG SUDLEY ROAD



Physical Description

Although this viewshed may be anchored at a “high point” along the Sudley Road, the surrounding vegetation limits the views. The immediate area – the foreground – is relatively open. The main features within the foreground are the early-twentieth century house and outbuildings located to the northeast, which includes a random mix of deciduous and evergreen trees, the road to the south and southwest, and a wooden fence to the west and northwest. The road includes a series of utility poles and overhead lines that are relatively visible because of the lack of roadside trees within this immediate area. The background in all directions features wooded areas dominated by deciduous trees, but featuring evergreens as well.

Historic Significance

The structures at this location, the National Park Service’s Quarters Nine, date from the early-twentieth century, but the site would have seen Union troop movements and staging for assaults upon Matthews Hill at First Manassas and the Railroad Cut at Second Manassas.

HBV F: High Point Along Sudley Road Viewshed Panorama



NE

E

SE



S

SW



W

NW

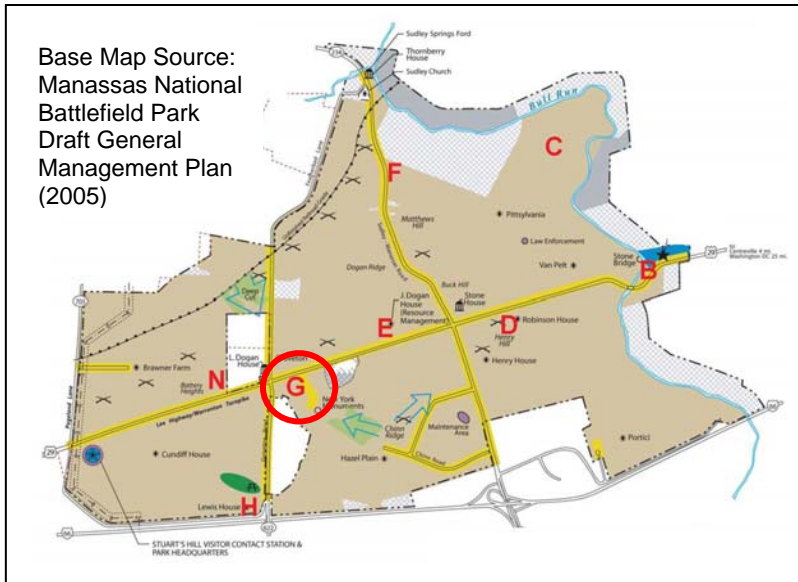
N

LEGEND

Compass Direction

- N North
- NE Northeast
- E East
- SE Southeast
- S South
- SW Southwest
- W West
- NW Northwest

G) GROVETON (Auto Tour Stop 7)



Historic Significance

The small group of structures known as Groveton sat at the Warrenton Turnpike / Groveton-Sudley Road intersection. One known surviving structure of the Groveton area is the Lucinda Dogan House, at the northwest corner of the intersection. No trace of the historic village exists south of the Warrenton Turnpike - the location of this viewshed - at which stand New York infantry monuments and cannon position markings from Second Manassas.

Physical Description

This viewshed anchor is located within a generally flat and gently rolling area, but relative to its context, it is a slightly raised elevation. The area is extremely open and unobstructed, with only a few exceptions. Within the foreground to the immediate south/southeast is the 14th Brooklyn monument and a cannon. The foreground to the northwest also features a cannon, and the foreground to the southwest features an interpretive wayside.

One impressive view is looking north along the Groveton-Sudley Road. Lined with a split rail fence, the road drops in elevation within the middleground and then gradually raises as it reaches the background and becomes lost in a grove of trees – evergreens east of the road and deciduous trees west of the road. Another important view is looking west and southwest down Route 29 – the direction from which the Union forces marched when the Confederates unexpectedly attacked to initiate the Second Battle of Manassas. This road segment still has a historic character and is lined with a split rail fence.

HBV G: Groveton Viewshed Panorama



N

NE

E



SE

S

SW



W

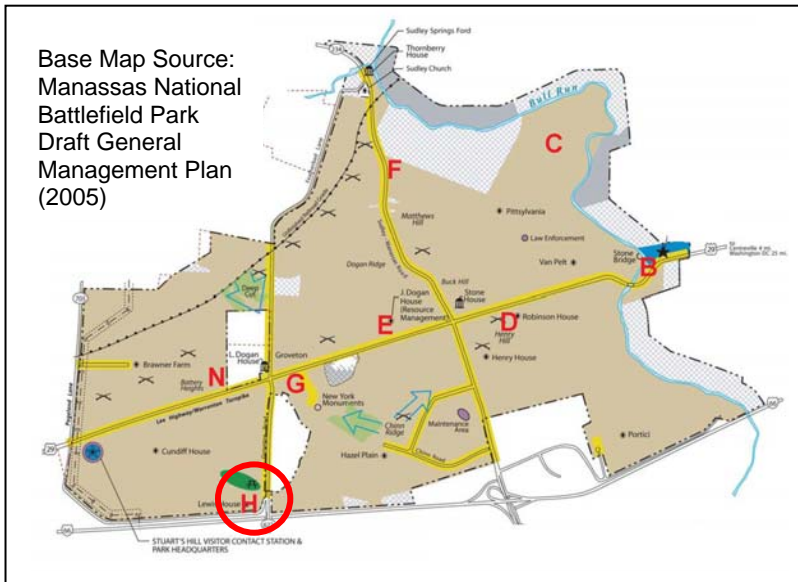
NW

LEGEND

Compass Direction

- N North
- NE Northeast
- E East
- SE Southeast
- S South
- SW Southwest
- W West
- NW Northwest

H) W. LEWIS HOUSE



Physical Description

This viewshed anchor is the most southerly of all those located within the national park. Because of their historic significance, the views to the north are the most important. The views in all directions are somewhat open and unobstructed, although random clusters of both evergreen and deciduous trees exist within the foreground and midground. This area features some of the flattest topography within the battlefield. The background views in all directions terminate with wooded areas in the distant horizon. The view to the south, southeast and southwest is surprisingly intact given its proximity to I-66. This view features only limited visible development at present, but that condition may change with future growth in the region.

Historic Significance

The Lewis plantation, Brownsville, found itself between the lines of battle at Second Manassas. The house survived the Civil War, but was destroyed by fire in 1900. Postwar alterations of the landscape have been reversed, and the area bears much resemblance to its wartime appearance.

HBV H: W. Lewis House Viewshed Panorama



N

NE

E



SE

S



SW

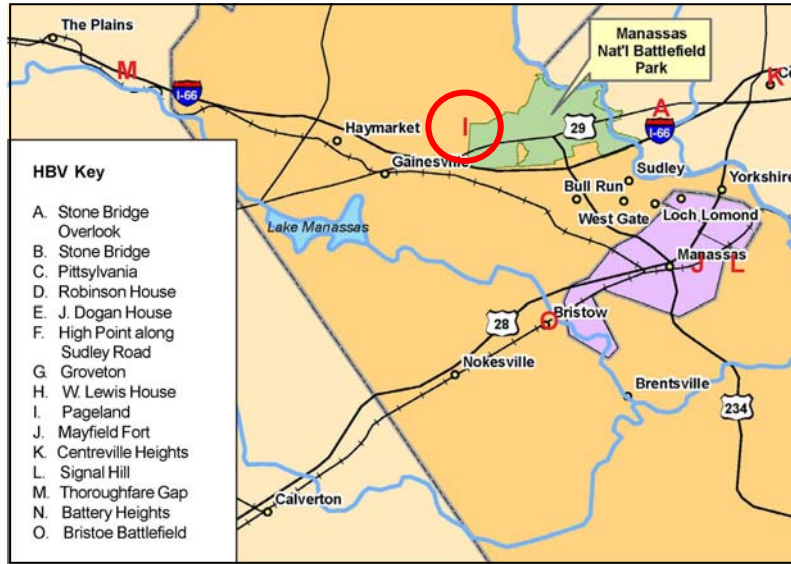
W

LEGEND

Compass Direction

- N North
- NE Northeast
- E East
- SE Southeast
- S South
- SW Southwest
- W West
- NW Northwest

I) PAGELAND



Historic Significance

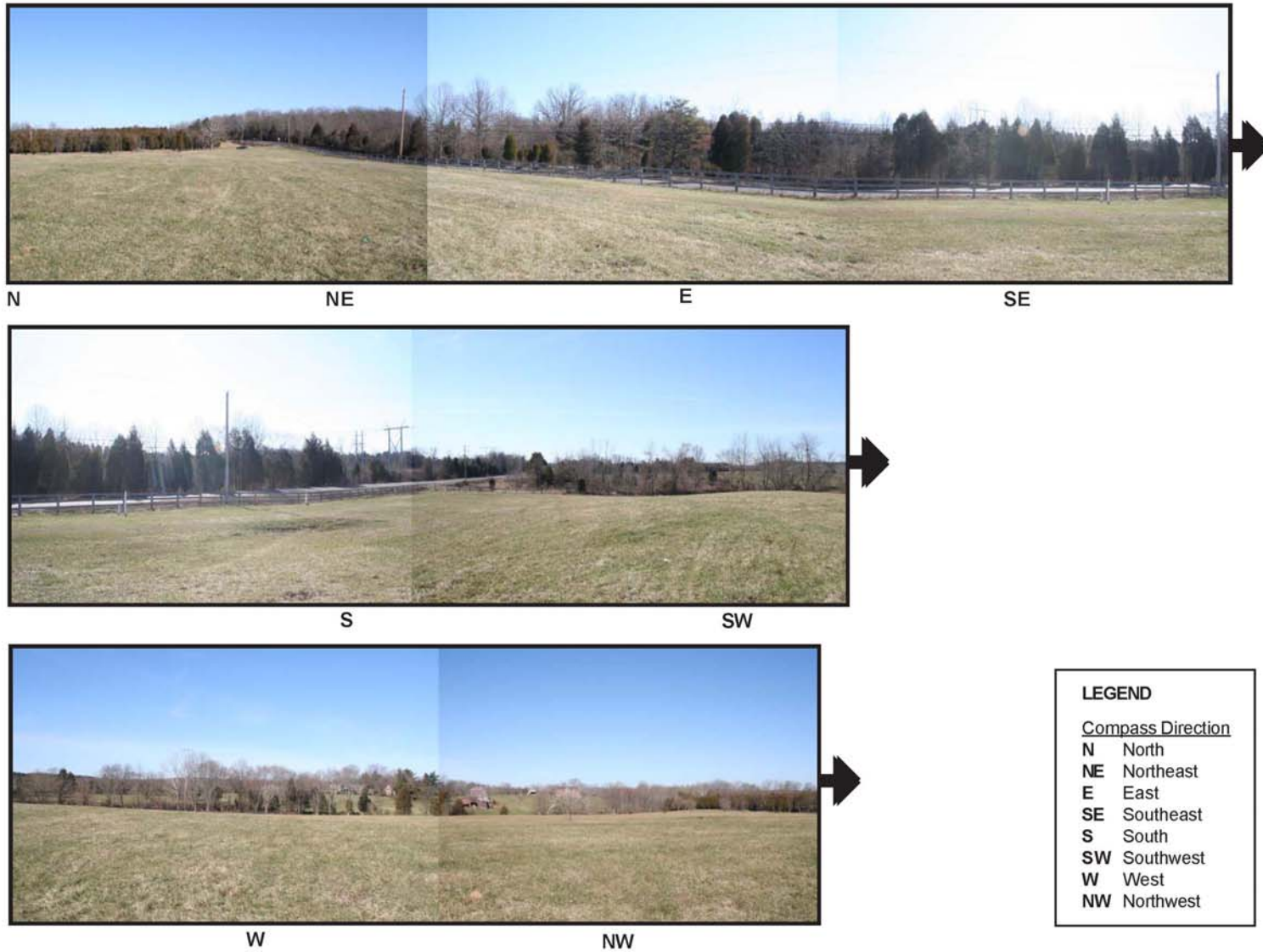
This site just west of Pageland Lane is outside the NPS boundary. During the Battle of Second Manassas, this location would have been in the rear of the Confederate right flank. The brigades of Jubal Early and Henry Forno occupied the ridge on Pageland Farm on the morning of August 29, 1862, for the purpose of covering Jackson’s right flank until Longstreet’s forces arrived later that morning.

