

National Park Service
U.S. Department of the Interior

Flight 93 National Memorial
Somerset, PA



flight 93



FLIGHT 93 NATIONAL MEMORIAL

Final General Management Plan/ Environmental Impact Statement

National Park Service

June 2007

A FIELD OF HONOR FOREVER

The National Environmental Policy Act (NEPA) (42 U.S.C. §4321-4347) establishes policy, sets goals (section 101), and provides means (section 102) for carrying out that policy. Section 102(2)(C) contains "action-forcing" provisions to ensure that Federal agencies act according to the letter and spirit of the Act. These provisions require that Federal agencies give environmental factors appropriate consideration and weight in decisionmaking. Through a systematic and interdisciplinary approach, Federal agencies shall prepare an environmental impact statement (EIS) of the proposed action, assess adverse environmental effects of the action, evaluate alternatives to the action, consider the relationship between local short-term uses and maintenance and enhancement of long-term productivity, and identify any irreversible and irretrievable commitments of resources should the action be implemented.

*"A common field one day.
A field of honor forever."*

May all who visit this place remember the collective acts of courage and sacrifice of the passengers and crew, revere this hallowed ground as the final resting place of those heroes, and reflect on the power of individuals who choose to make a difference.

The quote above is from Captain Stephen Ruda, Los Angeles City Fire Department, used to describe the Flight 93 crash site. Ruda wrote the words on a quilted wall hanging sent to the memorial as a tribute to the passengers and crew of Flight 93.

SEPTEMBER 11, 2001

On Tuesday morning, September 11, 2001, the United States came under attack when four commercial airliners departing from airports on the East Coast were hijacked and used to strike targets on the ground. During the events that ensued, 2,973 people tragically lost their lives as a result of these planned, hostile attacks on this country. Within one hour, two airliners, American Airlines Flight 11, carrying 92 passengers and crew members, and United Airlines Flight 175, carrying 65 passengers and crew, departed Boston's Logan International Airport and were flown into the north and south towers of the World Trade Center in New York City, killing a total of 2,635 people. A third airliner, American Airlines Flight 77, departed Dulles International Airport near Washington, D.C., struck the Pentagon in Arlington, Virginia, killing 64 passengers and crew on board and 125 people in the building.

At 8:42 a.m., after a delayed departure, a fourth airliner, United Airlines Flight 93, a Boeing 757 carrying 33 passengers, seven crew members and four hijackers departed Newark International Airport in New Jersey en route to San Francisco, California. Approximately 45 minutes into the flight, the plane changed course near Cleveland, Ohio, and was redirected southeast toward Washington, D.C. After action was taken by the passengers and crew members to overtake the hijackers, Flight 93 crashed a few minutes after 10:00 a.m. into a reclaimed coal strip mine near the town of Shanksville in Somerset County, Pennsylvania. All persons on board were killed and an attack on the nation's capital was thwarted.¹

¹ In November 2002, Congress established the "*National Commission on Terrorist Attacks Upon the United States*", also known as the "*9/11 Commission*." In July 2004, the "*The 9/11 Commission Report*" was published. The report states, "We are sure that the nation owes a debt to the passengers of United Flight 93. Their actions saved the lives of countless others, and may have saved either the U.S. Capitol or the White House from destruction."

Passengers and Crew of United Airlines Flight 93

September 11, 2001

Flight 93 Crew Members

Captain Jason M. Dahl	Littleton, CO
First Officer LeRoy Homer	Marlton, NJ
Lorraine G. Bay, Flight Attendant	East Windsor, NJ
Sandra Bradshaw, Flight Attendant	Greensboro, NC
Wanda Anita Green, Flight Attendant	Oakland, CA/Linden, NJ
CeeCee Lyles, Flight Attendant	Fort Pierce, FL
Deborah Welsh, Flight Attendant	New York City, NY

Passengers

Christian Adams	Biebelsheim, Rheinland-Pfalz, Germany
Todd Beamer	Cranbury, NJ
Alan Anthony Beaven	Oakland, CA
Mark Bingham	San Francisco, CA
Deora Frances Bodley	San Diego, CA
Marion R. Britton	Brooklyn, NY
Thomas E. Burnett, Jr.	Bloomington, MN
William Joseph Cashman	West New York, NJ
Georgine Rose Corrigan	Honolulu, HI
Patricia Cushing	Bayonne, NJ
Joseph DeLuca	Succasunna, NJ
Patrick Joseph Driscoll	Manalapan, NJ
Edward P. Felt	Matawan, NJ
Jane Folger	Bayonne, NJ
Colleen Fraser	Elizabeth, NJ
Andrew Garcia	Portola Valley, CA
Jeremy Glick	Hewitt, NJ
Lauren Catuzzi Grandcolas	San Rafael, CA
Donald Freeman Greene	Greenwich, CT
Linda Gronlund	Greenwood Lake, NY
Kristin White Gould	New York City, NY
Richard Guadagno	Eureka, CA/Trenton, NJ
Toshiya Kuge	Osaka, Japan
Hilda Marcin	Mount Olive, NJ
Waleska Martinez	Jersey City, NJ
Nicole Carol Miller	San Jose, CA
Louis J. Nacke, II	New Hope, PA
Donald Peterson	Spring Lake, NJ
Jean Hoadley Peterson	Spring Lake, NJ
Mark Rothenberg	Scotch Plains, NJ
Christine Snyder	Kailua, HI
John Talignani	Staten Island, NY
Honor Elizabeth Wainio	Baltimore, MD

Executive Summary

The lives of all Americans were changed forever on September 11, 2001. While the nation mourned the loss of life on that day, the selfless act of the passengers and crew of Flight 93 evoked respect and appreciation from people around the world. In the days and weeks following the tragedy, the nation experienced a rekindled sense of unity, strength, and resolve. Actions of the terrorists, intended to divide and demoralize the nation, had the opposite effect, and the crash of Flight 93 became a symbol of courage. The site of the crash became a place of impromptu gathering where the public memorialized and commemorated these events while they struggled to comprehend their meaning.

Following an exhaustive field investigation and recovery effort during the autumn of 2001 by numerous Federal, State and local officials, the crash site was reclaimed. The crater was back-filled and the area was planted with grass and wildflowers. At the same time, county and regional leaders, members of the local community, the families of the passengers and crew of Flight 93, and representatives from the National Park Service began to realize the importance of the crash site as a place of honor and of the need to preserve and protect it. Within six months of the tragic event, federal legislation was introduced to create a national memorial. Congress acted quickly to approve legislation creating the Flight 93 National Memorial.

This plan is an outgrowth of that legislation and its completion is an important step in making the memorial a reality. It proposes a designed memorial landscape that is quiet in reverence, yet powerful in form. It serves as a guide for development and future management of the memorial and a tool for understanding the effects of implementing the design. The plan is the culmination of numerous studies, the collaborative efforts of countless people, and an extensive public process to explore ideas for a fitting memorial tribute.

PROPOSED FEDERAL ACTION

The proposed Federal action would establish a programmatic framework for the memorial that would accomplish the legislative objectives outlined in P.L. 107-226, the *Flight 93 National Memorial Act of 2002*. Creating this framework includes inventorying and assessing the park's resource conditions, establishing preliminary interpretive themes, defining a vision for the

visitor experience and planning for the long-term management and maintenance of a permanent memorial honoring the passengers and crew members of United Airlines Flight 93.

PURPOSE AND NEED FOR ACTION

The purpose of this action is to ensure that the Partners – the National Park Service, the Flight 93 Advisory Commission, the Families of Flight 93 and the Flight 93 Memorial Task Force – as well as the public have a clear understanding of the types of development, resource conditions, visitor experiences, and management options that would best fulfill the mission of the Flight 93 National Memorial.

This basic foundation for decisionmaking has been developed with the Partners and other interested stakeholders and is adopted by the National Park Service after an adequate analysis of the benefits, environmental impacts and economic costs of alternative courses of action has been conducted. The need for this action is supported by the existing and projected visitation to the memorial that is expected to increase from approximately 130,000 in 2004, peak at 400,000 in 2011—the 10th anniversary of the September 11th attacks—and level off to about 230,000 visitors throughout the remainder of the 20-year planning horizon.

This action fulfills the authorities and responsibilities extended to the Secretary of the Interior and the National Park Service by Congress. This action further provides direction and guidance to the National Park Service in protecting the memorial's resource values and ensuring that respect for the rural landscape and the solemn and tranquil setting of the crash site is maintained in perpetuity.

The Flight 93 National Memorial Act (P.L. 107-226) was enacted on September 24, 2002, only one year from the terrorist attacks. The Act authorized creation of the national memorial and established the Flight 93 Advisory Commission. The Commission was charged with working with the Partners to—

- 1) submit by September 24, 2005, a report to the Secretary of the Interior and Congress containing recommendations on the planning, design, construction and long-term management of a permanent memorial at the crash site;

- 2) advise the Secretary on the boundaries of the memorial site;
- 3) advise the Secretary in the development of a management plan for the memorial site;
- 4) consult and coordinate closely with the Flight 93 Task Force, the Commonwealth of Pennsylvania, and other interested parties, as appropriate, to support and not supplant the efforts of the Flight 93 Task Force on and before the date of the enactment of this Act to commemorate Flight 93; and
- 5) provide significant opportunities for public participation in the planning and design of the Memorial.

In the Act, Congress authorized the National Park Service, through the Secretary of the Interior, to—

- 1) assist the Flight 93 Advisory Commission in providing information on and interpretation of the site, conduct oral history interviews, provide advice on collections, storage and archives;
- 2) assist the Commission in conducting public meetings and forums;
- 3) provide project management assistance to the Commission for the planning, design and construction of the memorial;
- 4) provide programming and design assistance to the Commission for possible memorial exhibits, collections, or activities;
- 5) provide staff support to the Commission and the Flight 93 Task Force;
- 6) participate in the formulation of plans for the design of the memorial, to accept funds raised by the Commission for construction of the memorial and to construct the memorial;
- 7) acquire from willing sellers the land or interest in the land for the memorial site by donation, purchase with donated or appropriated funds, or exchange; and
- 8) administer the Flight 93 National Memorial as a unit of the national park system in accordance with applicable laws and policies.

FOUNDATION FOR PLANNING AND DECISIONMAKING

The Partners agreed that all development and management decisions should be guided by a Mission Statement. Through a collaborative process involving several months of workshops, an online forum, and distribution of a project newsletter and public comment form, the Partners drafted a Mission Statement to guide and ground all aspects of the project.

Mission

The Partners summarized the Mission of the national memorial in several statements. The *mission* of the Flight 93 National Memorial is to—

- 1) honor the heroism, courage and enduring sacrifice of the passengers and crew of United Airlines Flight 93;
- 2) revere this hallowed ground as the final resting place of heroes who sacrificed their lives so that other would be spared;
- 3) remember and commemorate the events of September 11, 2001;
- 4) celebrate the lives of the passengers and crew of Flight 93;
- 5) express the appreciation of a grateful nation forever changed by the events of September 11, 2001;
- 6) educate visitors about the context of the events of September 11, 2001; and
- 7) offer a place of comfort, hope and inspiration.

Statement of Purpose

On September 24, 2002, the *Flight 93 National Memorial Act* (P.L. 107-226) was enacted, creating the Flight 93 National Memorial. The following statements represent shared understandings about the purposes for creating the memorial:

- Honor the passengers and crew members of Flight 93 who courageously gave their lives, thereby thwarting a planned attack on Washington, D.C.
- Allow the public to visit the site and express their feelings about the event and the passengers and crew of Flight 93
- Respect the rural landscape and preserve the solemn and tranquil setting of the crash site of Flight 93

Statement of Significance

The events of September 11, 2001, and the dramatic story of Flight 93 are forever linked to the rural Pennsylvania field on which the crash occurred. The following statements summarize the significance and national importance of this site and explain why it was selected as the site of a national memorial:

- The crash site is the final resting place of the passengers and crew of Flight 93.
- The heroic actions of the passengers and crew of Flight 93 are part of the transformational events of the September 11, 2001, terrorist attacks on the United States.

Fundamental Resources and Values

The National Park Service and the Partners identified those resources and values that are most essential for achieving the purpose and mission of the memorial. These fundamental resources will help ensure that planning and management decisions are focused on the most significant values of the memorial and include: 1) the crash site, 2) the hemlock grove, and 3) the viewshed and setting of the memorial.

PLANNING PROCESS AND IDENTIFICATION OF ISSUES

The Partners adopted a process for developing the recommendations required by the Act. This process ensures all Partners and the public are involved in decision-making throughout the project and that all mandates for planning a new unit of the national park system are met. The National Park Service is the lead public agency in planning, designing and constructing the national memorial.

The process grounds the design and management recommendations in the Mission Statement and pursues a design competition and the creation of this management plan to produce recommendations that are consistent and well-informed. The process offers transparency and provides local residents, the public, and other government agencies with many and varied opportunities to actively participate in the creation of the national memorial. The complete process is described in Chapter I.

The National Park Service initiated formal scoping—identifying issues of concern early in the process—on December 10, 2003, when a Notice of Intent to Prepare a General Management Plan and Environmental Impact Statement (GMP/EIS) was published in the Federal Register (68 FR 68947-68948). The issues identified by agencies and the public during this process are described in Chapter I and include:

- **Local community and lifestyle impacts**, including traffic on local roadways and access to the site, changes to local tax base and school district tax revenue, and restrictions on traditional uses (i.e. hunting and ATV use) of the site;
- **Adjacent development** and its impact on the visitor experience and the rural setting for the national memorial;
- **Development challenges** such as the presence of hazardous materials, geotechnical constraints, and the ability to provide

adequate potable drinking water and sewerage systems;

- **Noise impacts** on the experience of visitors from sources such as adjacent land uses and aircraft overflights;
- **Private Sorber family cemetery** located within the boundary and the need to protect it as the memorial is created;
- **Security and public safety**; and
- **Accommodating visitation levels**, particularly during commemorations, without affecting the solemn environment, visitor experience and the site's resources.