Physical Description

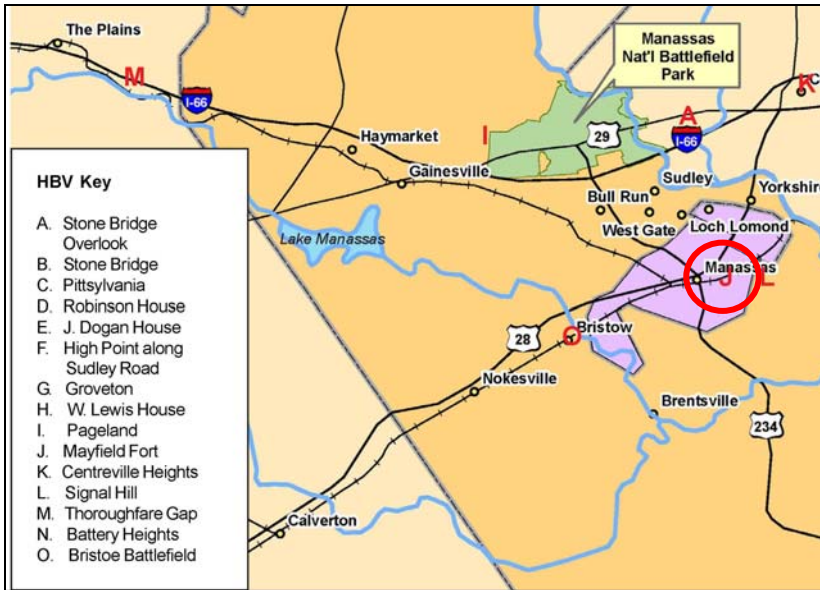
This viewshed anchor is located on the western edge of the national park, just northwest of the intersection of Route 29 and Pageland Lane. The surrounding topography is gently rolling. The view to the north up Pageland is an open field on the west side of the road and lined with woodlands on the east side. Those woods are primarily deciduous with some evergreens. The road is lined with a wooden fence and, although utility poles and overhead lines exist, they do not detract significantly from the view. The view south and southeast down Pageland toward I-66 is very similar, but the existing high-voltage electrical transmission lines can be seen in the distance on the east side of Pageland. Views to the west feature sporadic low-density modern development, as these lands are beyond the NPS boundaries and privately owned. They are also of prime importance for protecting the battlefield’s viewsheds in the future.

It should be noted that the approved alignment of the Tri-County Parkway will overlay or be immediately east of Pageland Lane. Although the proposed parkway will adversely affect views in this area, it will also alleviate the national park’s internal traffic, as this portion of the parkway will serve as part of the Battlefield bypass. In short, the visual integrity of viewsheds associated with Route 234 will potentially be enhanced by the diversion of traffic to the bypass. Also potentially impacting this area is the proposed new high voltage power lines within the Dominion Virginia Power easement, which would be roughly 15 feet taller than the current lines (see page 131).

HBV I: Pageland Viewshed Panorama



J) MAYFIELD FORT



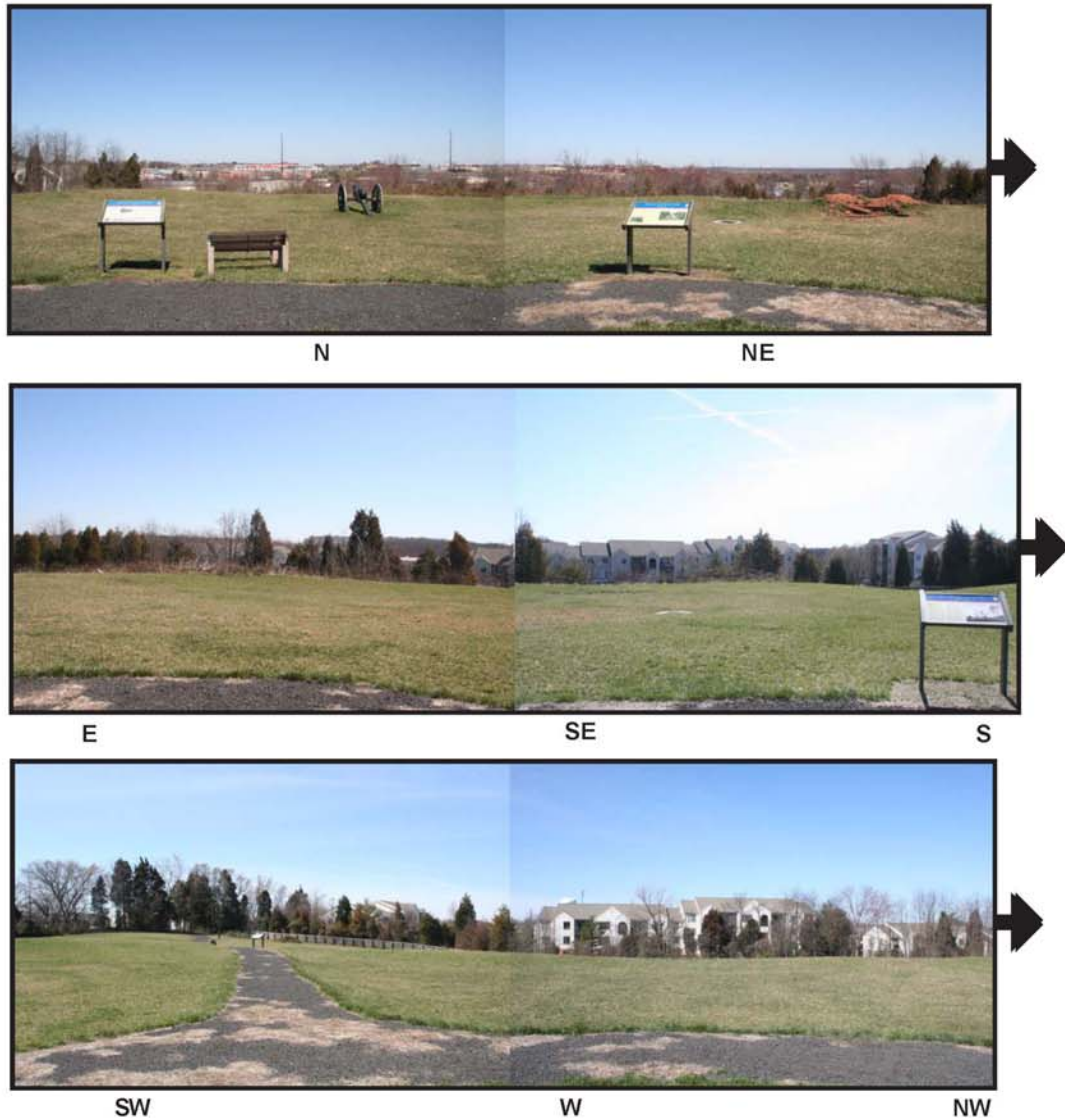
Physical Description

This viewshed is essentially an oasis located in a desert of development. It is located on a high point within its surrounding terrain, and the full perimeter is ringed with contemporary development in the background. The foreground is flat and open, and the key features include a paved trail, interpretive waysides and a cannon. The middleground falls off in elevation on all sides and features a tree line the full perimeter, while the background on all sides is dominated by development. The closest and most visible development consists of apartments on the west and southwest views, while the northwest view includes high-voltage electrical transmission lines in the distant horizon.

Historic Significance

This restored fort is one of only two surviving Civil War fortifications in Manassas. Built by the Confederates prior to the first battle as part of the Manassas Junction defenses, the ring of earthworks was eventually occupied by the Union forces and used as a base against the Confederates.

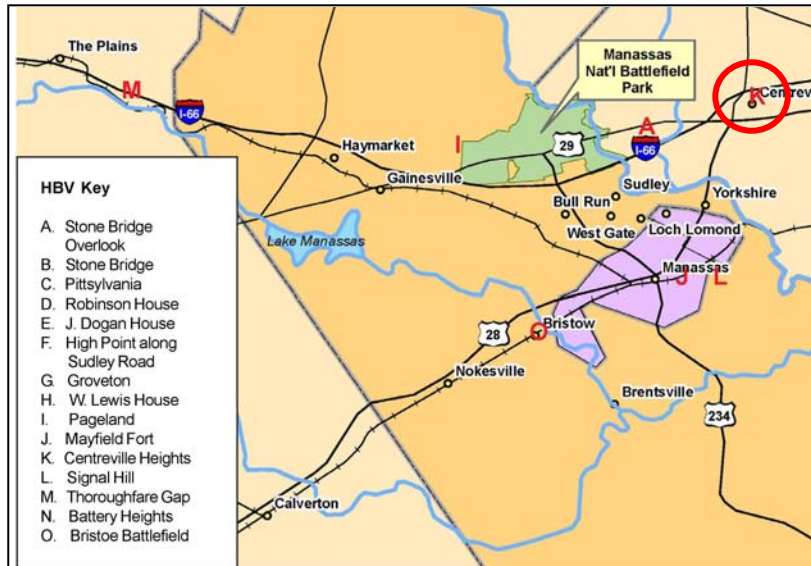
HBV J: Mayfield Fort Viewshed Panorama



LEGEND	
<u>Compass Direction</u>	
N	North
NE	Northeast
E	East
SE	Southeast
S	South
SW	Southwest
W	West
NW	Northwest

K) CENTREVILLE HEIGHTS

Yankees back to Centreville, cutting them off from Washington and their escape route.



Physical Description

Because of this viewshed anchor’s historic role as both a Union troop staging area and as the “public viewing area” for the First Battle of Manassas, the most significant views are to the west and southwest toward the battlefield. Anchored at the southeast corner of the intersection of Rt. 28 and Rt. 29, this viewshed is visually dominated by these two roads, which have the appearance at this location of typical highways. The southwesterly and westerly views are especially dominated by modern commercial development, although the Bull Run Mountains can be seen in the far distance. Other nearby locations for viewing this viewshed include the fire department parking lot on Old Centreville Road (just east of this viewshed anchor) and from Rt. 29 itself looking west-southwest when approaching the Rt. 28 overpass.