BOUNDARY

Determining the boundary for the Flight 93 National Memorial has been the culmination of nearly two years of resource and viewshed studies, site visits, computer modeling, and public input. The Partners concluded that the memorial boundary should include:

- 1) the crash site, including the adjacent debris field and the extent where human remains were found, are the most important resources at the site;
- 2) the immediate lands for visitors to view the crash site, as well as areas necessary for visitor access and facilities; and
- 3) lands necessary to provide an appropriate setting for the memorial.

As a result of collaborative efforts, the Flight 93 Advisory Commission signed Resolution 0401 recommending a boundary for the new national memorial on July 30, 2004. The Secretary of the Interior approved this recommendation on January 14, 2005. The total area within the boundary is composed of approximately 2,200 acres, of which about 1,355 acres include the crash site, the debris field and the area where human remains were found, and those lands necessary for visiting the national memorial. Lands that would provide for access to the site from U.S. Route 30 are also included. An additional 907 acres would comprise the perimeter viewshed around the core visitor lands. Ideally, these lands would remain in private ownership and be protected with partners through less-than-fee means, such as conservation or scenic easements. Although as of the public release of this draft document all lands within the memorial boundary are in private ownership, the actions presented in this plan assume eventual Federal ownership of the core lands and protection of the perimeter viewshed through partnerships with other land owners.

MEMORIAL DESIGN COMPETITION

The Partners agreed that an open design competition would be the most inclusive, transparent and democratic way to explore a range of designs for a national memorial. The competition was open to design professionals, as well as to the public, and was conducted in two stages. Stage I of the memorial design competition opened on September 11, 2004, and closed on January 11, 2005. The design competition was sponsored by the Partners with financial support from the Heinz Endowments and the John S. and James L. Knight Foundation.

The competition guidelines challenged the competitors to present concepts for a “memorial expression” that portrayed the issues, ideas, and passions contained in the Mission Statement. All competitors were requested to consider the following themes in their concepts. These themes represented the Partners’ objectives:

- Honor the heroes of Flight 93—the 40 passengers and crew who on one September morning changed the course of history...;
- Contribute to the dialogue of what a national memorial should be...;
- Conceive a message that will reflect on the event that occurred on September 11, 2001 and be timeless in its power and conviction....

More than 1,000 entries were received for Stage I of the competition. The public had the opportunity to review and comment on all entries at an open exhibition in Somerset, Pennsylvania, and through the Internet at an online exhibit on the project website. An independent jury of family members and design professionals reviewed all designs and public comments, and on February 4, 2005, five finalists whose design concepts were determined to best meet the Mission Statement were selected to proceed to Stage II of the competition.

The Stage II finalists were requested to refine their designs to fully explain their concepts and to present their refinements by June 15, 2005. These refined concepts were exhibited for public comment in Somerset, Pennsylvania, and on the project website between July 1 and September 25, 2005. A separate jury of noted design professionals, family members, and community leaders reviewed the public comments and evaluated the designs against the memorial’s Mission Statement. On September 7, 2005, the Flight 93 Advisory Commission announced the final selected design to the public. This design is described in Alternative 2 – Preferred Final Design and is evaluated fully in this document.

ALTERNATIVES

The Partners and the public explored a range of alternatives for developing the memorial. Some ideas were initially considered but were eliminated from further evaluation due to the infeasibility of the design and its inability to meet the Mission Statement. These alternatives are briefly discussed in Chapter II – Alternatives, along with the two alternatives under evaluation in this plan: Alternative 1 – No Action, which considers the effects of operating and maintaining the memorial under current management practices with some minor modifications related to visitor safety and convenience, and Alternative 2-Preferred Design Alternative, which evaluates the effects of developing the memorial based on the final design from the international design competition. Alternative 2 also represents the agency’s preferred alternative, as well as the environmentally preferred alternative.

Alternative 1 – No Action

The No Action Alternative assesses how the memorial would be maintained under the current management direction. It would not freeze all activity at the site. No visitor center or ancillary facilities would be developed. Projected visitation to the site would be expected to decline and average about 87,000 visitors per year. The estimated cost of development for this alternative would be approximately \$450,000. Roadway improvements along Skyline Road (approximately \$2.1 million) would be borne primarily by Stonycreek Township with expected anticipated funding from the Commonwealth of Pennsylvania. Estimated staff and operating costs would be \$750,000 with up to eight full-time staff persons.

The National Park Service would acquire approximately 657 acres in fee for resource protection and visitor use. The remaining 1,605 acres would be acquired through less-than-fee means such as easements, and would be a lesser priority. Based on 2005 estimates, the cost for acquiring this land and for relocations is approximately \$8 million.

Alternative 2 – Preferred Design Alternative (Agency’s Preferred and Environmentally Preferred Alternative)

Alternative 2 proposes to transform the reclaimed mining site into a memorial landscape based upon the selected design from the international design competition as adopted by the Partners. This alternative would involve full development of the site and implement the selected design, which would include construction

of an 8,000-square-foot visitor facility. Access to the site would be provided by construction of a new entrance directly from U.S. Route 30. With development of this alternative, visitation to the memorial is expected to peak at about 400,000 visitors during the 10th anniversary (2011) of the terrorist attacks and stabilize to about 230,000 visitors per year over the long term.

Approximately 14 full-time employees are anticipated to administer, operate and maintain the memorial. Total operating costs are estimated at about \$1 million a year. Alternative 2 proposes acquisition of about 1,355 acres in fee for resource protection and visitor use and another 907 acres for viewshed protection that would ideally be in partnerships with landowners, conservation groups and others land owners through mechanisms such as conservation or scenic easements. Based on 2005 land values, land acquisition costs for Alternative 2 are estimated at \$10 million.

Summary of Alternatives

Selection of Alternative 1 would minimally meet the goals identified in the Mission Statement (see Chapter I). Local volunteers would continue to greet visitors, provide site and resource interpretation, and support minimal maintenance at the Temporary Memorial. Although development costs would be significantly lower than those for Alternative 2, there would be no visitor facilities, no formal interpretive program and no public education or outreach programs. Visitors would continue to experience the site in the open without a visitor facility. In addition, visitors would also be limited to the area where the Temporary Memorial is currently located and would not be permitted to gain closer access to the crash site. Local residents would continue to experience the annoyances and

unsafe conditions of visitors traveling along narrow, local roads.

The cost of improving and upgrading Skyline Road to support buses and additional traffic would be incurred by Stonycreek Township with support from PennDOT. Significant improvements would also be needed to Lambertsville and Buckstown Roads to safely accommodate visitor traffic. The site would be subjected to potential impacts that could be induced by incompatible development adjacent to the site and along the U.S. Route 30 corridor.

Selection of Alternative 2 would more fully meet the goals of the Flight 93 National Memorial’s Mission Statement, as well as the purpose and intent of the *Flight 93 National Memorial Act* by creating a designed memorial landscape. A new visitor facility is proposed under this alternative to provide for interpretive exhibits, public education and outreach, and visitor services. The public would have a broader range of opportunities to learn about the deeds of 40 passengers and crew members and the events that occurred on September 11, 2001. Alternative 2 would provide a venue for visitors to get closer to the crash site and would place a greater emphasis on providing an appropriate setting for the memorial and a more contemplative visitor experience.

Under Alternative 2, visitor-related traffic would no longer access the memorial by use of local roads, such as Lambertsville Road and Buckstown Road. Although the construction costs would be higher to build the memorial features and the related infrastructure than for Alternative 1, they would be shared through a partnership involving the public, the Commonwealth of Pennsylvania, and the Federal Government. A comparison of these costs by alternative is shown in Table ES-1.

Table ES-1: Summary of Estimated Development and Operating Costs for Flight 93 National Memorial by Alternative		
Costs*	Alternative 1 – No Action	Alternative 2 – Preferred Design Alternative
Development Costs** (Memorial Feature, Visitor Center, Utilities, Roads and Parking)	\$450,000	\$44.7 million
Annual Operating Costs (Employees and Operations)	\$750,000	\$1 million
Land Acquisition	\$8 million (657 acres fee; 1,605 acres easements)	\$10 million (1,355 acres fee; 907 acres easements)
* These costs are based on 2005 estimates and represent gross costs for planning and comparison purposes only. Actual costs will be developed through the design development process. Development of any proposed facilities and infrastructure is dependent on the availability of funding.		
** Estimated \$2.1 million cost to upgrade Skyline Road would be borne primarily by Stonycreek Township, with assistance anticipated from the Commonwealth of Pennsylvania. Extensive improvements to Lambertsville and Buckstown Roads would also be necessary.		
Source: National Park Service, 2005.		

SUMMARY OF ENVIRONMENTAL IMPACTS

Numerous technical studies and resource surveys were conducted during the planning process to determine the potential effects of implementing each alternative. Table ES-2 presents the resource categories relevant to Flight

93 National Memorial. Through an evaluation process and agency consultation, impacts on these resources were assessed by alternative. Table ES-2 represents the levels of magnitude by alternative on the specific resources.

Table ES-2: Summary of Impacts by Alternatives, Flight 93 National Memorial		
Impact Category	Alternative 1 – No Action Alternative	Alternative 2 – Preferred Design Alternative*
Natural Resources:		
Geology, Soils & Topography	Negligible	Minor
Vegetation & Wildlife	Minor	Minor
Federally & State Protected Species	Negligible	Minor
Water Resources:		
Wetlands	Negligible	Moderate
Surface Waters & Water Quality	Negligible	Minor
Historic and Cultural Resources	Minor	Minor
Socioeconomic Impacts:	Major	Moderate
Potable Water Supplies and Sewage Containment	Negligible	Minor
Land Uses	Major	Moderate
Transportation	Major	Moderate
Energy Requirements and Conservation Potential	Negligible	Minor
Visual and Aesthetic Resources	Negligible	Moderate
Public Health & Safety	Minor	Moderate
Note: Negligible=No effect or minor effect; Minor=Measurable but with minimal effect to resources; Moderate=Changes to resource conditions but not irreversible or can be mitigated; and Major=Resource conditions are changed irreversibly affected even with mitigation. Source: Compiled by National Park Service, 2006.		

PUBLIC REVIEW AND COMMENT

Formal planning for the memorial was initiated on December 10, 2003, with the publication of a Notice of Intent in the *Federal Register* (68 FR 68947), followed by a series of agency and public scoping meetings that were conducted during 2003-2005. Chapter I includes an overview of the planning and public involvement process. This process culminated in the publication of the Draft GMP/EIS in June 2006 and a 60-day public comment period. On June 16, 2006, a “Notice of Availability” announcing the availability of the Draft Flight 93 National Memorial GMP/EIS was published in the *Federal Register* (71 FR 34964). Comments were accepted on the Draft GMP/EIS until August 15, 2006.

In addition to the formal *Federal Register* announcement, media releases and a newsletter were widely distributed announcing the availability of the document. Broad electronic messaging through email and online through the Flight 93 National Memorial project website was conducted to advise the public and agencies about the availability of the document and the 60-day public comment period. Printed copies of the document were also available upon request.

A public hearing in the format of an open house workshop was conducted on July 20, 2006, at the Shanksville-Stonycreek School in Shanksville,

Pennsylvania. The purpose of the public hearing and public comment period was to provide agencies and the public with an opportunity to submit comments on the technical accuracy and adequacy of the Draft GMP/EIS, and on the alternatives to the proposed action.

Approximately 1,452 comments were received on the Draft GMP/EIS during the 60-day comment period and at the public hearing. No agencies expressed concerns or identified significant impacts that potentially could result from the proposed action. Subsequent to its review, EPA assigned the project a rating of “LO,” which means Lack of Objections and the agency has not identified any potential environmental impacts requiring substantive changes to the preferred alternative. Appendix J summarizes agency and other substantive comments received on the Draft GMP/EIS, as well as summarizes comments unrelated to the NEPA analysis. These comments pertained to personal preferences for or opposed to the design selected for the memorial, general support for or opposition to the project, and a request by a former design competitor to be included in the attribution of the selected design. These comments are included in a separate compendium of comments that may be obtained from the National Park Service upon request.

How to Read This Plan...

This Final General Management Plan/Environmental Impact Statement reflects the collaborative efforts of the “Partners” – the National Park Service, the Flight 93 Advisory Commission, the Families of Flight 93 and the Flight 93 Memorial Task Force. It was developed with the input and assistance of the public and many local, State, and Federal agencies. The plan explores two options to meet the vision embodied in the Flight 93 National Memorial Mission Statement, the mandates of the *Flight 93 National Memorial Act*, and the administrative policies and guidance of the National Park Service. This plan will not only guide development of a new national memorial to honor the passengers and crew members of Flight 93, but it will also prescribe the future management decisions for the memorial during the next 15-20 years.

This plan is divided into six chapters:

Chapter I – Purpose of and Need for Action describes the Federal action and reasons why the General Management Plan (GMP) is being prepared. Chapter I presents the Mission Statement for the Flight 93 National Memorial and explains the fundamental resources of the memorial. This section also describes the planning process and issues that are addressed in the plan.

Chapter II – Alternatives describes the No Action Alternative and the Preferred Design Alternative. The No Action Alternative provides a baseline from which the Preferred Design Alternative can be evaluated. These alternatives are evaluated in terms of how they fulfill the Mission Statement and the intent of the *Flight 93 National Memorial Act*. Resource conditions and opportunities for visitor experiences, as well as levels of development intensity necessary to fulfill that alternative, are presented. The Preferred Design Alternative represents the Federal agency’s preferred alternative and the environmentally preferred alternative.

Chapter III – Affected Environment describes the existing cultural, natural, and socioeconomic resources that could be potentially affected by implementing either alternative.

Chapter IV – Environmental Consequences describes the potential impacts to the memorial’s key resource values that could result from implementing either alternative.

Chapter V – Consultation, Coordination and Compliance describes the public involvement and agency coordination process that occurred during the planning for the memorial. The required compliance mandates are also summarized.

Chapter VI – Preparers, Reviewers and Contributors identifies the National Park Service staff and Partners who contributed to the preparation and review of this plan, the consultants who prepared special studies and supporting documentation, and the other project contributors and reviewers.

References are cited from which background and supporting documentation was obtained.

Appendices provide additional supporting technical data and relevant background material cited throughout the plan.

The Flight 93 National Memorial Draft General Management Plan/Environmental Impact Statement was available for a 60-day public review period from June 16 through August 15, 2006. Comments were received through the online project website, by email and by written correspondence. A public hearing in the form of a public open house was conducted on July 20, 2006, for the purpose of receiving public comment. Appendix J of this document summarizes the public comments received. A separate compendium of comments is available upon request.

During the preparation of the Final General Management Plan/Environmental Impact Statement, minor edits and corrections were made to the document.

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LISTING OF ACRONYMS AND ABBREVIATIONS	
agl	above ground level
AMD	Acid Mine Drainage
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CLI	Cultural Landscapes Inventory
DCNR	Pennsylvania Department of Conservation and Natural Resources
DEM	Digital Elevation Model
DEP	Pennsylvania Department of Environmental Protection
DM	Departmental Manual
DO	Director's Order
DOQQ	Digital Orthophoto Quarter Quadrangles
EIS	Environmental Impact Statement
E.O.	Executive Order
ESA	Endangered Species Act of 1973
Fm	Formation
FR	Federal Register
FWS	U.S. Fish & Wildlife Service
GIS	Geographic Information System
GMP	General Management Plan
gpd	gallons per day
gpm	gallons per minute
Grp	Group
IMPLAN	Impact Analysis for Planning
KOP	Key Observation Point
LOS	Level of Service
NEPA	National Environmental Policy Act of 1969
NPDES	National Pollutant Discharge Elimination System
PBBA	Pennsylvania Breeding Bird Atlas
PBS	PBS Coals, Inc.
PennDOT	Pennsylvania Department of Transportation
P.L.	Public Law
ppm	parts per million
ROD	Record of Decision
rSHS	Residential Statewide Health Standard
SCRIP	Stonycreek – Conemaugh River Improvement Project
SHPO	State Historic Preservation Office(r)
Stat.	Statute
U.S.C.	U.S. Code
vpd	vehicles per day
WRAS	Watershed Restoration Action Strategy

I

CHAPTER I

Purpose of and Need for Action



Chapter I – Purpose of and Need for Action

PROPOSED FEDERAL ACTION

On September 24, 2002, Congress enacted the *Flight 93 National Memorial Act*, (P.L. 107-226), which authorized “a national memorial to commemorate the passengers and crew of Flight 93 who, on September 11, 2001, gave their lives thereby thwarting a planned attack on our Nation’s Capital...”. The Act specifically designated the crash site of Flight 93, located in Stonycreek Township, Somerset County, Pennsylvania, as the site for this national memorial to honor the passengers and crew of Flight 93. The Act also formally designated this site a unit of the national park system, which automatically listed the site in the *National Register of Historic Places* (November 8, 2002).

The proposed Federal action is to establish a programmatic framework in the form of a General Management Plan to accomplish the objectives set forth in the *Flight 93 National Memorial Act*. This General Management Plan complies with all applicable statutory requirements and policies, including the National Environmental Policy Act of 1969, the National Historic Preservation Act, and 16 U.S.C. 1a-7(b) and addresses the following issues:

- The types of management actions required for the preservation of park resources;
- The types and general intensities of development (including visitor circulation and transportation patterns, systems, and modes) associated with public enjoyment and use of the area, including general locations, timing of implementation and anticipated costs;
- Visitor carrying capacities and implementation commitments for all areas of the park; and
- Potential modifications to the external boundaries of the park, if any, and the reasons for the proposed changes.

THE PURPOSE OF THE ACTION

In addition to the mandates set forth in the *Flight 93 National Memorial Act* and in 16 U.S.C. 1a-7(b), there are two broad purposes for the General Management Plan. The first is to ensure that the Partners—the Flight 93 Advisory Commission, the Families of Flight 93, the Flight 93 Memorial Task Force, and the National Park Service—as well as the public, have a clear understanding of the types of resource conditions, visitor experiences and management actions

that will best fulfill the mission of the Flight 93 National Memorial. The second is to ensure that the basic foundation for decision-making has been developed with the Partners and other interested stakeholders and adopted by the National Park Service after an adequate analysis of the alternatives, benefits, environmental impacts and economic costs and benefits of alternative courses of action has been conducted.

THE NEED FOR THE ACTION

The need for this action is to develop a programmatic framework to guide the National Park Service and the Partners during the creation and long-term administration of the new Flight 93 National Memorial. This framework, which is in the form of a General Management Plan, provides direction and guidance to the National Park Service for protecting the Memorial’s resource values and maintaining the tranquil setting of the crash site. The planning process offers the public an open opportunity to offer input and to formally participate in this process.

The Partners conducted an open international design competition to produce a design for the national memorial. The selected design was approved by the Partners and formally adopted by the Flight 93 Advisory Commission and publicly announced on September 7, 2005. It serves as the Preferred Design Alternative in this plan and is described in Chapter II, Alternative 2. This alternative also represents the agency’s preferred alternative.

The need for this action is further supported by the existing and projected visitation to the Memorial that is expected to increase from approximately 130,000 in 2004, to a peak of 400,000 in 2011—the 10th anniversary of the September 11th attacks—and to a level of about 230,000 visitors throughout the remainder of the 20-year planning horizon.

This action fulfills the authorities and responsibilities extended to the Secretary of the Interior and the National Park Service by Congress. Specifically, Congress has authorized the National Park Service, through the Secretary of the Interior, to—

1. assist the Flight 93 Advisory Commission in providing information on and interpretation of the site, conduct oral history interviews, provide advice on collections, storage and archives;

The General Management Plan will guide and direct development of the Flight 93 National Memorial for the next 15-20 years.



Entrance to Flight 93 Temporary Memorial (NPS 2003)

2. assist the Commission in conducting public meetings and forums;
3. provide project management assistance to the Commission for the planning, design and construction of the Memorial;
4. provide programming and design assistance to the Commission for possible memorial exhibits, collections, or activities;
5. provide staff support to the Commission and the Flight 93 Task Force;
6. participate in the formulation of plans for the design of the Memorial, to accept funds raised by the Commission for construction of the Memorial and to construct the Memorial;
7. acquire from willing sellers the land or interest in the land for the Memorial site by donation, purchase with donated or appropriated funds, or exchange; and
8. administer the Flight 93 National Memorial as a unit of the national park system in accordance with applicable laws and policies.

KEY DECISIONS

As the planning process unfolded and meetings were held with the public and public agencies, it was apparent to the Partners that several key decisions were needed to guide development and administration of the national memorial. These decisions involved answering the following questions:

- *Why are the actions taken by the passengers and crew onboard Flight 93 important to the nation? What about this site is significant? What is important for visitors to learn from a visit to the national memorial?* To provide the initial answers to these questions, the Partners developed a Mission Statement. The Mission Statement serves as the foundation for the design competition and the General Management Plan and is presented later in this chapter.
- *What resources are fundamental for preserving, protecting, and understanding the story of Flight 93? How should other existing resources at the site be treated?* The National Park Service and the other Partners studied and evaluated the resources at the site. A list of Fundamental Resources appears later in this chapter. These resources are critical for understanding the Flight 93 story and can not be compromised. Other resources at the site are described in Chapter III.
- *What lands should be included within the national memorial boundary to ensure key resources are protected, necessary visitor facilities and access are provided, and an appropriate setting is provided?* The National Park Service, the Partners and a team of specialists toured the site, initiated various studies, discussed potential commercial and tourism-related development pressures, and conducted extensive computer viewshed modeling. These efforts lead to a boundary recommendation that was adopted by the Secretary of the Interior on January 14, 2005. An overview of the process (Figure I-1) and a boundary map (Figure I-2) appear later in this chapter.
- *How will the need for and the design of a “memorial feature” and all facilities at the national memorial be determined?* The Partners agreed that an open design competition would be the most democratic, inclusive and transparent way to collect ideas on the design for the Memorial and to develop a master plan for the site. The public would have an opportunity to enter the competition and share their opinions throughout the process before a selected design was announced. The selected design is presented as the Preferred Design Alternative in this General Management Plan/Environmental Impact Statement and is studied equally with a No Action Alternative. Descriptions of the No Action Alternative and the Preferred Design Alternative are presented in Chapter II.
- *What resource conditions, types of visitor experiences and levels and types of visitor use are desired and consistent with the Mission Statement?* The No Action Alternative and the Preferred Design Alternative are described in Chapter II. Each alternative description includes a management zoning map and a corresponding description of the desired resource conditions, intended visitor experience, and types and intensities of visitor uses.
- *How will development of the memorial be funded?* This plan includes a description of the costs associated with each alternative. An overall project budget was developed through extensive computer modeling, meetings with Federal and State officials, and a fundraising feasibility study. The overall project costs will be provided by the private sector, the Commonwealth of Pennsylvania and the Federal government. The relationship of this plan to the overall project budget and fundraising effort is explained later in this chapter.

THE FLIGHT 93 NATIONAL MEMORIAL ACT

In the days and weeks following the crash of Flight 93, exhaustive investigations into the crash occurred. During the autumn of 2001, the crater caused by the crash was backfilled and the area was planted with grass and wildflowers. A Temporary Memorial was created overlooking the crash site to accommodate the impromptu gathering of thousands of visitors wishing to memorialize and commemorate the actions of the passengers and crew of Flight 93.

At the same time, county and regional leaders, members of the local community, the families of the passengers and crew of Flight 93, and representatives from the National Park Service began to realize the importance of the crash site as a place of honor and for the need to protect it and to accommodate the overwhelming public visitation to the site. Within six months of the tragic event, Federal legislation was introduced to create a new national memorial honoring the passengers and crew of Flight 93.

On September 24, 2002, Congress enacted the *Flight 93 National Memorial Act* (Public Law 107-226, 116 Stat. 1345). The Act authorized “a national memorial to commemorate the passengers and crew of Flight 93 who, on September 11, 2001, courageously gave their lives thereby thwarting a planned attack on our Nation’s Capital...”. This legislation created the Flight 93 National Memorial and specifically designated the crash site of Flight 93, located in Stonycreek Township, Somerset County, Pennsylvania, as the site to honor the passengers and crew of Flight 93. The Secretary of the Interior is authorized by the Act to administer the Memorial as a unit of the national park system.

The purposes of the *Flight 93 National Memorial Act* are to—

- Establish a national memorial to honor the passengers and crew of United Airlines Flight 93 of September 11, 2001.
- Establish the Flight 93 Advisory Commission to assist with consideration and formulation of plans for a permanent memorial to the passengers and crew of Flight 93, including its nature, design, and construction.
- Authorize the Secretary of the Interior to coordinate and facilitate the activities of the Flight 93 Advisory Commission, provide technical and financial assistance to the Flight 93 Task Force, and to administer a Flight 93 memorial.

THE PARTNERS

Four Partner organizations are overseeing the planning, design and construction of a permanent memorial for Flight 93. These Partners are 1) the Flight 93 Advisory Commission, 2) the Families of Flight 93, 3) the Flight 93 Memorial Task Force, and 4) the National Park Service. Brief descriptions of the roles of these Partners are presented in the following discussion.

Flight 93 Advisory Commission

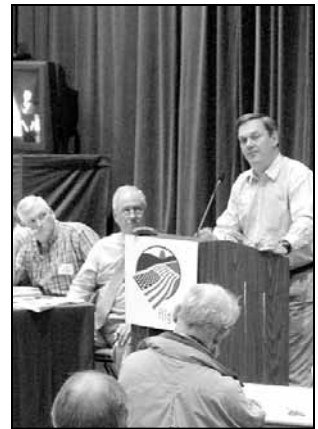
Pursuant to the *Flight 93 National Memorial Act* (P.L. 107-226), the *Flight 93 Advisory Commission* was established and directed to prepare “a report containing recommendations for the planning, design, construction and long-term management of a permanent memorial at the crash site.” Specifically, the Advisory Commission is required to—

1. submit by September 24, 2005, a report to the Secretary of the Interior and Congress containing recommendations on the planning, design, construction and long-term management of a permanent memorial at the crash site.
2. advise the Secretary on the boundaries of the memorial site.
3. advise the Secretary in the development of a management plan for the memorial site.
4. consult and coordinate closely with the Flight 93 Task Force, the Commonwealth of Pennsylvania, and other interested parties, as appropriate, to support and not supplant the efforts of the Flight 93 Task Force on and before the date of the enactment of this Act to commemorate Flight 93.
5. provide significant opportunities for public participation in the planning and design of the Memorial.

On September 11, 2003, 15 members of the Flight 93 Advisory Commission (Commission) were sworn in by the Secretary of the Interior. The members of the Commission, selected by a Nominating Committee of the Flight 93 Memorial Task Force, are family members, local residents, and local and national leaders. The designee for the Director of the National Park Service also serves on the Commission. The Commission, which meets quarterly, held its first meeting on November 14, 2003.

Families of Flight 93, Inc.

The Families of Flight 93, Inc. (Families of Flight 93) is a certified 501(c)(3) nonprofit organization comprised of relatives of the passengers and crew of Flight 93. The purpose of the organization is to assist in developing and sustaining a



Flight 93 Memorial Task Force Workshop (NPS 2003)

The planning and design process grounds decisions in a Mission Statement that was created by the Partners and the public.

permanent memorial to the passengers and crew of Flight 93. The organization is led by a 15-member Board of Directors.