Historic Significance

Five miles east of Manassas Junction, Centreville served as a staging area for the Union army before its advance to Manassas and, with clear lines of sight to the west, was a gathering place for curious onlookers who journeyed from Washington City to watch the first major clash between Northern and Southern troops. After the Union defeat, Confederate forces tried unsuccessfully to beat the

HBV K: Centreville Heights



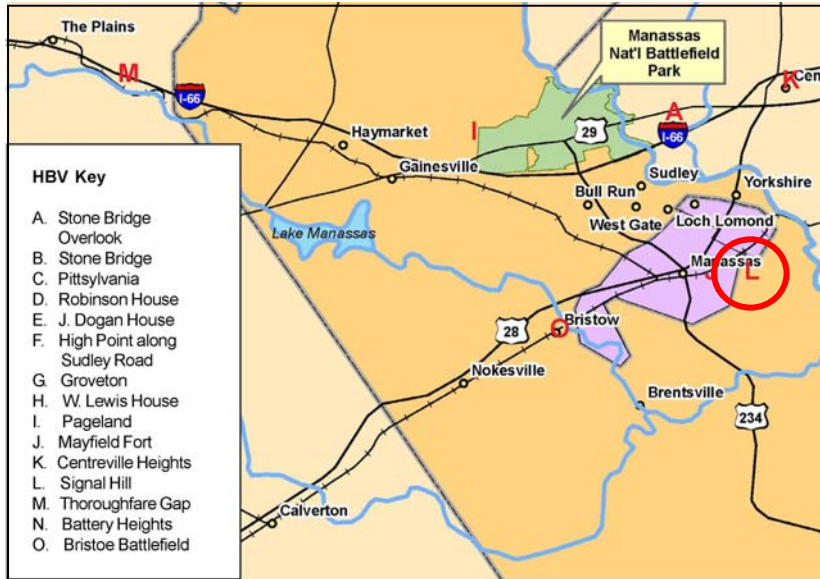
SW

W

NW

LEGEND	
<u>Compass Direction</u>	
N	North
NE	Northeast
E	East
SE	Southeast
S	South
SW	Southwest
W	West
NW	Northwest

L) SIGNAL HILL



Physical Description

The most significant views from this viewshed anchor are to the west and northwest toward the Manassas Battlefield. This viewshed offers a very distinct foreground, middleground and background. The foreground features an east-west oriented road with utility poles and overhead wiring on its south side and a snake-rail fence on its north side. The middleground is the core of Signal Hill, consisting of a relatively flat open green space. The northwest view includes a parking area and some interpretive waysides. The terrain beyond the middleground falls off topographically and the background features trees, some randomly visible development, and a range of hills in the very distant background.

Historic Significance

This location on a once-treeless hilltop offered the Confederate army excellent sight lines to the north and west, without necessitating the building of a signal tower. It was also the site of the first American battlefield telecommunication, which warned of the location of a Union column threatening the Confederate flank (beyond the Van Pelt house, Public Gathering Area #3) and turned a potential defeat into a victory.

HBV L: Signal Hill

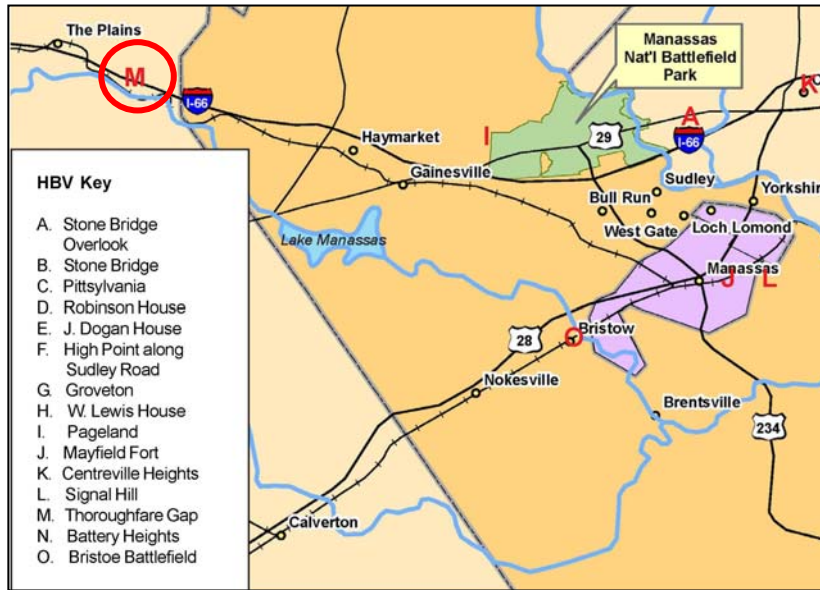


W

NW

LEGEND	
<u>Compass Direction</u>	
N	North
NE	Northeast
E	East
SE	Southeast
S	South
SW	Southwest
W	West
NW	Northwest

M) THOROUGHFARE GAP



Historic Significance

Thoroughfare Gap was the site of a clash between Union and Confederate forces on August 28, 1862, which resulted in a loss for the Union that allowed two wings of Lee’s army to unite on the Manassas battlefield. This specific viewshed location is near the route of the Confederate advance.

Physical Description

Given this viewshed anchor’s location substantially west of the battlefield, as well as its history at the beginning of the Second Battle of Manassas, its most significant views are to the east. At this point, I-66, Route 55 (John Marshall Highway) and the rail line come together as parallel paths that pass through this natural gap in the terrain. The viewshed anchor is located on Route 55, which is a two-lane road with no paved shoulders and grassy drainage swales on either side, giving it a rural character similar to the appearance of its cross-section during the Civil War. The south side of the road has a wire fence supported by wooden posts, along with very tall power poles and overhead lines. The north side features the parallel interstate, which is elevated above the highway level. Both the interstate and the highway at this location have low guard rails. Both sides of the highway vary from being open without trees to having an occasional grouping of trees, both evergreens and deciduous.

The middleground of either side of the highway features relatively open lands, although the north side of the road is not visible beyond the interstate because of its elevation. The background of this viewshed makes obvious the source of its name – Thoroughfare Gap. On either side of the road is a large tree-covered hill extending both north and south as a ridge, while the road passes through a natural gap between the two hills.

HBV M: Thoroughfare Gap



NE

E

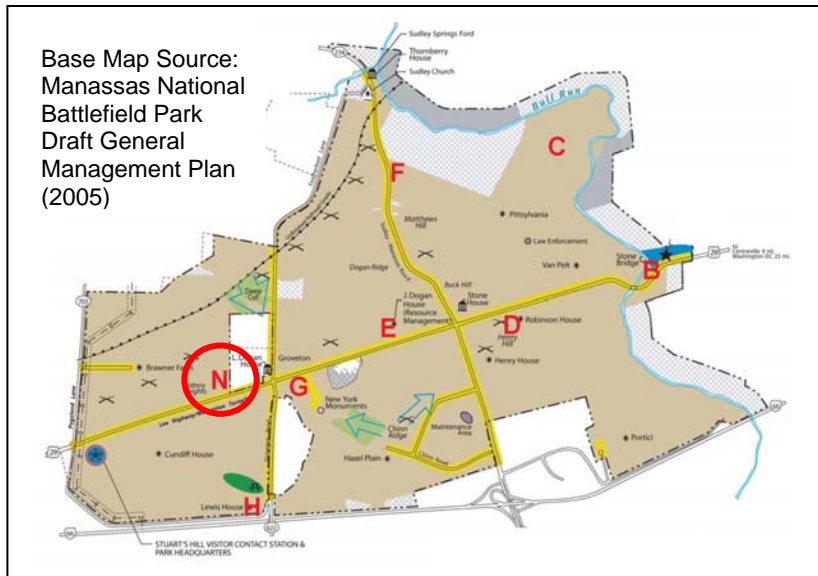
SE



S

LEGEND	
<u>Compass Direction</u>	
N	North
NE	Northeast
E	East
SE	Southeast
S	South
SW	Southwest
W	West
NW	Northwest

N) BATTERY HEIGHTS (Auto Tour Stop 1)



Historic Significance

The site of the opening struggle of the Second Battle of Manassas. Stonewall Jackson’s troops attacked Union General Rufus King’s division on the late afternoon of August 28, 1862, as they marched along the Warrenton Turnpike. The roughly one and a half hour engagement that resulted rendered approximately one third of the 7,000 men engaged as casualties. On August 30th, responding to Jackson’s plea for support, Longstreet directed Chapman’s Battery (“Dixie Artillery”) to take position here. Having an excellent field of

fire, the battery delivered a destructive enfilade fire into the flank of Fitz John Porter’s lines, which were attacking the Confederate line at the unfinished railroad at the time. This location serves as the opening stop on the NPS’s current tour route.

Physical Description

This viewshed is extremely open and visually unobstructed in all directions. Located on a slight ridge just north of Route 29, the topography in this area is level to gently rolling. The views to the south, southwest and west are the most significant, as they provide the same vantage point that Jackson’s men had in attacking the Federals. A small parking area shaded by evergreen trees is visible in the distant middleground, and Route 29 is barely visible in the background. Beyond the road are wooded areas and a relatively open hill rises beyond that to terminate this view. The views to the north, northeast and northwest are similar in that the foreground and middleground are open fields and the background is an extensive wooded area. However, the foreground view to the northwest features a row of cannons pointing southwest toward the road – the same direction that the Northern columns approached from during the second battle’s opening.

HBV N: Battery Heights Viewshed Panorama



NE

E

SE



S

SW

W

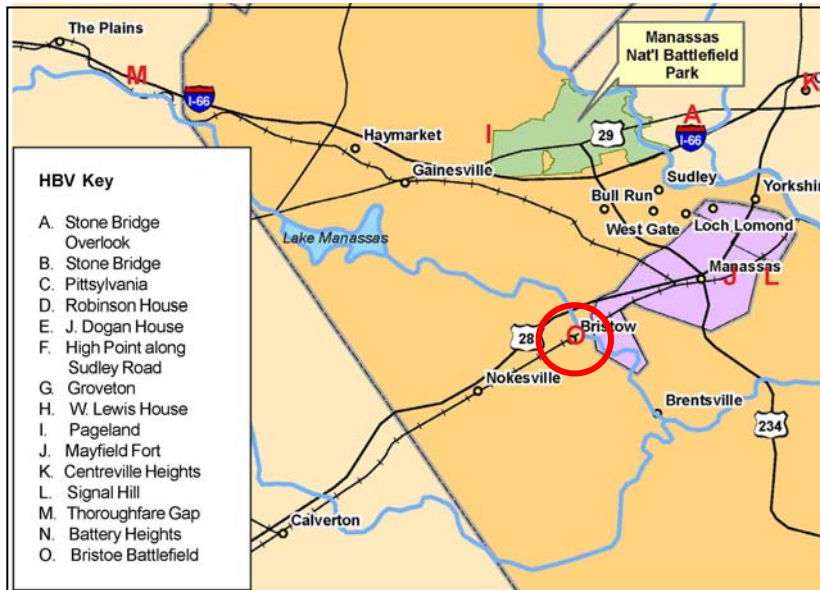


NW

N

LEGEND	
<u>Compass Direction</u>	
N	North
NE	Northeast
E	East
SE	Southeast
S	South
SW	Southwest
W	West
NW	Northwest

O) BRISTOE BATTLEFIELD



Physical Description

This viewshed anchor is located on a slightly elevated point within a generally flat area. The foreground and middleground views in all directions are somewhat open with only limited features, including random small tree grouping, both evergreen and deciduous. Other features include ruined stone foundations from a historic structure to the immediate south and southeast, and an agricultural silo, wire fence, paved driveway, and utility poles and overhead wires in the middleground. In the distant middleground looking east is a road with utility poles and overhead lines. The middleground to the west includes a small twentieth century house with a wooden fence. The background view looking west, including northwest and southwest, is dominated by twenty-first century residential development.

Historic Significance

Some seven miles southwest of Manassas Junction, this was the site of the October 13, 1863, Battle of Bristoe Station, which pitted Confederate General A. P. Hill's forces against those of Union General G. K. Warren. Bristoe Station was also captured by Stonewall Jackson's troops just before Second Manassas, cutting off Union General Pope's connection with his supply base.

HBV O: Bristoe Battlefield Viewshed Panorama



N NE E



SE S



SW W NW

LEGEND	
<u>Compass Direction</u>	
N	North
NE	Northeast
E	East
SE	Southeast
S	South
SW	Southwest
W	West
NW	Northwest

IV. Context and Threats

While the previous pages offer an understanding of the twenty-five viewsheds selected for this study, including their histories and existing conditions, a broader context is needed. The following pages provide an overview of their context in terms of public policies, development trends, and the primary threats that endanger the integrity of these viewsheds.

State and Federal Policies

State Level

Virtually all state regulations intended to protect historic and archeological resources are limited to actions taken on state lands. An example of such a law is the Virginia Antiquities Act. Consequently, such laws are not very relevant to viewshed preservation efforts for the Manassas Battlefield. Although protective regulations are limited at the state level, there are several funding programs for preservation related activities. These regulations will be considered later in this study when specific recommendations are provided for viewshed protection. Also, there is one particular state initiative that could negatively impact battlefield viewsheds – the proposed Tri-County Parkway. It is discussed later on page 137 in the section regarding threats to viewsheds.

Federal Level

One reason for the limited number of state-level regulations for protecting historic resources and associated viewsheds is 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 State 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. Federal regulations that are supportive of Civil War resource protection efforts include the following:

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 lands and their associated viewsheds are those which prohibit development within floodplains and/or wetlands. While these laws are not related directly enough to battlefield protection to serve as a major component of a viewshed preservation strategy, it is important that they not be overlooked in those instances when they may be the only means for saving historic viewsheds.

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. 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. 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.

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 viewsheds, but also the least safeguarding. A typical scenario would be a farmer who will agree to preserve earthworks on his property and accept technical assistance from the NPS on their preservation in return for limited public access to the earthworks. The greatest limitation is that such written agreements can generally be terminated on relatively short notice.

National Register/Landmark Designation

While the Section 106 Review benefits of National Register designation or eligibility were previously addressed, there are additional benefits to such status. Listing or eligibility for the National Register also makes available Federal investment tax credits for the qualified rehabilitation of historic buildings. National Landmark designation is very similar to National Register designation, but it is applied to only the most nationally significant resources. As truly unique resources that played a key role in American history, many of Virginia’s Civil War battlefields are designated as National Landmarks. Under some state and local historic preservation grant programs, National Historic Landmarks receive a higher priority for funding than National Register properties.

In researching national designations through the National Register Information System (NRIS) database, a number of sites related to the battlefield were found. Properties listed under “Civil War

Properties in Prince William County MPS” (Multiple Property Submission) that may relate to this project include the following:

<u>Property Name</u>	<u>Municipality</u>
Cannon Branch Fort	Manassas
Louisiana Brigade Winter Camp	Manassas Park
Mayfield Fortifications	Manassas
Mitchell’s Ford Entrenchments	Manassas Park
Orange & Alexandria RR Bridge Piers	Manassas Park
Signal Hill	Manassas

Two of these sites, Mayfield and Signal Hill, are among the fifteen historically based viewsheds (HBV) that are a focus of this study. Within the list of properties in Fairfax, one is the “Manassas Battlefield Historic District” and the other is the “Manassas National Battlefield Park.” Despite how the park is geographically designated within the National Register listings, it is noteworthy that most of the park lies within Prince William County.

Condemnation

This regulatory tool exists not only at the Federal level, but at the state and local levels of government as well. 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. Although condemnations can result in years of legal maneuvering in order to arrive at a fair market value price, the actual acquisition of the land can occur at the front end of the

process in a relatively short period of time. The most common forms of condemnation are for road building and utility easements. It can also be used for acquiring battlefield lands and their associated viewsheds, although the National Park Service has rarely elected to use this tool in recent years. Whether done at the Federal, state or local level, condemnation is generally very unpopular, and considered an option of last resort.

NPS General Management Plan

A draft General Management Plan (GMP) was completed for the battlefield park in September of 2005 to guide policy decisions for the next fifteen to twenty years. As with most GMPs, it offers multiple alternatives. The three alternatives for this plan include Alternative A, the “no action alternative,” and two “action” alternatives. Alternative B – “The Two Battles of Manassas” – interprets the battles as two distinct events. Considered to be the preferred alternative, it would utilize the existing visitors center at Henry Hill to interpret the First Battle of Manassas, while a new second visitors center would interpret the Second Battle of Manassas. Alternative C – “The Defining Moments of the Battles of Manassas” – would focus on “watershed” events from both battles. It would remove the existing visitors center and build a single new visitors center near the Stone Bridge. Both Alternatives B and C propose removing commuter and truck traffic from US Route 29 and VA Route 234.

Perhaps the most significant recommendation of the draft GMP relative to this viewshed preservation study is the ‘revitalization” of the historic landscape. As the GMP map contained on page 13 of this study reflects, the battlefield’s landscape during the 1860s was different than today’s landscape. In general, there were fewer

wooded areas, although some open areas today were wooded during the battles. Consequently, the NPS has a plan to at least partially restore the historic landscape. Illustrated on page 14 of this study, the revitalization plan has already begun.



The Brawner Farm is one of several areas within the park where the historic landscape is being partially recreated.

Local Policies

The national battlefield park exists within two counties – Prince William and Fairfax. However, based upon the many viewsheds being studied, the local policies within Loudoun and Fauquier are relevant, as are the policies of the City of Manassas. Below is a summary of their comprehensive plans, zoning and development regulations to the extent they impact the viewsheds. It is also noted for each local government which of the ten identified Public Vantage Points (PVPs) have viewsheds that extend beyond the NPS boundaries and into their jurisdictions. While the NPS is immune to local land use laws, most of these viewsheds extend well beyond the NPS boundaries.

Prince William County

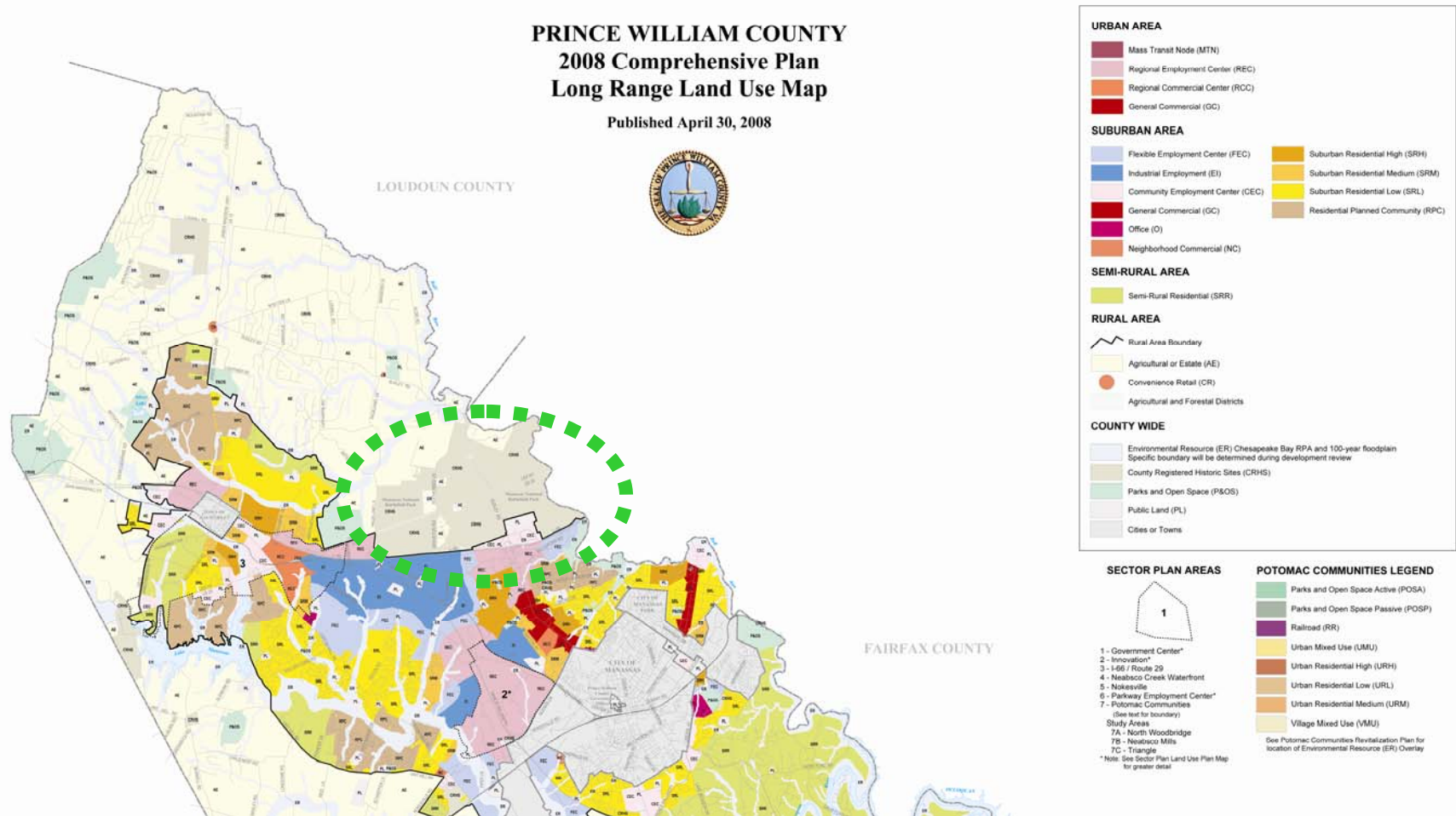
Lands in this county lying outside of the NPS boundaries can be viewed from all ten (10) of the Public Vantage Points (PVPs), as follows:

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

Comprehensive Plan

The 2008 Prince William County Comprehensive Plan was officially adopted by the Board of County Supervisors on March 18, 2008. The land use element of the plan starts by distinguishing between “The Development Area” of the county and “The Rural Area.” Each of these two key categories has numerous sub-categories based upon existing and proposed land uses, densities and character. As the map on the following page indicates, lands to the immediate north and west of the national park are proposed for Agricultural and Estate uses, which are relatively favorable designations in light of viewshed preservation. However, the lands to the immediate south of the park, capitalizing on I-66 access, are proposed for industrial and office park development. Such uses are clearly incompatible with viewshed preservation efforts.

Another issue of concern included in the land use element of the comprehensive plan is the existing and proposed route for high voltage electrical transmission lines. This issue will be addressed in more detail later in this chapter under the heading “Key Threats to Viewsheds.” However, as the map page 137 reflects, an existing/proposed route traverses the national park along a north-south axis. Given their existing average height of 100 feet, these lines and their supporting frameworks are a primary threat to the integrity of the battlefield’s viewsheds.



Northern half of the Prince William County land use plan - 2007 .

Source: Prince William County Comprehensive Plan

While the comprehensive plan's community design element does address numerous gateways and corridors, such as the Buckland segment of Route 29 lying west of the battlefield, it does not address areas within close proximity to the battlefield. This element includes a section on office development. Although it does not specifically address building heights, it suggests a "human scale" at the street level, and the images of positive examples tend to be in the five-story range.

The cultural resources element of the plan recommends that the County develop a "viewshed policy around County Registered Historic Sites (CRHS) and criteria for implementing that policy." The national park and Bristoe Station are both designated as CRHSs, but adjacent lands around them, including their viewsheds, are not. The element goes on to recommend other policies supportive of battlefield viewshed preservation, including conducting a viewshed analysis, buffering to protect the integrity of historic resources, preserving vegetation, utilizing clustered development to preserve open space, and considering low-impact land uses near historic lands, including battlefields.