Flight 93 Memorial Task Force

The Flight 93 Memorial Task Force is a broad-based working group, composed of more than 80 family members, local residents, first responders, educators, local business leaders and government representatives. Task Force members came together in the months after September 11th as the families and the community sought ways to deal with the crash and commemorate the acts of the passengers and crew aboard Flight 93. The Task Force is structured into committees that serve as the operational arm of the Flight 93 Advisory Commission.

National Park Service

The National Park Service is the Federal agency responsible for overseeing and managing the planning, design and construction of the Flight 93 National Memorial. As the Memorial's long-term steward, the National Park Service is responsible for administering the Memorial as a unit within the national park system. In the fall of 2003, the National Park Service established the Flight 93 National Memorial project office at 109 West Main Street, Suite 104, Somerset, Pennsylvania 15501-2035. The office serves as the headquarters for the Memorial, as well as the combined offices for the Partners of Flight 93.

THE PLANNING PROCESS

In the authorizing legislation, Congress formally established the Flight 93 National Memorial, thereby creating one of the newest additions to the national park system. The National Park Service is the lead public agency responsible for the planning, design and construction of the national memorial. In the summer of 2003, the Partners agreed to a process (Figure I-1) for developing the mandates of the Act. This process ensures that the Partners are involved in the decision-making throughout the project and that all mandates for planning a new unit of the national park system are met.

The planning and design process grounds development and management decisions for the Memorial in the Mission Statement. This process also guided the design competition and this management plan to produce an open design competition, and consistent and well-informed decisions for the future of the Memorial. The process offers transparency and provides local residents, the public and

government agencies opportunities to actively participate in the establishment of the national memorial.

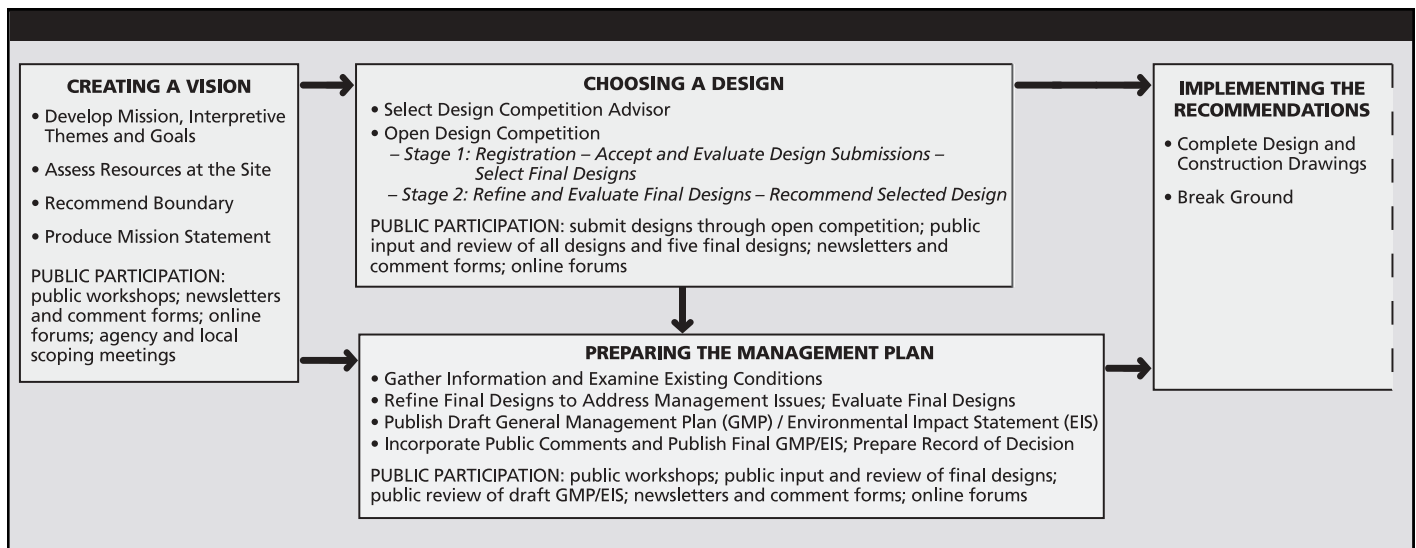
Development of a programmatic framework in the form of a General Management Plan is a major Federal action with long-term management implications for a unit of the national park system. Therefore, compliance with the National Environmental Policy Act (NEPA), Section 106 of the National Historic Preservation Act and other pertinent Federal statutes and policies, is required¹. The NEPA process and consultation with the State Historic Preservation Officer is integrated into general management planning to support better decision-making. The integrated process provides a formal way to involve the public throughout the project, ensures consideration of all reasonable alternatives, and discloses benefits and potential consequences of implementing the plan. General Management Plan/Environmental Impact Statements are the tools used by the National Park Service to guide the future of all units within the national park system.

The plan has been created through an interdisciplinary approach involving partners; other relevant offices within the National Park Service; other Federal, State and local agencies; multidisciplinary resource specialists; and design professionals. The General Management Plan is based on full and proper use of scientific information related to existing and potential resource conditions, visitor experiences, environmental impacts and relative costs of alternative courses of action. The plan is also prepared with information and ideas received from the general public.

General Management Plans are required for all units of the national park system. Each plan must meet all statutory requirements contained in 16 U.S.C. 1a-7(b) and must address the following components:

- The types of management actions required for the preservation of park resources;
- The types and general intensities of development (including visitor circulation and transportation patterns, systems and alternative modes) associated with public enjoyment and use of the area, including general locations, timing of implementation and anticipated costs;
- Visitor carrying capacities and implementation commitments for all areas of the park; and

¹A complete description of other applicable laws and policies can be found in Appendix A.



- Potential modifications to the external boundaries of the park, if any, and the reasons for the proposed changes.

To inform and support the recommendations developed in this plan, the National Park Service and the Partners conducted the following studies: visual analysis, transportation and traffic study, Phase I Environmental Site Assessment, preliminary geotechnical study, visitation projections, water supply and sewerage feasibility study, collections and archives assessment, natural resource surveys, cultural landscape inventory, fundraising feasibility study, an economic impact analysis, oral histories, archeological survey and mining history.

General Management Plans include maps for each alternative that delineate management zones prescribing different treatments and functions for each area of the park. In this General Management Plan, both the No Action Alternative and the Preferred Design Alternative include a map of the management zones and a description of the desired resource conditions, desired visitor experiences and intended uses for each zone. Existing conditions and proposed development within these zones are evaluated in Chapter II-Alternatives.

As an integral part of the General Management Plan and NEPA process, the National Park Service is required to evaluate a reasonable range of alternatives through preparation of an Environmental Impact Statement. As a companion to this General Management Plan, the Environmental Impact Statement assesses the potential effects of creating a designed memorial landscape on the natural environment and on the local communities. The purpose of and need for the Federal action is articulated; alternative concepts are evaluated; the affected natural,

cultural and socioeconomic resources are described; and the potential consequences of each alternative are evaluated. Agency and public input into the planning process is summarized and measures to avoid or minimize adverse effects are recommended.

Full public disclosure of the information collected, the evaluations and findings of these effects, and the input from all parties are presented in this document. The public will have a 45-day period to review and submit comments on the draft Environmental Impact Statement, as well as present comments at an open public meeting and online. All comments will be considered in the final General Management Plan/Environmental Impact Statement. The process will conclude with the signing of a Record of Decision by the Regional Director, Northeast Region of the National Park Service.

ESTABLISHING A BOUNDARY

Determining the boundary for the Flight 93 National Memorial involved resource and viewshed studies, as well as public input. The Partners created a Resource Assessment Committee of the Task Force to offer recommendations to the Advisory Commission. This committee was comprised of community residents, local officials, National Park Service staff, and representatives from the Partners. The committee toured the site and initiated numerous studies by natural and cultural resource specialists, economists, planners and engineers to better understand the resources from the crash as well as the surrounding landscape. Extensive computer modeling was also done to define views that would be important to providing an appropriate setting for the national memorial. After considering all the information, the Partners

Figure I-1: Flight 93 National Memorial Planning and Design Process

Source: National Park Service, January 2006.

The approved boundary for the Flight 93 National Memorial provides for protection of the crash site and the setting for the memorial. It also allows for visitors to enter the site directly from U.S. Route 30 so visitor traffic on rural roads and surrounding villages is reduced.

concluded that the boundary should include the following lands and resources:

- 1) the crash site, the adjacent debris field, and the areas where human remains were found;
- 2) the immediate lands from which visitors could view the crash site, as well as areas necessary for visitor access and facilities; and
- 3) lands necessary to provide an appropriate setting for the Memorial.

The total area within the boundary is approximately 2,200 acres, of which approximately 1,355 acres include the crash site, the areas where human remains were found, the debris field, and lands necessary for viewing the national memorial. These lands would also allow for safe visitor access to and from the Memorial via U.S. Route 30 and would reduce memorial traffic on the local rural roadways. When acquired, these lands would be owned and managed by the Federal government. Approximately 907 additional acres comprise the perimeter viewshed. The viewshed would ideally remain in private ownership and be protected through the acquisition of conservation or scenic easements by partners or other governmental agencies.

As a result of collaborative efforts among all parties, the Flight 93 Advisory Commission signed Resolution 0401 recommending a boundary for the new national memorial on July 30, 2004. Figure I-2 displays the Flight 93 National Memorial boundary that was approved by the Secretary of the Interior on January 14, 2005.

All land within the national memorial boundary is in private ownership as of the public release of this draft plan. Any recommendations in this plan for development or resource protection actions by the National Park Service assume Federal ownership of any affected lands.

RELATIONSHIP OF THIS PLAN TO THE FLIGHT 93 NATIONAL MEMORIAL DESIGN COMPETITION

In the spring of 2004, the Partners hired professional design competition advisors to help develop and administer the international design competition. The Partners agreed that a design competition open to everyone would be the most inclusive and democratic way to create a national memorial. The Partners collectively sponsored the Flight 93 National Memorial International Design Competition with financial support from the Heinz Endowments and the John S. and James L. Knight Foundation.

The design competition was conducted in two stages. Stage I, which began on September 11, 2004, was open to design professionals as well as to the public. All registered participants received a competition manual that presented the Memorial's Mission Statement and explained the initial design program. The competition manual provided a description of the site and its environs, a community profile and the history of the area. Site and resource maps were included.

The competition guidelines challenged the competitors to present design concepts for a "memorial expression" that portrays the issues, ideas, and spirit and intent of the Mission Statement. The "memorial expression" could range from an individual artwork piece to a larger landscape treatment. All competitors were requested to consider the following themes, which represented the Partners' objectives:

- Honor the heroes of Flight 93—the 40 passengers and crew who on one September morning changed the course of history...;
- Contribute to the dialogue of what a national memorial should be...;
- Conceive a message that will reflect on the event that occurred on September 11, 2001, and be timeless in its power and conviction....

The intent of Stage I was to provide a range of design concepts for the national memorial. In October, November, and December of 2004, registered competitors were given an opportunity to tour the site with the competition advisors and Partners. A photographic version of the site tour was posted on the project website and all registered competitors were given a compact disk with a video tour of the site and the local community. A formal question and answer period was also available with the questions and responses posted on the project website for all participants to view.

On January 11, 2005, the Stage I designs were submitted. All Stage I submittals were submitted anonymously as a concept on a single board. More than 1,000 entries were received from throughout the world. All entries that complied with the competition guidelines were exhibited in Somerset, Pennsylvania and were photographed and posted on the project website. Visitors to the exhibition and the website could comment on the designs. The exhibit provided family members, the Partners and the public with an opportunity to view the thoughtfulness, creativity, and commitment of the designers. All the design submittals were included in the national memorial's permanent collection.

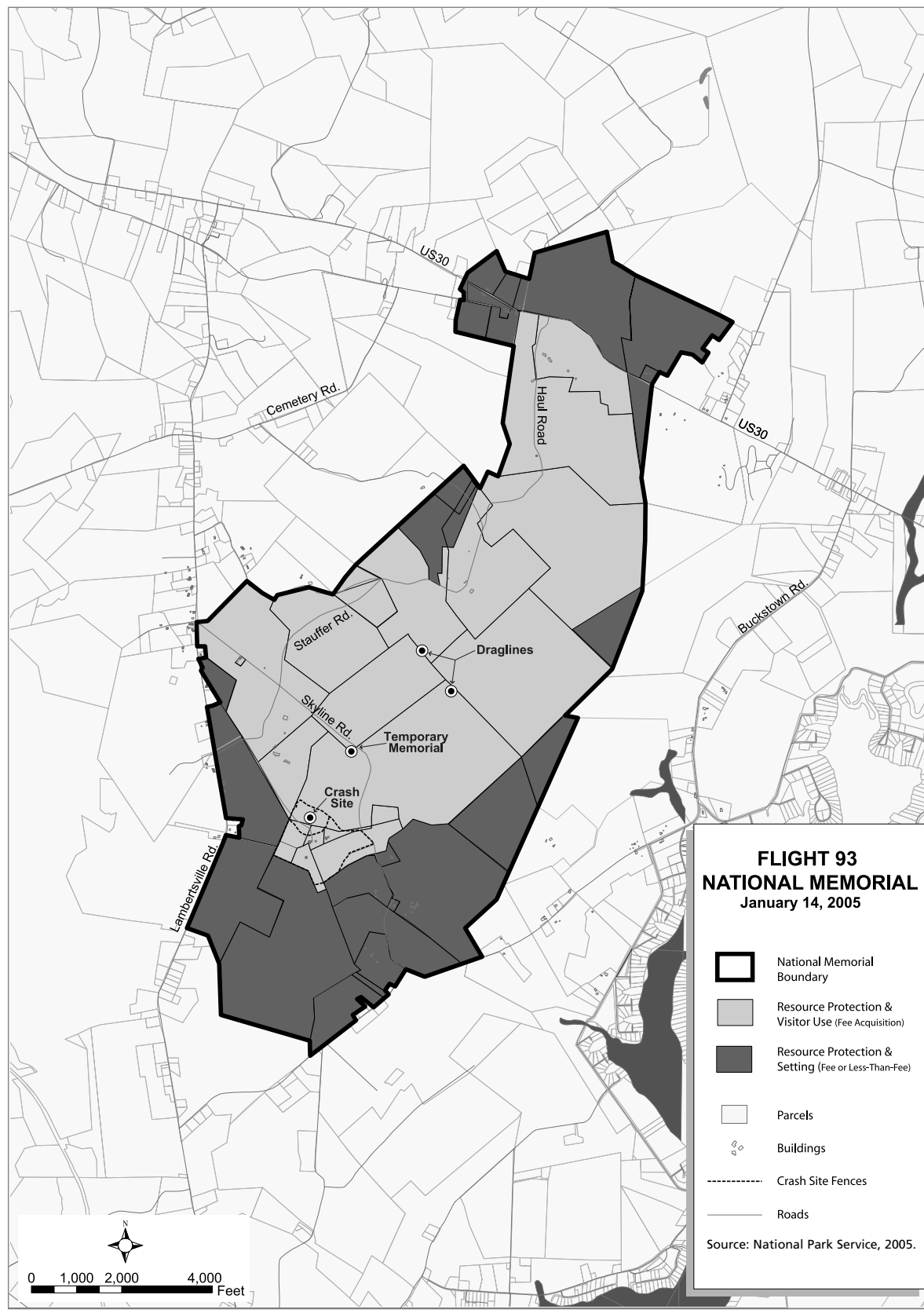
Figure I-2: Flight 93 National Memorial Boundary

Flight 93 National Memorial
Somerset, PA

National Park Service
U.S. Department of the Interior



Boundary



The Partners agreed that an open international design competition would be the most inclusive, transparent, and democratic way to create a national memorial to the passengers and crew of Flight 93.

An independent jury, comprised of nine design professionals, family members, and national leaders (and one family member who served as a recorder and alternate), evaluated all Stage I entries. The jury reviewed the public comments, discussed the merits of the design concepts and sought entries that best embodied the spirit of the Mission Statement and an understanding of the landscape. The jury recommended five finalists, who were publicly announced on February 4, 2005, and who advanced to Stage II of the design competition.

In Stage II, the five finalists received an honorarium to refine their Stage I design concepts to a level that fully explained the spatial, material, and symbolic attributes of their concept for the Flight 93 National Memorial. On February 24 and 25, 2005, the five finalists toured the site and participated in a master plan workshop to explore the site's resource conditions, understand potential visitor experiences, and determine a range of actions that would be needed throughout the national memorial site to support their design. The workshop ensured that any of the design concepts could be fully considered as an alternative in the General Management Plan. In April 2005, the finalists met the Partners and participated in a second site visit in which they were given complete access to all areas of the site for several days. Stage II entries were due on June 15, 2005. The designs were exhibited in Somerset, Pennsylvania and on the project website from July 1 through September 25, 2005. The public was given the opportunity to comment on the final designs at the exhibition and through the project website.

During the first week of August 2005, a separate jury reviewed all public comments received to date and evaluated the designs. The Stage II Jury was comprised of 15 members including family members, design and art professionals, and community and national leaders. The jury collaboratively and rigorously examined the designs to determine which one best fulfilled the spirit of the Mission Statement.



Exhibition of Stage I Submittals, Flight 93 National Memorial Design Competition
(Chuck Wagner, 2005)

As prescribed by the competition regulations, the jury's recommendation was forwarded to the Design Oversight Committee, which is comprised of a representative from each of the Partners. The Design Oversight Committee reviewed the recommendation and presented it to the head officials of their respective Partner organizations. On September 7, 2005, all groups associated with this process concurred with the recommendation which was subsequently adopted by the Commission and publicly announced. The selected design, which is reflected in Alternative 2 of this study, represents the Preferred Design Alternative and the agency's Preferred Alternative.

RELATIONSHIP OF THIS PLAN TO OTHER PARTNER EFFORTS

Capital Campaign

The Families of Flight 93, on behalf of the Partners, contracted for a fundraising study to test the feasibility of various fundraising scenarios. The study concluded that it is feasible to raise \$30 million from the private sector toward creation of the Flight 93 National Memorial. The Commonwealth of Pennsylvania has pledged \$10 million towards the development of the Memorial. The remaining facility, infrastructure and land acquisition costs will be provided by the Federal government, the Commonwealth of Pennsylvania and other partners. The Partners subsequently prepared a fundraising plan and launched a capital campaign to raise the necessary funds.

The Families of Flight 93, the National Park Service and the National Park Foundation have created the Flight 93 National Memorial Fund and are entering into a fundraising agreement. The National Park Foundation is a congressionally chartered national nonprofit organization that will serve as the fiduciary agent for the Flight 93 National Memorial Fund.

Land Acquisition Program

As of the public release of this draft plan, all land within the national memorial boundary is in private ownership. Any recommendations in this plan for future development or resource protection conducted or authorized by the National Park Service assume Federal ownership of any affected lands. Through the Flight 93 National Memorial's enabling legislation, the National Park Service is authorized to acquire land for the Memorial from willing sellers or from persons wishing to donate or exchange land. The Conservation Fund, one of the nation's foremost conservation organizations, is

assisting the National Park Service in acquiring land for the Memorial. The National Park Service, the Partners, and The Conservation Fund are focusing their efforts on protecting lands at the crash site and other key areas for resource protection and visitor use (the “Resource Protection & Visitor Use” areas identified in Figure I-2).

All landowners within these areas have agreed to participate in the Federal land acquisition process and several have indicated a willingness to donate portions of their land. In April 2004, The Conservation Fund acquired remaining coal and mineral rights from PBS Coals, Inc. The Consolidation Coal Company has donated 135 acres just north of U.S. Route 30, adjacent to the boundary shown on Figure I-2.

Collections Management Plan

This General Management Plan is being prepared in conjunction with a Collections Management Plan. The Collections Management Plan will evaluate potential alternatives for long-term care, storage, use and display of the collections. All tributes left at the Temporary Memorial, as well as the general archive collection of the Flight 93 National Memorial, are cared for and catalogued by the National Park Service. The Somerset Historical Center originally performed these functions, but the collection and responsibility for care were transferred to the National Park Service in February 2005. All items are processed at the National Park Service project office in Somerset, Pennsylvania, and through a partnership with Somerset County, are shipped to a secure off-site facility for long-term storage.

Under any scenario, the Memorial collections would continue to be stored in an offsite facility, as it is unlikely that funding for an independent collections facility would become available during the life of this plan. The Preferred Alternative addresses the potential location of such a facility should funds become available.

Oral History Program

The Partners are sponsoring an international effort to collect the inclusive story of Flight 93 and its effect on people throughout the nation and around the world. This information will be collected through oral histories and will be available for researchers, interpretation and educational programs at the Memorial and for long-term preservation in the Flight 93 National Memorial archives. The program is managed by the National Park Service curator for the Flight

93 National Memorial with the assistance of volunteers and contract staff.

Archeological Assessment

The National Park Service has entered into an agreement with Indiana University of Pennsylvania to provide an overview of the mining history of the Memorial site and a brief overview of known or potential archeological and cultural resources within the park boundary. This study is scheduled to be completed in 2006.

FOUNDATION FOR PLANNING AND DECISIONMAKING

In accordance with National Park Service planning guidance, the Partners agreed that all development and management decisions should be predicated on the Memorial’s Mission Statement. Through a collaborative process involving several months of workshops, an online forum, and distribution of a project newsletter and public comment form, the Partners drafted a Mission Statement to guide and ground all aspects of the project. The preamble to the Mission Statement is:

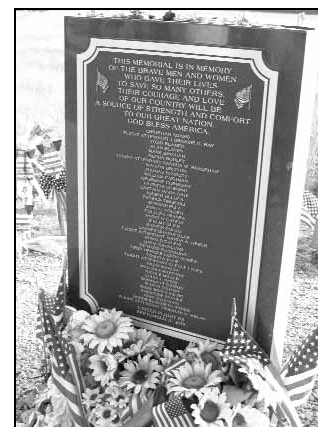
*“A common field one day.
A field of honor forever.”*

May all who visit this place remember the collective acts of courage and sacrifice of the passengers and crew, revere this hallowed ground as the final resting place of those heroes, and reflect on the power of individuals who choose to make a difference.

Mission Statement

The Mission of the Flight 93 National Memorial is to—

1. honor the heroism, courage and enduring sacrifice of the passengers and crew of United Airlines Flight 93;
2. revere this hallowed ground as the final resting place of 40 heroes who sacrificed their lives so that other would be spared;
3. remember and commemorate the events of September 11, 2001;
4. celebrate the lives of the passengers and crew of Flight 93;
5. express the appreciation of a grateful nation forever changed by the events of September 11, 2001;
6. educate visitors about the context of the events of September 11, 2001; and
7. offer a place of comfort, hope and inspiration.



Bronze tablet inscribed with names of passengers and crew members of Flight 93, presented by the Commissioners of Somerset County (NPS 2003)

The Memorial will become a place for all generations to learn about the story of Flight 93 and the events that occurred on September 11, 2001, and to find meaning and inspiration in their experience.

Statement of Purpose

On September 24, 2002, the *Flight 93 National Memorial Act* (P.L. 107-226) was enacted by Congress and signed into law by President George W. Bush, thus creating the Flight 93 National Memorial. The following statements represent shared understandings of the purpose of the Flight 93 National Memorial:

- Honor the passengers and crew members of Flight 93 who courageously gave their lives, thereby thwarting a planned attack on Washington, D.C.
- Allow the public to visit the site and express their feelings about the event and the passengers and crew of Flight 93
- Respect the rural landscape and preserve the solemn and tranquil setting of the crash site of Flight 93

Statement of Significance

The events of September 11, 2001, and the dramatic story of Flight 93 are forever linked to the Pennsylvania field on which the crash occurred. The following statements summarize the significance of this site and explain why it was selected as the site of a national memorial:

- The crash site is the final resting place of the passengers and crew of Flight 93.
- The heroic actions of the passengers and crew of Flight 93 are part of the transformational events of the September 11, 2001, terrorist attacks on the United States.

Preliminary Interpretive Themes

It is important that the Memorial become a place for all generations to learn about the story of Flight 93 and the events that occurred on September 11, 2001, and to find meaning and inspiration in their experience. The preliminary interpretive themes should facilitate media and programs that inspire personal reflection and national introspection, as well as educate the nation about the story of Flight 93 and the national tragedy that occurred on September 11, 2001. The preliminary themes outlined in this section serve only as a starting point for the Memorial interpretive programs, and will be more fully developed as we as a nation gain greater perspective into the tragedy. In the future, interpretive media and programs will be developed around the key stories and ideas that explain the significance of the Memorial and help to place the Memorial in its national and global contexts. The preliminary interpretive themes for the Memorial are as follows:

1. Flight 93 was the only hijacked plane on September 11 that failed to hit its intended target. The crash of Flight 93, only 20 minutes by air from Washington, DC, was the direct result of the actions of the passengers and crew who gave their lives to prevent a larger disaster at the center of American government.
2. The events of September 11, 2001, revealed the extraordinary bravery of ordinary men and women who, when challenged, responded with spontaneous leadership and collective acts of courage, sacrifice and heroism.
3. The first responders, the community and those individuals and organizations that provided assistance in the recovery and investigation demonstrated compassion and exemplary service.
4. Knowledge of the events surrounding September 11 contributes to a realization of the impact of intolerance, hatred and violence.
5. The public reaction to the events of September 11, including the actions of the passengers and crew of Flight 93, led to a strong sense of pride and patriotism and an affirmation of the value of human life.

FUNDAMENTAL RESOURCES

To ensure the site is protected and the story of Flight 93 can be told to future generations, the National Park Service and the Partners identified those essential qualities and resources at the site that cannot be compromised. These resources (Table I-1) and values do not represent everything that is important or interesting about the site, but are critical for achieving the purpose and fulfilling the mission of the Memorial. These fundamental resources and values will help ensure that resource management is focused on the most significant values of the Memorial. Other resources are discussed in Chapter III-Affected Environment.

SPECIAL MANDATES

Through enactment of the *Flight 93 National Memorial Act*, Congress directly established a national memorial at the crash site of United Airlines Flight 93 in Stonycreek Township, Somerset County, Pennsylvania, to honor the passengers and crew² of Flight 93, and designated the Secretary of the Interior as administrator of the Memorial. This mandate superseded the National Park Service's standard procedures for evaluating the site's national significance and its suitability and feasibility before including the site into the national park system.

²For purposes of the Act, the terrorists onboard Flight 93 are not counted as passengers or crew of the flight.