With respect to telecommunications policies, the County's Comprehensive Plan includes the following text:

GOAL 4: To achieve limited visibility of telecommunications infrastructure in residential areas, historically significant areas, and protected conservation areas. This goal can also be achieved through the encouragement of 'stealth' technology solutions.

TELE-POLICY 2: Locate new telecommunications facilities in a manner that ensures compatibility with adjacent and nearby uses and in conformance with Federal, State, and County requirements and procedures for review and approval of such facilities.

Action Strategy 5. Prohibit monopoles or towers in historic districts, and ensure that telecommunications structures do not unduly impact important views from the Manassas National Battlefield Park, Prince William Forest Park, Bristoe Station Battlefield, County Registered Historic Sites (CRHS) sites, or views along County gateways and gateway corridors, as suggested by the Economic Development Chapter and the Strategic Plan. Require substantial setbacks from historically significant areas (as determined on a case-by-case basis) and focus on visibility as the primary determinant of appropriateness.

Action Strategy 8. Minimizing visibility in residential areas or areas of historical significance.

Zoning & Development Regulations

The publication date of the county's zoning map is May of 2007, nearly a year before the most recent comprehensive plan. Given the comparative dates, some differing land use category names, and differences between how various parcels have been classified, it is apparent that the current zoning has yet to be updated to reflect the latest comprehensive plan.

In contrasting the comprehensive plan with the existing zoning, much of the land use classification has remained the same north of the battlefield (low-density residential and agricultural) and to the southwest (industrial). However, the comprehensive plan has reclassified some

lands to the southeast of the battlefield from general business zoning to office uses. Although office developments are often designed in a manner that yields more landscaping and open spaces relative to retail, office buildings tend to be taller than retail buildings. Nevertheless, based upon the current zoning, buildings in the General Business zone and in the Office zone are both limited to a maximum of 45 feet. Industrial lands, on the other hand, are currently allowed to go as high as 75 feet with their buildings.

Two provisions within the existing zoning that may have good potential for future viewshed protection efforts include: 1) the proffer system for achieving certain planning and design concessions as part of the development approval process; and 2) battlefield viewshed protection area designation, which could conceivably be tailored for viewshed protection for comprehensive plan amendments, rezoning and Special Use Permits.

Fairfax County

Lands in this county lying outside of the NPS boundaries can be viewed from the following eight (8) Public Vantage Points (PVPs):

- Matthews Hill
- Henry Hill
- Van Pelt
- Deep Cut
- Sudley
- Artillery Position
- Chinn Ridge

Portici

Comprehensive Plan

The “Policy Plan” of the county’s comprehensive plan is the 2007 “edition.” This plan is based upon a 1988 plan that was edited through 2002. In accordance with state planning laws, it covers the same basic issues (plan elements) that are addressed in Prince William County’s comprehensive plan. This plan also splits the county up into four distinct planning areas, and Area III is the one that borders the battlefield along Bull Run Creek and the county’s southwestern edge. Objective #14 within the plan’s land use element includes multiple policies that are supportive of viewshed protection, including:

Policy c. – Achieve compatible transitions between adjoining land uses through the control of height and the use of appropriate buffering and screening.

Policy d. – Employ a density transfer mechanism to assist in establishing distinct and compatible edges between areas of higher and areas of lower intensity development, to create open space...

Policy j. – Use cluster development as one means to enhance environmental preservation...

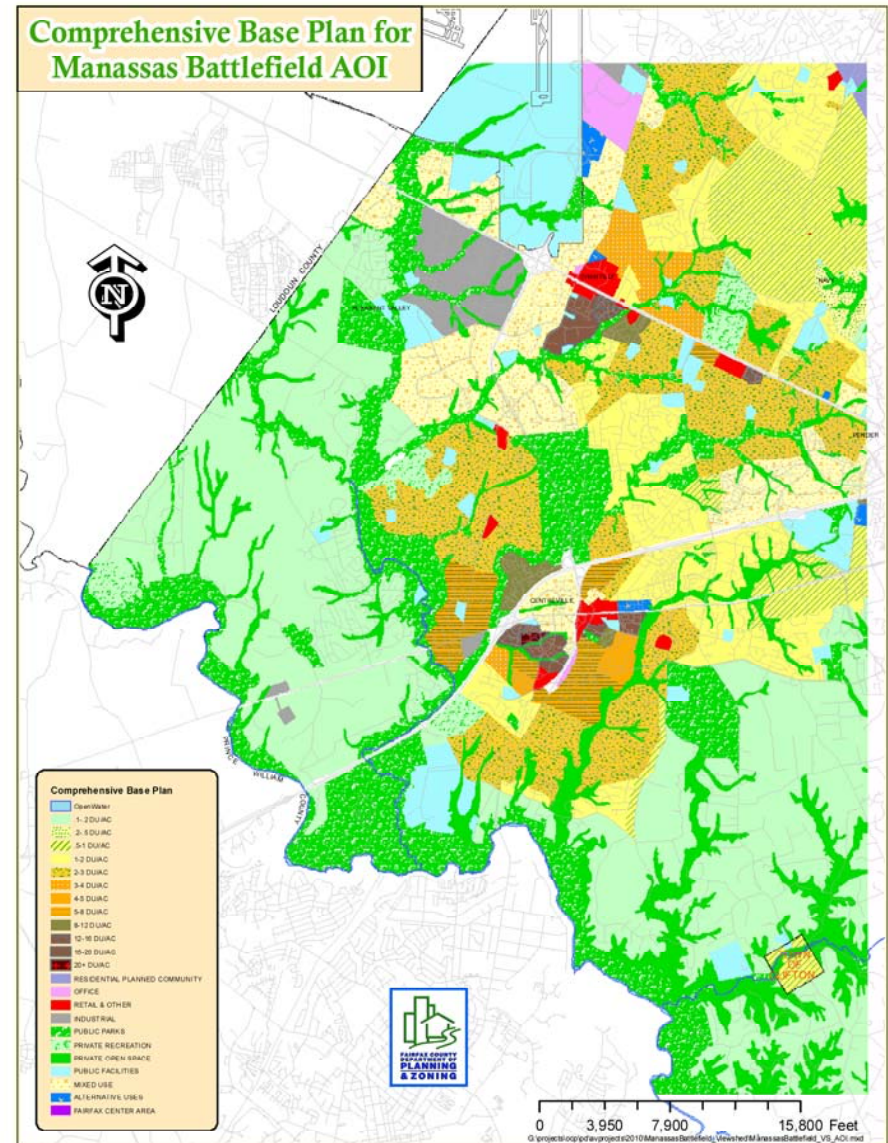
Under the subject of Conservation the Fairfax County Open Space / Historic Preservation Easements Program is discussed as part of Objective #17. Also, Appendix 9 of the plan – Residential Development Criteria – includes a section 8: Heritage Resources. This section encourages preservation, including the use of easements to protect historic resources. There is also a separate Heritage Resources

element to the plan that is very general in nature and does not specifically address battlefield viewsheds.

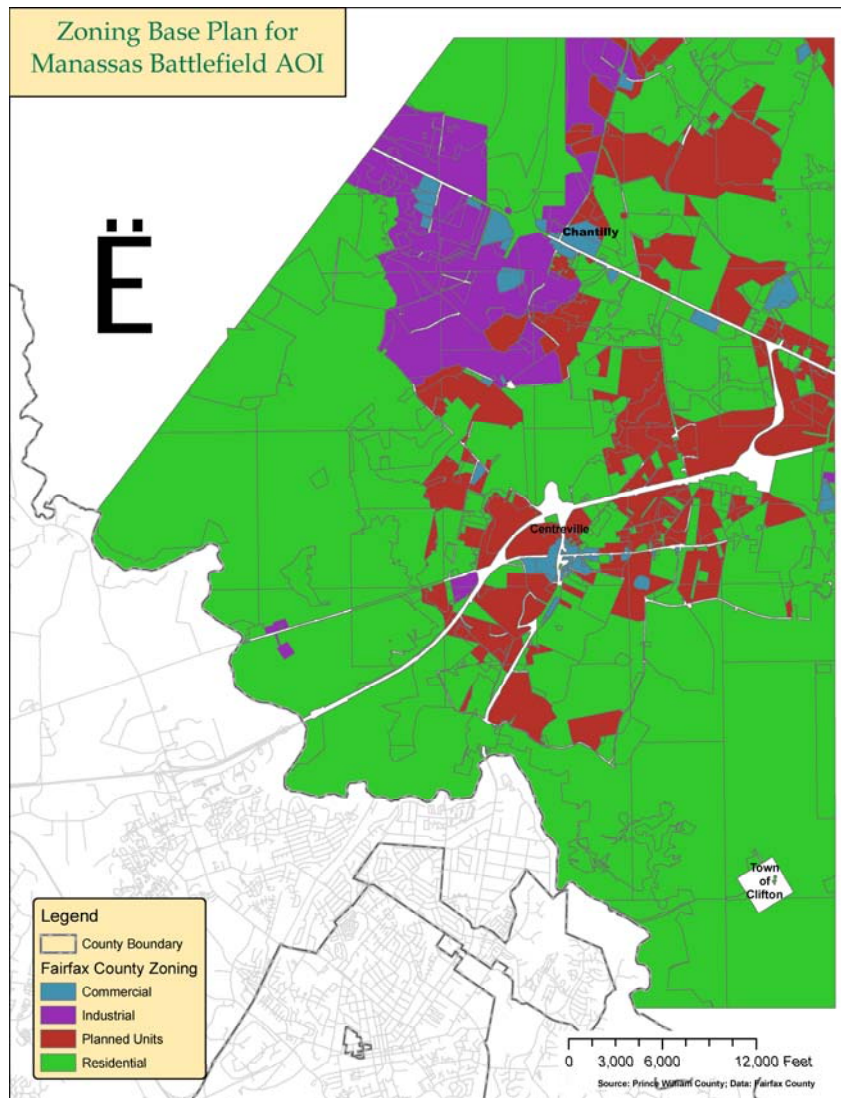
The proposed Land Use Plan for the battlefield area is provided at right. Although there are separate plan elements for the county's four planning areas, including Area III (closest to the battlefield), there are no specific policies relative to viewshed protection. There are height provisions for lands near the Dulles Airport, but because they entail height limits of 200 feet and 500 feet (depending upon various circumstances), they are not very helpful to viewshed protection. Likewise, the subject of historic resources is deferred to the Heritage Resources plan element.

Zoning & Development Regulations

Zoning for this area consists of an overlay zoning district and an underlying base zoning (see map on following page for base zoning). When compared with the Public Vantage Points (PVPs) and Historically Based Viewsheds (HBVs) visibility maps (pages 18 and 82, respectively) of this Background Study, the majority of visible lands have a residential base zoning – the most benign classification of the four options. There is also a small Historic District (HD) overlay at the Stone Bridge site, a Natural Resources (NR) overlay just east of the Historic District, and a Water Supply Protection (WSP) overlay for much of the balance of the most visible areas.



Planning Area III Land Use Plan – Fairfax County.
 Source: Fairfax County Comprehensive Plan – Area III Plan Element



Planning Area III Base Zoning – Fairfax County.
 Source: Fairfax County Planning Division

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 viewshed 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 viewshed.

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.”

In support of this policy, Fairfax County heritage resource staff reviews applications for telecommunications facilities and provides an assessment of any impacts to local or national historic sites.