Table I-1 Flight 93 National Memorial Fundamental Resources and Values

Fundamental Resource	Analysis and Guiding Principles
Crash Site	Importance: This area encompasses the crash site of Flight 93. Debris from the plane and human remains were found in this area and in the adjacent hemlock grove. All of the passengers and crew were identified from DNA recovered from the crash site, but due to the force of the impact and explosion, most of the human remains could not be recovered. This site now serves as the final resting place for the 40 passengers and crew members of Flight 93. After August 1, 2005, the crash site and adjacent hemlock grove were officially released from the auspices of the County Coroner and returned to the respective landowners. Security continues to be provided through an agreement among Somerset County, the National Park Service and the landowners. On November 8, 2002, the crash site was listed in the National Register of Historic Places.
	Current State and Related Trends: Two fences were erected around this area. An inner fence encompassing about 17 acres was first erected to protect the immediate crash site during the coroner's investigation. The area of focus was approximately 100 feet x 75 feet deep where the plane crashed. The Coroner had the crater at the crash site filled and the area covered with topsoil and planted with a grass and wildflower mixture in Fall 2001. The second fence encompasses about 70 acres and extends into the hemlock grove and includes the debris field and areas where human remains were recovered. This area is also bounded by private property. No land use controls currently exist in Stonycreek Township to protect this property. The reverent atmosphere of the crash site could be compromised if incompatible development or land uses occurred adjacent to the area.
	Potential Future Threats: Somerset County Sheriff's Deputies currently protect the area from unauthorized visitors. As this site is the final resting place of the passengers and crew, the public is not allowed access to this area. This area is very sensitive and will require continued security measures to limit unauthorized access.
	Stakeholder Interest: Only the families of the passengers and crew of Flight 93 and authorized National Park Service staff have access to the crash site. The Partners have agreed to maintain the privacy of this area and to restrict its usage to family members and authorized staff. No public access is expected to be allowed in this area during this planning period.
	Laws and Policy Guidance: After August 1, 2005, the crash site and adjacent hemlock grove were released from the auspices of the County Coroner and returned to the respective landowners. Security is provided through an agreement among Somerset County, the National Park Service, and the landowner.
	General Management Plan Issues: Security at the crash site and protection of privacy at the sacred ground are the most immediate issues. Providing an appropriate setting for viewing and visiting the crash site, given the absence of local land use controls, is an important issue in the plan. Future issues involve natural changes that could potentially occur at the crash site as well as requests for public access. Memorial plantings and placement of tributes are other General Management Plan-level issues.
Hemlock Grove	Importance: A grove of hemlocks is located to the south adjacent to the crash site. A portion of the grove was destroyed by the fire and impact of the crash. Trees in this area were removed and chipped, and the chips are found in a pile in this area. The recovery team found debris from the plane, human remains and personal articles in the hemlock grove. All of the passengers and crew were identified from DNA recovered from the crash site, but due to the impact and explosion, most of the human remains could not be recovered. After August 1, 2005, the crash site and adjacent hemlock grove were released from the auspices of the County Coroner and are currently protected through an agreement among Somerset County, the National Park Service, and the respective landowners. Several privately owned seasonal cabins and homes are located in the hemlock grove. Several structures sustained damage from the crash, including the ashlar stone home that sustained sufficient damage to render it uninhabitable.
	Current State and Related Trends: The National Park Service and Western Pennsylvania Conservancy resource professionals examined the hemlock grove and found the stand to be healthy and void of the hemlock woolly adelgid. The security fencing has limited browsing by white tail deer. However, some of the hemlocks have fallen due to natural causes, such as wind and weather, and due to their naturally shallow root system. The burning and removal of the damaged hemlocks resulted in exposing many interior trees directly to the wind and elements. The area is also currently bounded by private property. No land use controls currently exist in Stonycreek Township and a private hunting preserve recently opened adjacent to the hemlock grove. The reverent atmosphere of the crash site and potential safety of visitors could be compromised by incompatible development or uses adjacent to the area.
	Potential Future Threats: Eastern hemlocks are especially sensitive to one or more pests or diseases that can affect tree health or aesthetics. The most serious threat is from the hemlock woolly adelgid, which has devastated hemlocks along the eastern United States. Other pests known to strike hemlocks include scales, weevils, bagworm, mites and sapsucker woodpeckers. Hemlocks are prone to needle rust, cankers, and non-parasitic bark splitting on heavy and poorly drained soil. High winds and heavy snowfalls contribute to the weakening of trees and increased falls, especially along the newly established edges of the stand.
	Stakeholder Interest: The hemlock grove is critically important to the families of the passengers and crew as it is part of the final resting place of their loved ones and offers a place of beauty and solace.

Table I-1 Flight 93 National Memorial Fundamental Resources and Values *(continued)*

Fundamental Resource	Analysis and Guiding Principles
Hemlock Grove <i>(continued)</i>	Law and Policy Guidance: After August 1, 2005, the crash site and adjacent hemlock grove were released from the auspices of the County Coroner. The protective fencing remains and security is provided through an agreement with the local landowners. The hemlock is the State tree of Pennsylvania, but it is not a protected species.
	General Management Plan Issues: Security at the hemlock grove and protection of privacy at the sacred ground are immediate issues. Potential pests and disease of the hemlock grove is a pressing issue. Another General Management Plan issue is providing an appropriate setting for viewing and visiting the crash site, given the absence of local land use controls.
	Assessment of Information: The hemlock grove should be given the highest level of protection not for its natural resource value, but for its importance in containing the remains of the passengers and crew of Flight 93. A management plan should be prepared to specifically address protection of the hemlock grove against future pests and disease.
Viewshed	Importance: The open, rural character of the landscape of the site provides a powerful setting for experiencing the national memorial. This landscape is also important to the story of Flight 93 and the crash of the plane into a rural area.
	Current State and Related Trends: Views from within the national memorial still retain a rural character of open fields and wooded hillsides. Remnants of the site's mining history remain and an industrial recycling and smelting operation exists. Some farmlands in the area are temporarily protected from development through voluntary conservation programs. Limited land use controls exist in the area.
	Potential Future Threats: The lands comprising the viewshed of the national memorial are held in private ownership and have no land use controls. As such, landowners are permitted to develop these lands as they wish. Stonycreek and Shade Townships have agreed to join with Somerset County and other local jurisdictions to participate in a land use planning study for the corridors leading to the national memorial. Stonycreek Township may also study the areas surrounding the national memorial. The surrounding hillsides are particularly vulnerable to the installation of communications towers and wind turbines, and lands adjacent to U.S. Route 30 are susceptible to commercial and tourism-related development.
	Stakeholder Interest: Many landowners in the surrounding areas have expressed interest in protecting the rural lifestyle and the character of these lands, but others are undoubtedly interested in developing their land in ways that could affect the character of the area. The Pennsylvania Game Commission has shown an interest in protecting some of these lands as State gamelands. Regional watershed and conservation organizations have expressed an interest in retaining the rural nature of these lands.
	Law and Policy Guidance: Neither Shade nor Stonycreek Township has zoning or other land use controls to regulate the type and intensity of development that could potentially occur in these areas.
	General Management Plan Issues: Key perimeter viewshed areas were included in the boundary. Development of other lands beyond the boundary could affect the character of the area and the quality of visitor experience.
	Assessment of Information: A visual analysis was conducted from several key visitor locations. Through this analysis, the boundary recommendation included those areas and ridgetops that define views from the site and shape the setting of the national memorial. National Park Service and land trusts have authority to acquire conservation or scenic easements (or other less-than-fee interests) in lands within the boundary from willing sellers or through donations and land exchanges. The National Park Service and the Partners should actively seek others to help protect these lands and should continue to encourage local land use planning initiatives to protect the rural character in the areas surrounding the national memorial and the quality of the visitor experience.



Crash site (OCLP 2003)

SCOPING

Identification of Major Issues

Early in the planning process, the National Park Service and the Partners took several actions to determine the scope of the issues to be addressed in the Environmental Impact Statement. A Notice of Intent to Prepare a General Management Plan and Environmental Impact Statement was published in the Federal Register (68 FR 68947-68948) on December 10, 2003³. The notice announced the National Park Service's intent to prepare an Environmental Impact Statement in conjunction with the preparation of a General Management Plan for the Flight 93 National Memorial. Table I-2 lists the formal meetings that were conducted throughout the planning scoping process for Flight 93 National Memorial. Many briefings for local elected officials, community groups, and local residents were also held.

During the scoping process, several issues were identified by the public as well as other agencies. The following issues identified were:

- Local community and lifestyle impacts, including traffic on local roadways and access to the site, changes to the local tax base and school district tax revenue, and use restrictions, such as hunting and ATV use on the site
- Adjacent development and its impact on the visitor experience and the rural setting for the national memorial
- Development challenges such as the presence of hazardous materials, geotechnical constraints, and the ability to provide adequate potable drinking water and sewerage systems
- Accommodating visitation levels, particularly during commemorations, without affecting the solemn environment and visitor experience
- Noise impacts on the visitor experience from aircraft and other noise generators
- Private Sorber family cemetery located within the boundary and its future protection
- Security and public safety



Visioning workshop (Pennsylvania Environmental Council 2004)

³Pursuant to §1508.22 of the CEQ regulations.

Table I-2: Scoping Meetings Conducted for Flight 93 National Memorial, 2003-2005

Meeting	Date
Flight 93 Task Force	May 11, 2003
Flight 93 Task Force	August 16, 2003
Public Open House	October 10, 2003
Flight 93 Advisory Commission/Task Force	November 14, 2003
Agency Scoping Meeting	December 15, 2003
Flight 93 Advisory Commission/Task Force	February 21, 2004
Stakeholder/Community Meeting	April 15, 2004
Flight 93 Advisory Commission/Task Force	May 14, 2004
Community Visioning Meetings for Memorial*	June 11-12, 2004
Flight 93 Advisory Commission/Task Force	July 30, 2004
Flight 93 Advisory Commission/Task Force	October 22, 2004
Stakeholder/Community Meeting	December 6, 2004
Agency Scoping Meeting	December 9, 2004
Flight 93 Advisory Commission/Task Force	January 15, 2005
Exhibition and Public Comment on the Stage I Designs	January 14-February 21, 2005
Flight 93 Advisory Commission/Task Force	April 16, 2005
Public Open House	May 12, 2005
Exhibition and Public Comment on Final Designs (Alternatives)	July 1-September 25, 2005

*Pennsylvania Environmental Council, Somerset County Planning Commission and National Park Service sponsored.

Source: NPS, March 2005.

This document will evaluate the impacts of implementing the proposal on the cultural, natural, and socioeconomic environs.

The following issues were dismissed from further consideration. Although they may represent issues of concern by the National Park Service and the Partners, they do not directly relate to the proposed action in this plan.

- **Treatment of Acid Mine Drainage.** Several passive and active treatment operations exist within the national memorial boundary. Even though some of these lands will be acquired by the National Park Service, responsibility for treatment of mine drainage from previous operations rests with the coal companies as monitored by the Commonwealth of Pennsylvania, Department of Environmental Protection.
- **Regional Watershed Planning.** While the National Park Service and the Partners support efforts to improve regional water quality, it is beyond the scope of this plan to propose actions to address these issues beyond the boundary of the national memorial or the authority or responsibility of the National Park Service. However, the National Park Service supports and would participate in regional watershed planning.
- **Environmental Remediation of Contaminated Sites.** This plan does not propose specific remediation actions for any contaminated sites on properties within the national memorial. As part of the Federal land acquisition process, any environmental remediation must occur prior to Federal ownership of the property. Environmental site assessments have been conducted and close coordination with the National Park Service realty staff has occurred to ensure there were no contaminants issues significant enough to preclude Federal ownership of a property within the boundary.

IMPACT TOPICS

Impacts on resources protected by Federal and State laws, such as cultural and natural resources, as well as direct and indirect effects to the socioeconomic conditions in the surrounding communities, will be evaluated. Other factors that may affect the park's resources will also be assessed. Cumulative effects, involving past, present and reasonably foreseeable future actions beyond the scope of this action, will also be identified. Measures to mitigate and minimize any adverse effects will be recommended. Impacts that will be evaluated by alternative are—

- Natural Resources
- Historic and Cultural Resources

- Socioeconomic Impacts
- Land Uses
- Transportation
- Energy Requirements and Conservation Potential
- Visual and Aesthetic Resources
- Public Health and Safety

RELATIONSHIP TO PLANS, PROJECTS AND OTHER ACTIVITIES

Preparation of this plan was closely coordinated with many other efforts in the region. The National Park Service and the Partners have been working closely with many agencies and local officials and citizens to stay informed of these projects. A listing of these efforts is provided in **Appendix C**. The projects that most directly affect the creation of the national memorial are listed below.

Somerset County Comprehensive Plan Update

In July 2003, the Somerset County Planning Commission published a draft county comprehensive plan update. This plan summarizes 10 key initiatives proposed to spur new economic opportunities and enhance the quality of life. Initiative #7 sets forth a goal “to ensure that new development conserves and maintains the positive character qualities of the county and its landscape and to provide for growth which is consistent with infrastructure investments.” The final County comprehensive plan is expected to be published in 2006.

Flight 93 National Memorial Area Corridor Planning Study

The Somerset County Commissioners, in conjunction with several local jurisdictions, are preparing a planning study of the corridors leading to the Flight 93 National Memorial. In January 2005, the following jurisdictions passed a resolution agreeing to participate in the corridor planning study: Somerset Borough and Jenner, Shade, Somerset and Stonycreek Townships. The study is being funded through grants from the Commonwealth of Pennsylvania and supported by the National Park Service and the Pennsylvania Environmental Council. The study will begin in the Spring of 2006 and is expected to be completed within one year. The study will evaluate portions of Routes 281, 219, 601 and U.S. Route 30 as these routes relate to the national memorial, and will assess the potential for residential, commercial and other development

along these corridors. The corridor planning study will—⁴

- Identify options to preserve the existing rural features along the future corridor, while encouraging economic development;
- Understand the needs and desires of local landowners and business owners;
- Determine the potential for new growth, including what it may be and where it could be located;
- Give options to local officials as to managing new growth and development within the corridor area, including what the new development would include;
- Consider ways in which municipalities and the county can work with each other to address common planning and development options; and
- Identify existing historic and natural assets, including corridor landscapes for protection

SUMMARY OF LEGISLATIVE AND POLICY REQUIREMENTS

As the Federal agency responsible for administering a national memorial, National Park Service must comply with certain laws, regulations and policies. The Memorial's enabling legislation, P.L. 107-226, *Flight 93 National Memorial Act*, and a matrix listing applicable Federal and State laws and other mandates and policies are listed in Appendix A.