Loudoun County

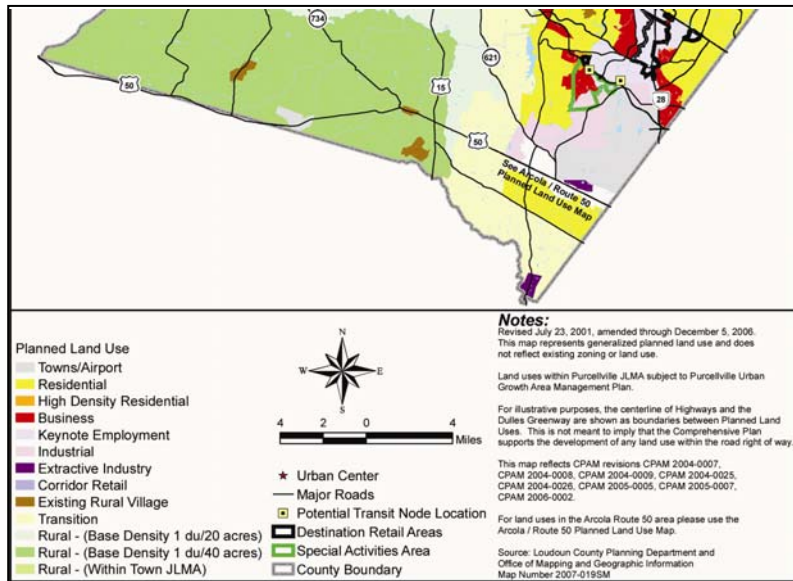
Lands in this county lying outside of the NPS boundaries can be viewed from the following four (4) Public Vantage Points (PVPs):

Henry Hill
Van Pelt
Sudley
Portici

Comprehensive Plan

Loudoun County's comprehensive plan was last updated in 2007 (see map on following page). 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.”



Southern half of the Loudoun County land use plan - 2007.
 Source: Loudoun County Comprehensive Plan

Zoning & Development Regulations

The County’s zoning ordinance that governs this area in the Revised 1993 Zoning Ordinance, approved on June 16, 1993 with 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 is 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, 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 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, 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 uses may not exceed 3% of the site's total land area. Office uses may account for up to 15% of the land area.

Fauquier County

It is noteworthy that this county is located a substantial distance from the battlefield park and no portion of it directly abuts the park.

However, because of high elevations existing along its easterly edge, portions are visible with several battlefield viewsheds. Lands in this county lying outside of the NPS boundaries can be viewed from the following four (4) Public Vantage Points (PVPs):

- Matthews Hill
- Henry Hill
- Van Pelt
- Artillery Position

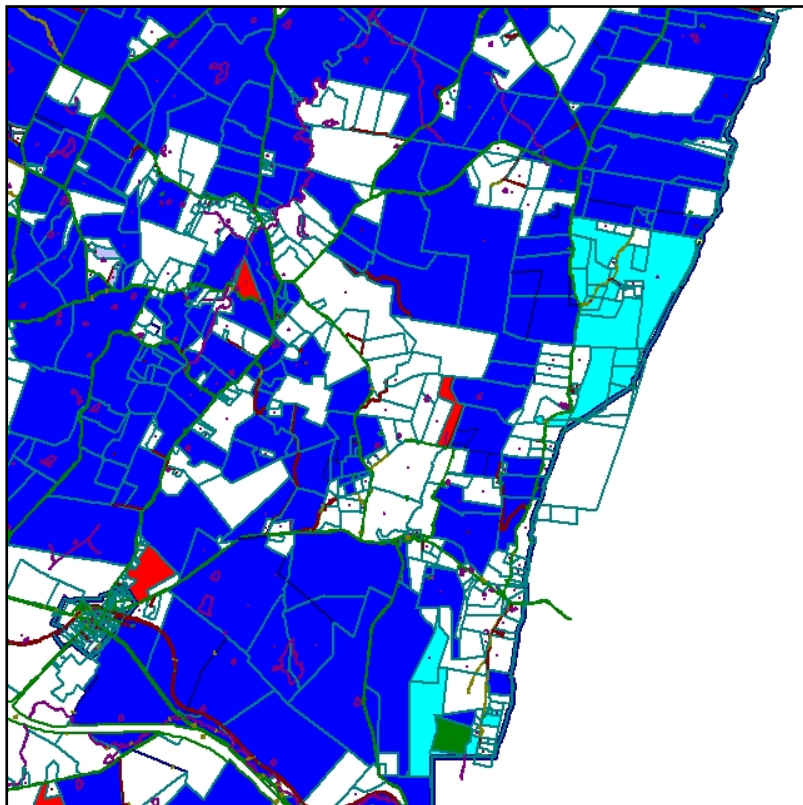
Comprehensive Plan

Fauquier County has prepared a total of three comprehensive plans over the years – 1967, 1977 and 1989. The current plan is referred to as the “1992-2010 Plan Review,” which is an update of the 1989 plan. Rather than having a specific land use plan within their comprehensive plan, they simply refer to their existing zoning map, which is summarized below.

Zoning & Development Regulations

As the map on the following page reveals, the majority of lands located closest to the battlefield park – the eastern portion, are protected by conservation easements (blue areas). While there are also lands owned by the Virginia Outdoors Foundation (VOF) that are technically unprotected (teal areas), the VOF's primary mission is the preservation of open space. Approximately a quarter of the county's easterly lands visible from the national battlefield park are designated as Rural Agricultural lands (white areas). With regard to such lands, the comprehensive plan indicates that “agriculture and forestry are the

predominant uses,” along with “large lot farmette type residential development.” The Agricultural district requires that no more than fifteen percent of these lands may be developed with clustered housing, with the balance being preserved as open space. Such open spaces are typically protected through conservation easements, most of which are held by the Virginia Outdoors Foundation (VOF). A total of 31,000 acres were protected by easements at the time of the comprehensive plan’s writing.



Land Use Plan – eastern edge of Fauquier County.
 Source: Fauquier County Department of Community Development

City of Manassas

Lands in this independent city lying outside of the NPS boundaries can be viewed from the following four (4) Public Vantage Points (PVPs):

- Deep Cut
- Artillery Position
- Chinn Ridge
- Portici

Comprehensive Plan

The City’s 2002 plan is currently being updated per state laws. While the process is intended to be a plan update rather than a rewrite, it is expected that the next update in approximately 2013 will be a complete rewrite. Because of the “moving target” nature of the current plan, this summary of the City of Manassas’s planning policies will be on the existing zoning, even though it too will eventually change following the updated plan’s adoption.

Zoning & Development Regulations

The zoning map for the City of Manassas is unavailable.

City of Manassas Park

The vast majority of Manassas Park is already developed. Lands in this city lying outside of the NPS boundaries can be viewed from the following three (3) Public Vantage Points (PVPs):

- Artillery Position
- Portici
- Signal Hill

Comprehensive Plan

The City’s previous plan was adopted in 1984 and had major updates in 1990. The current plan was adopted in November of 2007. The land use element proposes nine different land use categories. Most categories entail relatively intensive land uses (commercial, industrial, multi-family, etc.), with the exception of Open Space and Recreation. The main area designated Recreation is an existing golf course on the northerly edge of the city, while areas where Open Space has been applied are very limited and peripheral to single-family residential areas.

Zoning & Development Regulations

While a zoning map for this city is not available on their website, given the “built-out” nature of this community, the zoning districts are (or soon will be) undoubtedly consistent with the 2007 comprehensive plan designations summarized above. The most significant zoning issue related to viewshed preservation in Manassas Park is permitted building heights. The General Business, Multi-Family, Mixed Use, and Public Facilities districts permit a maximum height of 45 feet. PUDs allow buildings as high as 58 feet, and the Industrial district has a height limit of 60 feet. Most other areas, such as single-family residential, have a maximum height of 35 feet. While zoning provisions exist for industrial uses and planned unit developments, no such areas have been designated on the comprehensive plan’s land use map. There are significant areas designated on the land use plan as commercial and multi-family, and a substantial area centrally located

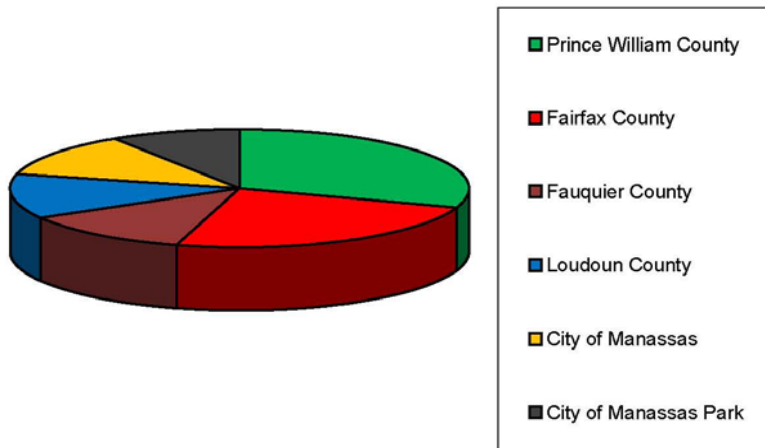
within the city is designated in the comprehensive plan as “Town Center,” which is a classification not presently existing in the zoning ordinance. This designation is being applied to a proposed town center development called “Park Center,” but building heights are not included within the description of this development in the comprehensive plan.

Summary

Of the four counties and two independent cities that have land lying outside of the NPS boundaries, but within the viewsheds of one or more of the subject PVPs, below is a list of the number of PVP viewsheds per municipality:

- Prince William County - 10
- Fairfax County - 8
- Loudoun County - 4
- Fauquier County - 4
- City of Manassas - 4
- City of Manassas Park - 3

Number of PVP Viewsheds Per Municipality



These numbers are significant in that this study’s subsequent preservation recommendations will likely include revisions to certain land use and development regulations of the relevant local governments. Such an approach will require substantial time and effort on the part of this plan’s implementing parties, perhaps causing a need to prioritize and phase efforts. These numbers indicate that the greatest priority, at least initially in order to pick the “low hanging fruit,” should be given to the policies of Prince William and Fairfax Counties.

Growth and Development Trends

The greatest threat to this nation’s Civil War battlefields and their viewsheds is development. According to the Civil War Preservation Trust, a non-profit nation-wide battlefield preservation group, “Thirty acres of Civil War battlefield land are destroyed every day.” While many of the Manassas Battlefield’s viewsheds are currently intact, they are clearly threatened by future growth and development. Thus, below is a summary of the area’s growth and development trends.

Although the Manassas Battlefield and its viewsheds are tied to multiple counties and cities, the single county most directly impacting this viewshed study is Prince William County. Not only does most of the national park lie within this county, but it is the only jurisdiction with lands that are visible from all ten Public Vantage Points (PVPs) being studied here. Furthermore, the growth and development trends here are generally consistent with that of other relevant counties, such as Fauquier and Loudoun Counties (it is acknowledged that much of Fairfax County is already built out). Thus, much of the focus on growth and development trends impacting the battlefield will be based upon data from Prince William County.

“Thirty acres of Civil War battlefield land are destroyed every day.”

Civil War Preservation Trust

Demographics

The following data is from the Prince William County Department of Economic Development.