⁴Pennsylvania Environmental Council and Somerset Co. Planning Commission information from Flight 93 National Memorial Public Open House, May 12, 2005.



View of crash site (NPS 2003)



CHAPTER II

Alternatives



Chapter II – Alternatives

EXPLANATION OF THE ALTERNATIVES PROCESS

This General Management Plan/Environmental Impact Statement evaluates two alternative concepts for the development and future management of the national memorial. Each alternative provides a different approach to honoring the actions of the passengers and crew; protecting and preserving the resources at the site; providing visitor facilities and a compelling experience; and continuing partnerships with the families of the passengers and crew, the local community and the public. A complete description of the Flight 93 National Memorial site is found in Chapter III.

As an integral component of this planning process, the National Park Service is required to explore a reasonable range of alternatives in developing and managing the Flight 93 National Memorial. Under National Park Service policies, the General Management Plan is considered a major Federal action. Preparing an Environmental Impact Statement that evaluates these alternatives is a legal requirement that all Federal agencies must meet, pursuant to the National Environmental Policy Act of 1969 (NEPA), whenever a major Federal action is proposed.

Through the agency and public scoping process (refer to Chapter I), the National Park Service and its partners explored a reasonable range of options for developing the memorial. Some of these options were considered infeasible or were determined to not fully meet the mission of the memorial or the challenges of the site. The alternatives that were considered infeasible were subsequently eliminated from further consideration and are summarized later in this chapter. Five preliminary alternatives – the finalists in the international design competition – were explored in greater detail through the competition. The selected design from the international competition is presented in this plan as the Preferred Design Alternative.

This chapter evaluates the No Action Alternative (existing conditions) and the Preferred Design Alternative. A discussion of actions common to both alternatives is presented, as well as a narrative discussing management zones and a management zoning map for each alternative. Each alternative addresses the following elements required in a General Management Plan—

- An overall management concept.
- Management zoning—decisions about which potential resource conditions and visitor experience opportunities should be emphasized in particular areas of the park.
- Area-specific management prescriptions that describe the desired resource conditions and visitor experience opportunities within each area; the appropriate management practices, proposed development, and visitor uses; and the appropriate actions necessary to achieve desired conditions.
- Boundary modifications – No boundary modifications are proposed for either of the alternatives.
- Projected costs.

PRELIMINARY ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER CONSIDERATION

Memorial on Mall in Washington, DC. When planning began for the Flight 93 National Memorial in 2003, the idea of establishing a memorial on the Mall in Washington, DC, instead of in Pennsylvania was discussed. This idea was not considered further because the Flight 93 National Memorial Act states that a memorial should be developed at the crash site in Somerset County, Pennsylvania, and because this site is the final resting place of the 40 passengers and crew members of Flight 93.

Memorial to Commemorate All Victims of September 11, 2001. The concept of developing a memorial to collectively commemorate the events and all victims of September 11, 2001, was discussed. The Flight 93 National Memorial Act is specific in its authorization to create a national memorial to commemorate the passengers and crew of Flight 93. However, the Partners believe visitors to the Flight 93 National Memorial need to understand the other events that occurred on September 11. They anticipate that interpretive materials and displays would make such connections and complement the presentations at the memorials in New York City and the Pentagon in Arlington, Virginia, both of which had been initiated before planning began for the Flight 93 National Memorial.

International Design Competition Concepts

Through an open International Design Competition process, the Partners offered design professionals and the public an opportunity to

The National Park Service and its Partners joined with the public to explore a range of ideas for creating a fitting tribute to the passengers and crew of Flight 93.

This plan evaluates two alternatives: Alternative 1 – No Action and Alternative 2 – Preferred Design Alternative, which is the selected design from the international design competition.



Exhibition of design concepts in the international competition
(Chuck Wagner 2005)

actively participate in the creation of the memorial by submitting their idea for the Flight 93 National Memorial. A total of 1,011 entries met the mandatory criteria set forth in the competition regulations. These entries were on public display in Somerset, Pennsylvania, and on the project's website for public viewing and comment. The competition entries were evaluated by a Stage I jury, which met on January 24-26, 2005, to review the Partner and public comments, analyze each submittal and determine which concepts best fulfilled the Mission Statement. The jury selected five entries that represented a range of concepts that they determined to have the greatest potential to appropriately interpret the Mission Statement.

In Stage II, the five finalists refined their Stage I design concepts to fully explain the spatial and symbolic attributes of their concept so that any of the submittals could be considered an alternative in this document. On February 24 and 25, 2005, the five finalists toured the site and participated in a master plan workshop to explore the site's resource conditions, understand potential visitor experiences, and determine a range of actions that would be needed throughout the national memorial site to support their designs. In April 2005, the finalists met the Partners and participated in a second site visit in which they were given complete access to all areas of the site for several days.

The deadline for Stage II entries was June 15, 2005. These entries included a model of the entire site and a model of a specific site feature; up to six boards explaining the design; a PowerPoint presentation and a companion document that provided additional information on the design, cost estimates, and a proposed team to execute the design. Each submittal depicted a master plan for the site and an accompanying description of the uses and management actions proposed for five management zones that composed the entire site. The public and the partners were given the opportunity to review and comment on the designs – the preliminary alternatives for this plan – at an exhibit in Somerset, Pennsylvania, and on the project website between July 1 and September 25, 2005.

The Stage II jury evaluated the five final designs during the first week of August 2005. They toured the site and used the Mission Statement, the Stage I Jury Report (2/3/2005), the Stage I Jury Compliance Review Report (7/8/2005) and Partner and public comments as guidelines. The Stage II jury selected the final design by a majority vote. Their recommendation was forwarded

to and approved by the Partners. On September 7, 2005, the selected design for the Flight 93 National Memorial, created by the design team of Paul Murdoch Architects and Nelson Byrd Woltz Landscape Architects, was publicly announced by the Partners.

ALTERNATIVES UNDER CONSIDERATION

This chapter evaluates two alternatives: Alternative 1 – No Action and Alternative 2 – Preferred Design Alternative, which is also the agency's preferred alternative and the environmentally preferred alternative. The No Action Alternative provides a baseline from which change can be measured through comparison and evaluation of the Preferred Design Alternative. *The No Action Alternative does not freeze all activity at the site, rather it assesses how the memorial would be maintained under existing management practices and how the National Park Service would continue to manage the site's resources and visitor use over the next 15-20 years.*

The Stage II Jury found that the design created by the design team of Paul Murdoch Architects and Nelson Byrd Woltz Landscape Architects best embodied the Mission Statement. In their report, the Stage II jury wrote:

There is a dimension along which design succeeds – functionally, interpretively, symbolically. Designs that interpret without needing interpretation have the strongest potential of success. The circular form in this design focuses the visitor in the empty meadow – the elegance of the void.

The design addresses and resolves each step of the visitor experience, from entry to the point of arrival at the bowl. The view of the crash site is first seen in the distance and then is amplified as the visitor gradually descends down the broad pathway to the Sacred Ground. The gentle slope and bridging over multiple ecologic zones provides not only a singular journey but also multiple pathways to the Sacred Ground.

This design best addresses the interface between the public realm of the visitor and private realm of the Sacred Ground while keeping the focus on the content, not on words or imposed symbolism. The design reflects careful consideration of how the place will feel during different seasons and different times of day.

The Tower of Voices begins the journey and the interpretation. The integration of pathways and vehicular movement/parking as part of the design is superior....making the entire memorial accessible and mitigating the effect of automobiles. The symbolic embrace gives a message of collective agreement and heroism.

We have strived to understand why this land has spiritual content; it wasn't that way until it became the crash site. Now it is a cemetery, a place of honor and a transformed site. This design will transform it into another chapter of the story. The design is a simple and beautiful expression that sets the stage for understanding the actions of the 40 passengers and crew members to understand the impact their actions had on history.

ACTIONS COMMON TO BOTH ALTERNATIVES

The following discussion summarizes actions that are common to both alternatives. National Park Service actions and management decisions are guided, in general, by Federal laws and agency policies (see **Appendix A**). Title 36 of the Code of Federal Regulations (36 CFR) governs many allowable uses and activities on federally owned lands within national park sites. The Superintendent's Compendium prepared for this park unit will explain how those regulations pertain specifically to the Flight 93 National Memorial. The actions listed below are not comprehensive of all National Park Service operations and management actions relating to Flight 93 National Memorial, but are of specific importance to the management of the memorial or address questions raised by the public or other agencies during the scoping process.

Management of Flight 93 National Memorial. Congress designated the National Park Service as the agency responsible for administering and managing the Flight 93 National Memorial (sec. 5, Flight 93 National Memorial Act of 2002). As such, under both alternatives, the National Park Service serves as the administrator and managing agency for the memorial. The National Park Service will continue to work in partnership with the Partners including the families of the passengers and crew, as well as the local community.

Access to the Crash Site. Due to the volatility of the crash, most of the human remains from the passengers and crew were never recovered. As a

result, the crash site and adjacent hemlock grove comprise the area that is considered the final resting place for these victims. Access to the crash site for this planning period will be limited to family members and authorized personnel. Any change to this policy will be pursued through a process involving the Partners, the National Park Service, the family members, the community and the public.

Land Acquisition. The National Park Service is in the process of acquiring the core resource lands within the national memorial boundary (refer to Chapter I, Figure I-2). *The Flight 93 National Memorial Act* authorizes the National Park Service to purchase lands from willing sellers or through donations. The official boundary map (Figure I-2) for the national memorial shows two principal areas: 1) resource protection and visitor use areas, which will be protected through fee-simple acquisition by the National Park Service, and 2) resource protection and setting areas, which will be protected in partnership with local landowners, organizations, or agencies through less-than-fee acquisition (i.e., easements), or through fee acquisition where necessary. Acquisition of these properties is dependent on the availability of funds.

For both alternatives, land acquisition will be conducted pursuant to Federal land acquisition laws and regulations with willing sellers or with persons desiring to donate or exchange land or interests in land. The National Park Service will prepare a Land Protection Plan to guide land acquisition and management of fee simple properties, rights-of-way, easements and other less-than-fee acquisitions. Specific land acquisition priorities and related costs are discussed for each alternative later in this chapter.

Contaminants. Carbon dioxide, heavy metals, and lubricants remain from past mining and industrial uses of the site. Under both alternatives, the site will be remediated to Federal environmental and health standards before any land is acquired by the National Park Service. Remediation of the site will focus in key areas where people are expected to walk and congregate. Peripheral areas, such as the buffer zones, will receive less attention.

Draglines and Industrial Mining Structures. Several privately-owned industrial structures and buildings remain on the site from the mining and industrial operations. Two mining draglines, a Marion 7500, manufactured in 1976, and a Marion 7400, manufactured in the 1960s, have been onsite since the mid-1990s. Although



Contrails over the Flight 93 National Memorial (Jason Cohn 2004)



Mining Dragline (Jason Cohn 2004)

Flight 93 was initially believed to have flown over these draglines, information provided by the National Transportation Safety Board later proved that was incorrect. Other industrial structures, including a scrap and recycling facility, welding shops and storage sheds from the mining operations, also are located onsite. The welding shop complex served as the headquarters of the recovery and investigation efforts into Flight 93.

Although the structures and buildings were “witness” to the crash of Flight 93 and are important resources from the site’s past, they did not contribute to or affect the events that occurred on September 11, 2001, and are not central to the mission of the national memorial. The costs to acquire, stabilize, and remove hazardous materials from these structures are significant. The estimated purchase price for the two draglines is approximately \$800,000. A conservator of outdoor industrial equipment estimates that it could cost the National Park Service approximately \$850,000 to stabilize the draglines and provide stable footings. Annual maintenance of the draglines could consume up to 10% of a maintenance person’s time each year and cyclical maintenance and stabilization costs could be \$700,000 and incurred every 15-20 years. These maintenance activities would not involve restoration of the draglines to operation, but would stabilize them as markers on the landscape.

It is likely that some of the mining and industrial structures and equipment will be removed prior acquisition of the properties by the National Park Service. The scrap and recycling operation is currently in operation and will be relocated to a new site to continue its operation. Many of the buildings associated with the mining operation are in very poor condition and the surrounding ground is contaminated from the former mining operations. Most of these structures will be removed as part of reclamation. Several companies have expressed interest in purchasing and retrofitting the draglines and returning them to operation.

The National Park Service does not intend to acquire the draglines or preserve the other mining buildings under either alternative because they are not central to the mission of the national memorial and the acquisition, stabilization, and maintenance costs are prohibitive. The history of the site will be explained to visitors through site markers and interpretive media. The landscape of much of the site will retain vestiges of the site’s mining history, even under the designed memorial landscape proposed in Alternative 2. However, neither alternative

would directly impact the welding shop complex or the draglines. Should the National Park Service determine that these structures are significant to the story of Flight 93 and should funding to acquire and protect these resources become available, they could be retained without disrupting the landscape condition desired under either alternative.

Structures in Hemlock Grove. Four homes are located within the hemlock grove adjacent to the crash site, three of which are seasonal log homes and one is an ashlar stone, year-round residence. Human remains and debris from Flight 93 were found in the hemlock grove. The National Park Service desires to acquire these lands and the associated structures under both alternatives. Due to the inherent sensitivity of this area, the ongoing land negotiations, and the restricted uses of the area, the National Park Service will conduct a more thorough study of appropriate uses of these structures once the memorial design has been completed and the land acquired.