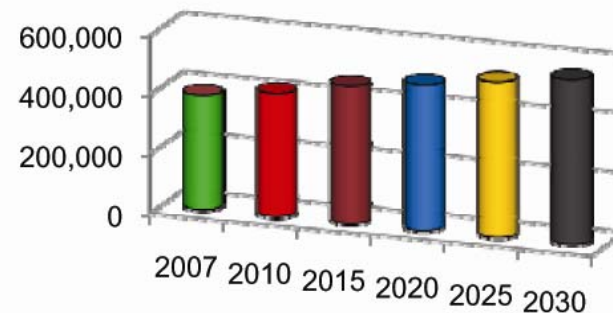
General Demographics – Prince William County

Current Population:	346,790
Median Age:	32
Median Household Income (2006):	\$80,783
Per Capita Income (2006):	\$33,319

Population Growth – Prince William County

Dec. 2007 population (estimate)	386,047
2010 population (forecast)	415,763
2015 population (forecast)	463,343
2020 population (forecast)	491,456
2025 population (forecast)	523,668
2030 population (forecast)	555,012

Population Growth Projections: Prince William County



As of 2000, Fairfax County had the largest population of all Virginia counties (969,749), while Prince William County had the third largest

population (280,813). However, the latter is catching up. Between 1990 and 2000, Fairfax County experienced a 18.5% population growth, while Prince William County had a 30.2% growth rate for the same period. These statistics are from the U.S. Department of Commerce, Bureau of the Census.

Housing Development

According to the U.S. Census, there were 98,052 housing units in Prince William County in 2000. That number reflected an increase of over 23,000 units between 1990 and 2000. That 31% increase mirrored the 30.2% population growth. As of December 2007, there were an estimated 134,516 housing units in the county, representing a 36,464 unit increase since 2000.

Occupancy & Tenure – Prince William County (2000)

Occupied Units	94,570 (96.4%)
Owner-Occupied Units	67,787 (71.7%)
Renter-Occupied Units	26,783 (28.3%)

Housing Types – Prince William County (2006 – Bureau of the Census)

Single-Family Detached	76,708 (57.0%)
Townhouses	35,009 (26.0%)
Multi-Family Units	22,799 (16.9%)

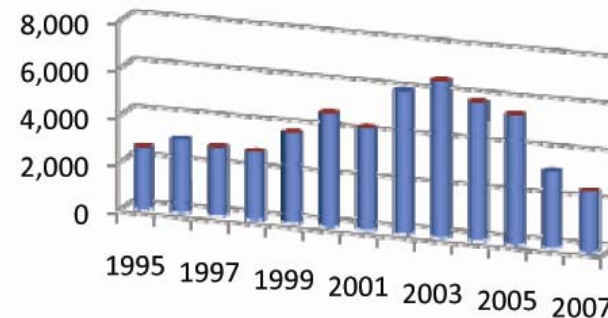
Median Value: Owner Occupied Units – Prince William County (2006 – Bureau of the Census)

Prince William County	\$441,400
Virginia	\$244,200
United States	\$185,200

Housing Building Permits: # Units – Prince William County (Bureau of the Census)

2007	2,491	2000	4,758
2006	3,191	1999	3,776
2005	5,427	1998	2,825
2004	5,822	1997	2,881
2003	6,572	1996	3,061
2002	6,012	1995	2,581
2001	4,301		

Housing Building Permits: Prince William County



Key Threats to Viewsheds

At present, most of the viewsheds associated with the Manassas Battlefield, as viewed from within the national park, are relatively well preserved. In fact, many have a very high level of integrity. Those having the lowest level of visual integrity are located along the southern edge of the park where development associated with I-66 is visible, such as Portici (PVP #10) and the W. Lewis House (HBV H). On the other hand, most of the historically based viewsheds (HBV) having viewshed anchors located outside of the national park currently have a low level of visual integrity, including Centreville Heights (HBV K),

Signal Hill (HBV L), Mayfield Fort (HBV J) and Bristoe Battlefield (HBV O). There are four primary threats to the battlefield's viewsheds: 1) development, 2) overhead utilities and towers, 3) road expansions, and 4) a landfill.



Despite the well-intended name of this business park, development on the perimeter of the battlefield is the greatest threat to its viewsheds.

Development

The two key issues related to development – local land use regulations and current growth trends, have both been addressed previously. With respect to growth trends, the rate of residential development has declined from its peak in 2003, particularly during the past year because of the nation-wide economic downturn. However, even in this national residential market slump currently existing, the area's location within the D.C. metro area insures that significant residential growth will

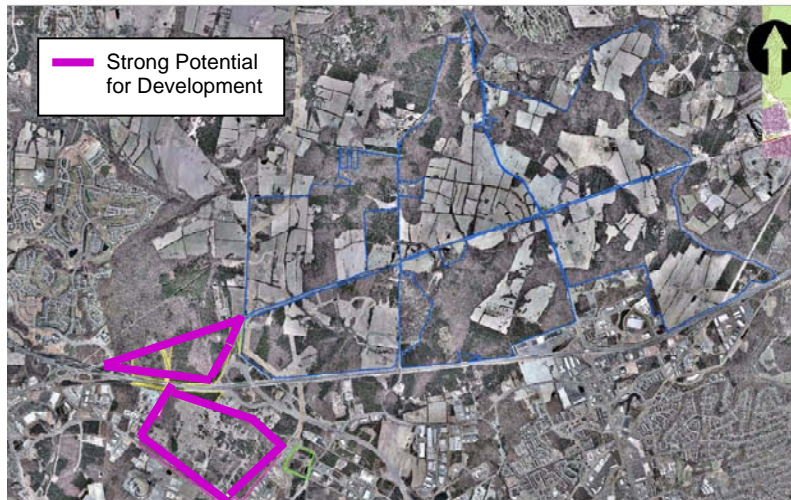
resume in the future. Likewise, there will again be healthy growth in the retail, office and lodging sectors. With respect to local land use and development policies, it is clear that none have been written with battlefield viewshed protection in mind. In the case of Prince William County, the current zoning immediately southwest of the battlefield park is agricultural, which allows low-density residential development (minimum 10-acre lots). However, because the new comprehensive plan designates this area as commercial, the door is opened for uses that will negatively impact viewsheds.

Threats to the integrity of viewsheds from development come in two dimensions: horizontally and vertically. To the extent that the ground level is visible within a given viewshed, even low-rise development can negatively impact the viewshed, as the natural terrain is replaced by buildings, parking lots, and similar contemporary man-made intrusions. Even when certain lands within a given viewshed are visually screened by tree cover, mid to high-rise development can create a vertical intrusion to the extent that buildings rise above the tree line. Three potential tools that will be explored later in this study to address the negative impacts of development include building height limits, open space development zoning ("clustering") to preserve open space, and conservation easements, among other potential tools.

Potential Development

While there are currently no known major developments being proposed close to the national park that have the potential to negatively

impact battlefield viewsheds, there are still key sites that will have a high probability of development due to location. Two sites stand out as being particularly vulnerable because of past development proposals for them. Both are located immediately southwest of the park (see aerial photograph map below).



The two sites having the strongest potential for development near the park are located immediately southwest of it.

Both sites are under-developed relative to their potential development yield based upon their excellent access, current zoning, and/or likelihood for rezoning at a greater intensity level. Both sites have also had proposals within the past few years for mixed use transit-oriented development. The larger of the two sites comprises 415 acres and is bound by Wellington Road on the south, Norfolk Southern Railroad track (immediately south of I-66) on the north,

University Blvd. on the west, and Piney Branch Lane on the east. The property has been developed and occupied by the Atlantic Research Corporation (ARC) for the past fifty years. ARC conducts research, development and manufacturing of rocket propellants, rocket motors, and gas generators. It is currently zoned Heavy Industrial (M-1), but it has potential for a rezoning to some type of mixed use category, such as Planned Mixed Residential District (PMR) or Planned Mixed Use District (PMD). The conditions applied with a Special Use Permit (SUP) are another potential regulatory mechanism to accommodate the properties' development. In Prince William County, a rezoning proffer runs with the land, while the SUP conditions are retained within the use area for as long as the use continues. The other site is located immediately west of the park, south of Route 29, and north of I-66. This 192-acre undeveloped site is somewhat triangular in shape, as its west end tapers down to a point where Route 29 and I-66 intersect at Heathcoate Boulevard. The site is split by University Blvd., which runs along a north-south axis. The vast majority of the property is currently zoned A-1 (agricultural), with a small sliver on the side being M-2 (manufacturing). However, the comprehensive plan designates the property primarily Regional Employment Center (REC), with a small portion being Industrial Employment (EI), potentially accommodating a future rezoning. If either of these sites were developed, the impacts to viewsheds would most likely be greatest for the PVPs of Stuart's Hill, Brawner House, and the Artillery Position, as well as the HBVs of Pageland, Battery Heights, and the W. Lewis House.

Utilities & Towers

Another significant threat to battlefield viewsheds is above-ground utilities and telecommunications towers. Unlike buildings, they do not entail a great deal of solid mass, but their height can be particularly troublesome with respect to viewsheds. However, according to Lee Dickinson, special park uses program manager with the National Park Service, “utility companies have to get a permit from the National Park Service before they can run power lines through a national park” (“Area Power Needs Could Trump View of Antietam Battlefield” – Hagerstown Herald, Dan Dearth - August, 10, 2007).

Cell Towers

Hosting antennas for cell phone companies can be a lucrative business. According to a Washington Post article about cell towers installed in Fairfax County schools, the Fairfax school system receives an initial \$25,000 payment for each new pole that is installed, as well as \$5,000 each time another cellular phone company adds an antenna to a pole. The phone companies also pay roughly \$2,000 in monthly rent (“In Cell Towers’ Shadows, Anxiety” – Maria Glod, September 20, 2004).

At the Federal level, the industry is regulated by the Federal Communications Commission (FCC) and the Federal Aviation Administration (FAA). In Prince William County, the zoning code provisions regulating cell towers are found in Part 240: Mobile and Land Based Telecommunications Facilities. When they meet all performance standards, cell towers are permitted as-of-right. If they



This view from Portici (PVP #10) looking south toward I-66 reveals a cell tower that detracts from the viewshed.

fail to meet one or more standard, they are permitted as a special use. Cell towers are permitted in any zoning districts and any public rights-of-way so long as they meet the relevant standards. However, the same ordinance section states that cell towers must be at least 200 feet from any public street, so there is clearly conflicting language. They may not exceed a height of 199 feet, which is roughly equivalent to a 20-story building. It is the stated intent of the regulations to minimize the visual impact of towers by concentrating antennas on as few towers as possible, as well as to avoid residential areas. While there is a requirement that the base of cell towers be screened from public streets and adjoining properties, that standard obviously does little good above the ground level.

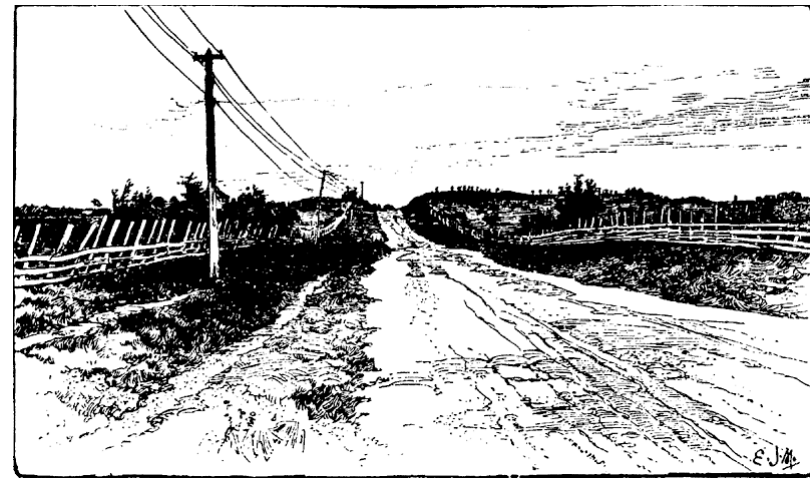
Utility Poles & Wires

Simple wooden utility poles supporting electrical and telecommunications lines are a common condition throughout this country in all types of areas – urban, suburban, exurban and rural. They typically exist within public rights-of-way along streets. Not surprisingly, they occur along most of the roadways throughout the Manassas Battlefield, both within and beyond the national park. On Routes 29 and 234, the only place where they are buried underground is in the vicinity of the intersection of these two roads by the Stone House. Despite efforts to enhance this highly-significant location, a traffic signal necessarily exists.

As the historic sketch at right reflects, the existence of simple wooden utility poles and overhead wires is not a foreign element to the historic landscape. Even during the Civil War, some of the key roads featured wooden poles supporting telegraph wires, although such infrastructure was generally limited to railroad lines. In short, given their relatively low height, as well as somewhat of a historic precedent for their existence on battlefields, they are not considered a primary threat to battlefield viewsheds relative to other threats, such as buildings.



This type of conventional utility pole and overhead wiring exist throughout the battlefield area along roadways.



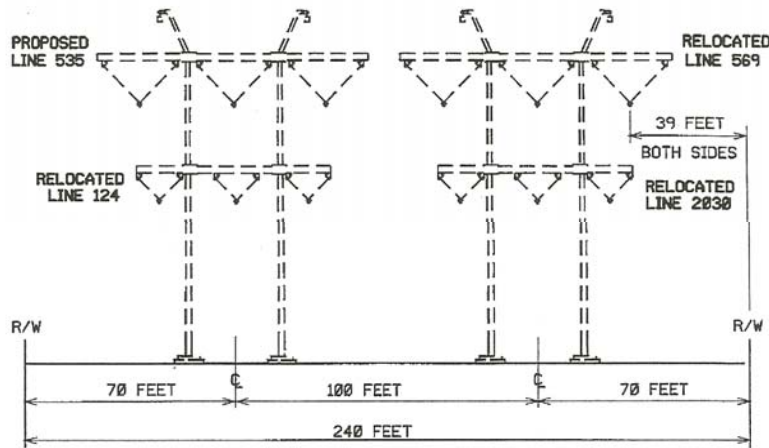
This historic sketch of the Nashville Highway through the Stones River Battlefield near Murfreesboro, Tennessee, was made shortly after the battle. The wooden utility poles and telegraph lines are prominent.
Source: Stones River: Bloody Winter in Tennessee – James Lee McDonough (1980), pg. 147

High Voltage Power Lines

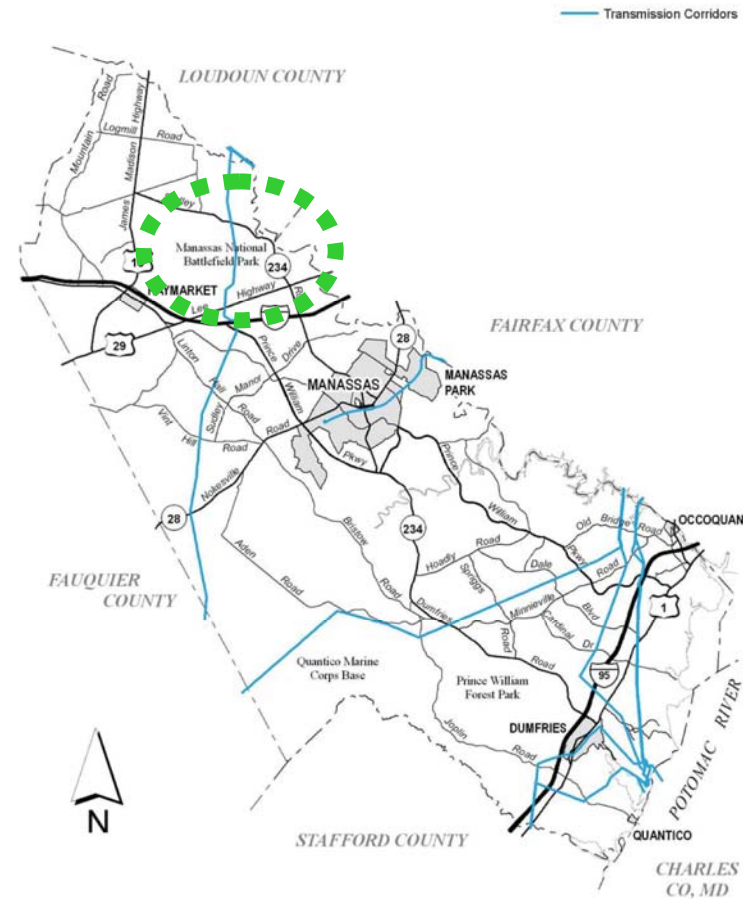
The following page features two maps illustrating the existing and planned route for high voltage power lines. As these maps show, the existing/planned line runs along a north-south axis through the western edge of the national park. As the photograph below illustrates, there are currently two types of “H” frame support structures within the battlefield. Both are approximately 100 feet in height and have an average span length of 885 feet between supporting structures. However, one type has a width of 93 feet at the cross-arms and the other has a width of only 53 feet (see diagram on the following page). It is presently being proposed by Dominion Virginia Power that some of the existing “H” structures be relocated and others be replaced by a new set of structures. The new structures would be nearly identical to the wider of the two existing types. They would have a 90 foot width, which is three feet less than the current support structures. However, they would be approximately 15 feet taller (115 feet) and be spaced 135 feet closer together (750 foot spacing).



Both types of high voltage power lines now existing on the battlefield are shown above. Both types average approximately 100 feet in height.



It is being proposed by Dominion Virginia Power that the narrower of the two existing H-frame structure types be replaced with the wider type, as illustrated above. Source: Dominion Virginia Power



Designated routes for electric transmission lines of 150 kilovolts or more. Source: Prince William County Comprehensive Plan – pg. LU-24



The blue line above delineates the route of the high voltage power lines. The most westerly segment follows Pageland Lane on the parks western boundary.

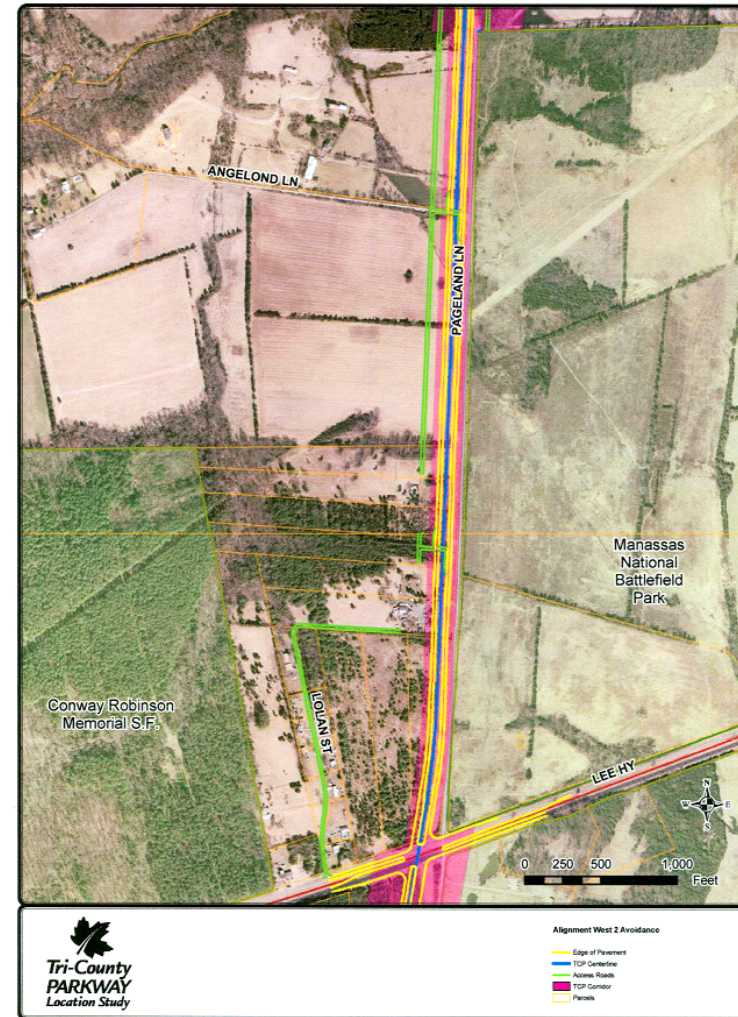
Road Expansions

As the battlefield’s surrounding built environment continues to grow and traffic levels increase, pressure will grow to expand the physical capacity of roads around and traversing the battlefield park. In fact, one such proposal is now in the planning stage.

Tri-County Parkway

This VDOT project is intended to transform the historic Pageland Lane into a higher capacity north-south thoroughfare. It is currently undergoing environmental impact review as part of the planning process, including the Section 106 process led by the Virginia Department of Historic Resources (VDHR) to potentially mitigate impacts to historic resources. See the plan graphic at right.

Not only would this project result in the alteration of the alignment and profile of a historic road, but it would negatively impact multiple viewsheds. In particular, the Stuart’s Hill and S. D. Lee Artillery Position PVP viewsheds and the Pageland HBV would be substantially impacted because of their close proximity to the propose “parkway.” On the other hand, this road’s improvement might serve as a “pressure release valve” for traffic on Route 29, potentially lessening the odds of that critical road ever being widened.



Proposed Tri-County Parkway

Source: VDOT

Routes 29 & 234

Just as these two north-south and east-west roads were important for troop movements during both battles, today they are important for moving vehicles throughout the region. There are no known plans to widen either road through the battlefield area. However, keen attention should always be paid in anticipating any future efforts to seek such roadway expansions, which would undoubtedly degrade the integrity of several of the battlefield's viewsheds.

Also, the visual impacts of the traffic signal at the intersection of Rt. 29 and Rt. 234 (see photograph below) have been raised as a viewshed issue. While its negative impact is acknowledged, there are no reasonable alternatives. Even if the proposed bypass along the Pageland Lane route is effectuated and traffic levels at this intersection measurably decrease, a need for traffic control will likely continue. No alternatives have been identified that might have less of a visual impact. For example, the use of ground-mounted pedestrian-scale traffic signals would require one per corner of the intersection, resulting in more visual clutter than the current arrangement. Similarly, the provision of a traffic circle would require additional right-of-way and yield an intersection configuration completely foreign to the original rural road intersection. Consequently, no changes are being recommended for this intersection's traffic control.



The intersection of Routes 29 and 234, located in the heart of the national park, experiences substantial traffic congestion during peak hours.

Landfill

Although it occurs in the distance, one blemish on historic battlefield viewsheds as seen from key locations, such as Henry Hill, is a landfill located north of the battlefield in Loudoun County (see map at right). It is owned and operated by Ticonderoga Farms, Inc. The fill materials in the landfill consist of soil, broken concrete, asphalt, brick and perhaps other similar materials. The average base elevation of the property is approximately 350 feet, yet the landfill's elevations appear to be as high

as 521 feet, meaning that the landfill itself is approximately 170 feet in height.

It is difficult to predict the ultimate potential height of the landfill because it is unregulated. The landfill and its operations have been the subject of litigation during the past decade or so. The owner/operator claims that it is a permitted agricultural use, as the landfill provides shade to shield their Christmas tree farm from the southern sun exposure.