Acid Mine Drainage (AMD). Under both alternatives, the National Park Service will not purchase the subsurface mineral rights where AMD exists. Per State and Federal law, the liability for treatment of such contaminants will remain the responsibility of the generator of the pollution and the respective subsurface mineral owner, which in many cases, is PBS Coals, Inc. The National Park Service will work with property owners, subsurface mineral owners, Pennsylvania Department of Environmental Protection, other agencies local groups to pursue solutions to AMD within the national memorial boundary. The National Park Service will support efforts to improve regional water quality where feasible. Once the land is acquired, the National Park Service will permit authorized staff access to the treatment ponds and facilities to monitor and appropriately treat AMD.

Accessibility. The National Park Service must comply with the requirements of *The Americans with Disabilities Act* and DO-42, *Accessibility for Park Visitors* to ensure that all visitors have access to the park. National Park Service Management Policy 8.2.4 addresses accessibility for persons with disabilities and states that all reasonable efforts will be made to ensure that National Park Service facilities, programs and services are accessible to and usable by all people.

Security. During this planning period, the National Park Service has no plans to install fencing around the entire boundary of the

federally owned portions of the national memorial but may fence certain areas for resource protection or public safety purposes. The National Park Service will not block access to the private property of adjacent landowners or the property of landowners within the national memorial boundary. Security at the crash site is currently provided by deputies from the Somerset County Sheriff's Office and general security is provided by the Pennsylvania State Police and by Shade Township police for those portions of the national memorial that lie north of U.S. Route 30. The National Park Service will have concurrent jurisdiction and will provide safety and security with its visitor protection staff in cooperation with these police forces.

Aircraft Overflights. Aircraft noise and overflights can distract from the intended purpose of and desired visitor conditions at the national memorial. National Park Service Director's Order #47, "Soundscape Preservation and Noise Management," signed by the Director in December 2000, articulates the National Park Service operational policies that protects, maintains or restores the natural soundscape in a condition unimpaired by inappropriate or excessive noise sources.

The Federal Aviation Administration (FAA) is the Federal agency responsible for regulating and restricting airspace. The National Park Service will work with PennDOT, Bureau of Aviation; the Air National Guard; and the FAA to discourage sightseeing tourist flights and military maneuvers over the memorial. Retention of a peaceful and tranquil setting and a contemplative, reflective environment is important to achieving the mission of the Flight 93 National Memorial.

Permissible and Permitted Uses and Activities.

Through the National Park Service Organic Act of 1916 and Chapter 8, National Park Service Management Policies, the National Park Service is committed to providing appropriate, high-quality opportunities for visitors to experience the site and maintain an atmosphere that is open, inviting, and accessible to every segment of society. The National Park Service will—

- provide opportunities for public enjoyment and use that are uniquely suited and appropriate to the natural and cultural resources found at the site; and
- defer to Federal, State and local agencies; private industry; and non-governmental organizations to meet the broader spectrum of recreational needs and demands.

The National Park Service will encourage and permit activities that—

- are appropriate to the purpose for which the memorial was established;
- are inspirational, educational or healthful and otherwise appropriate to the park environment;
- will foster an understanding of, and appreciation for, park resources and values, or will promote enjoyment through a direct association and interaction with or relation to park resources; and
- can be sustained without causing unacceptable impacts to park resources or values.

USES OF THE SITE

Uses and activities on federally-owned lands within the boundary that may be permitted include, but are not limited to, the following:

- **Special Uses and Events** – Chapter 8 of the National Park Service Management Policies guides special uses and events within the national memorial. Special events may be permitted by the Superintendent (36 CFR 2.50) when there is 1) a meaningful association between the park and the event, and 2) the event will contribute to visitor understanding of the park's significance. Each request to permit a special park use or to renew authorization of existing uses will be reviewed and evaluated by the Superintendent according to the terms of applicable legislation, regulations, the Superintendent's Compendium, and criteria and procedures outlined in Director's Order #53: Special Park Uses. A special park use is a short-term activity that –
 - provides a benefit to an individual, group or organization rather than the public at large;
 - requires written authorization and some degree of management control from the National Park Service in order to protect park resources and the public interest;
 - is not prohibited by law or regulation;
 - is not initiated, sponsored or conducted by the National Park Service; and
 - is not managed under a National Park Service concession contract, a recreation activity for which the National Park Service charges a fee or a lease.



Visitors to an early temporary memorial at the site (NPS 2001)



Tributes on the Temporary Memorial fence (Chuck Wagner 2005)

- **Placement of Temporary Memorial Tributes.** Placement of temporary memorial tributes and other mementos will be permitted in designated areas and in a manner prescribed by the park's Collections Management Plan. Items containing hemlock wreaths or boughs will be prohibited.
- **Returning Recovered and Cremated Remains to the Sacred Ground.** Upon request by family members and approval by the Superintendent, recovered remains of the passengers and crew of Flight 93 may be returned to the Sacred Ground. All other burials may be prohibited by the Superintendent (National Park Service Management Policies, Chapter 8.6.10.3 and Director's Order #19, Records Management, provide park guidance regarding actions related to family cemeteries). The scattering of human ashes from cremation is prohibited, except pursuant to the terms and conditions of a permit or in designated areas, according to conditions established by the Superintendent (36 CFR 2.62).
- **Sorber Cemetery.** The burial of Sorber family members will be permitted to the extent practicable, pursuant to applicable regulations, until space allotted to the cemetery has been filled. Family members (or their designees) will be allowed access for purposes of upkeep and commemoration (such as wreath-laying and religious rituals) provided visitor safety and park resources are not jeopardized. The Superintendent will keep an active file on the cemetery for the purpose of responding to requests and inquiries (National Park Service Management Policies, Chapter 8.6.10.2).
- **First Amendment Assemblage.** Requests to assemble and express public views under the First Amendment of the United States Constitution will be accommodated by permit in a specified location to ensure public safety, to protect the park's resources and to avoid conflict with other users. The First Amendment permit will regulate the time, number of participants, use of the facilities and number and type of equipment used, but not the content of the message presented. The Superintendent may issue or deny a First Amendment permit request under 36 CFR 2.51.¹ A specific location for groups to exercise their First Amendment rights will be presented in each alternative.
- **Picnicking.** Picnicking will be permitted only in designated areas and only at levels

that will not impact the solemn setting of the national memorial.

Prohibited Uses and Activities. Chapter 8, National Park Service Management Policies prescribes the general types of uses permitted and prohibited at national park units. As such, the National Park Service would prohibit visitors from conducting activities that—

- would impair the memorial's resources or its desired values;
- would create an unsafe or unhealthful environment for other visitors or park employees;
- are contrary to the purposes for which the park was established; or
- would unreasonably interfere with—
 - an atmosphere of peace and tranquility;
 - interpretive, visitor service, administrative, or other activities;
 - National Park Service contractor operations or concession services; or
 - other existing and prohibited park uses.

Under either alternative, the park would not be open to visitors before dawn or after dark. Due to the commemorative nature of the Flight 93 National Memorial and the desire to offer a tranquil, contemplative visitor experience, the park will prohibit certain recreational uses on federally owned lands within the boundary. These prohibited uses include, but are not limited to, the following activities:

- riding of motorized vehicles off designated roads,
- hunting, trapping or shooting weapons,
- snowmobile riding, recreational horseback riding, fishing, swimming, camping, skateboarding, inline skating, cross country skiing and ice skating,
- riding of bicycles off designated routes, and
- flying of kites, model airplanes and model rockets.

Unless permitted by the Superintendent, other prohibited park activities or uses on federally-owned land include, but are not limited to, the following:

- **Commercial Activities.** The sale or distribution of commercial material or advertising will be prohibited unless a permit has been obtained from the Superintendent (36 CFR 2.52(a)). The National Park Service may allow, through the use of concession contracts, commercial visitor services that are

¹2001 National Park Service Management Policies, Chapter 8: Use of the Parks, sec. 8.6.3.

necessary and appropriate for visitor use and enjoyment. Concession operations will be consistent with the protection of park resources and must demonstrate sound environmental management and stewardship (National Park Service Management Policies, Chapter 10).

- **Placement of Commemorative Installations.** The installation of a monument, memorial, table, structure, planting or other commemorative installation will be prohibited unless approved by the Superintendent and authorized by the Director of the National Park Service (36 CFR 2.62). The Superintendent will develop a process and evaluation criteria for reviewing such requests with the Partners. This process will be included in the Superintendent's Compendium. This policy applies to memorial or commemorative installations within the Sacred Ground. This prohibition does not apply to the placement of temporary memorial tributes and other commemorative items left in designated areas.

- **Placement or Planting of Hemlock.** A resource management plan will be prepared to identify actions necessary to protect the hemlock grove against pests and diseases. Use of hemlock in any manner outside the approved management plan, such as wreaths, plantings or other tributes, especially at the Sacred Ground, will be strictly prohibited to reduce the risk of infestation of the hemlock grove by hemlock wooly adelgid and other pests. This prohibition does not apply to plantings that are necessary to stabilize the hemlock grove at the Sacred Ground.

MANAGEMENT ZONES

The General Management Plan identifies the resource conditions and visitor experience opportunities that should ultimately be achieved throughout the memorial. The National Park Service uses management zoning as a method to identify and describe the appropriate range of desired resource conditions and visitor experiences to be achieved throughout the park. Management zoning—

- provides for some variety of resource conditions and visitor experiences consistent with the memorial's purpose and significance;
- establishes an overall character for the memorial consistent with a distinctive alternative or management concept by emphasizing some potential conditions and experiences over others;

- reflects decisions about which resources and values are pre-eminent in each particular area of the memorial;
- considers the relationships among resources and experiences in adjacent zones and in areas outside the memorial boundary; and
- prescribes rather than describes.

During a design workshop conducted February 24-25, 2005, in Somerset, PA, representatives of the Partners and the design finalists defined initial management zones for all areas of the national memorial. Management zones preserve the memorial's fundamental resources and ensure the integrity of the memorial design is not compromised. A zoning map and description of 1) desired resource conditions, 2) desired visitor experience opportunities, and 3) kinds and intensity of development and use are presented for each alternative.

The following management zones and their functions were established for the Flight 93 National Memorial—

1. **Gateway**—The entrance(s) to the national memorial.
2. **Approach/Return**—Ingress/egress from the Gateway to the Bowl and the core portion of the memorial.
3. **The Bowl**—The natural, bowl-like topographic feature that surrounds and provides views to and from the Sacred Ground.
4. **Sacred Ground**—The crash site, debris field and adjacent hemlock grove. Access is restricted to family members and authorized personnel.
5. **Perimeter/Viewshed**—The area encircling the core resource and visitor use lands of the memorial. This land includes the wooded hillsides that provide the setting for the memorial and serve as a visual and auditory buffer between the memorial core and adjacent lands. The National Park Service plans to protect these areas in partnership with local residents, organizations, or other partners through the purchase of conservation easements and other non-fee acquisition options where possible. Visitor use and park facilities are not proposed for the perimeter/viewshed areas.

The General Management Plan divides the entire memorial site into management zones and identifies the resource conditions and visitor experiences envisioned for each of those zones.

Alternative 1 involves retaining the existing Temporary Memorial and implementing minimal improvements to the site.

Alternative 1 – No Action

CONCEPT

Alternative 1 is predicated upon the National Park Service and the Partners continuing current efforts and practices at the memorial. The National Park Service would focus on preserving and protecting the crash site and the adjacent areas. Minimal investments would be made in visitor services and facilities. The No Action Alternative assesses how the memorial would be maintained if existing projects and management practices continue over the next 15-20 years.

Alternative 1 involves retaining the existing Temporary Memorial and implementing minimal improvements to the site. Visitors to the Temporary Memorial would continue to view the Sacred Ground from this site and would be allowed to leave tributes, as well as view items left by others. Orientation to the site and interpretation of the events would be offered mainly through volunteers, a site brochure, and several wayside exhibits. The Temporary Memorial site would be upgraded to improve the appearance of the area and the parking areas redesigned to safely accommodate visitors. A more permanent shelter would also be developed. The site would continue to be operated and staffed from dawn to dusk only. Given the limited opportunities to experience the site or learn more about Flight 93 and the events of September 11, 2001, visitation would be expected to decline to and stabilize to about 87,000 visitors annually.²

MANAGEMENT ZONES

Figure II-1 illustrates the management zones established for Alternative 1 – No Action. The following section describes the intended uses of

these zones. Table II-1 summarizes the desired resource conditions and intended uses for each zone. Because Flight 93 is a newly created memorial and because the design concept offers additional definition not usually available at this level of planning, the descriptions of the following management zones may be more detailed than for most General Management Plans.

Gateway

The Gateways to the site would continue to be at the intersections of Skyline Road and Lambertsville Roads from the west or Skyline Road and Buckstown Road from the east. The current directional signs would be replaced with traditional National Park Service entrance signs. Skyline Road would continue to be owned and maintained by Stonycreek Township.

Approach/Return

This zone would lead visitors from the Gateway zones to the Bowl. From the west, the Approach zone would include the fields on both sides of Skyline Road and the hill that leads up to the Bowl. From the east, the approach zone would include the wooded areas along Skyline Road that lead visitors to the bottom of the Bowl.

Bowl

The Bowl would remain open and grasses that have been established would be maintained. Visitor use would continue to be limited to the site of the Temporary Memorial. The National Park Service would make minimal improvements to the existing Temporary Memorial site, and would focus on short-term measures to improve safety and the appearance of the site. All parking would be relocated to the north side of Skyline Road and overflow car and bus parking would be created. Vault toilets and a more permanent shelter or kiosk would be installed.

²Bruce E. Lord, Ph.D., May 27, 2005. Flight 93 National Memorial Economic Impacts, p. 13.

View of the existing
Temporary Memorial
(Jason Cohn 2004)



Figure II-1: Alternative 1 – No Action Management Zoning

Flight 93 National Memorial
Somerset, PA

National Park Service
U.S. Department of the Interior



Alternative 1: No Action

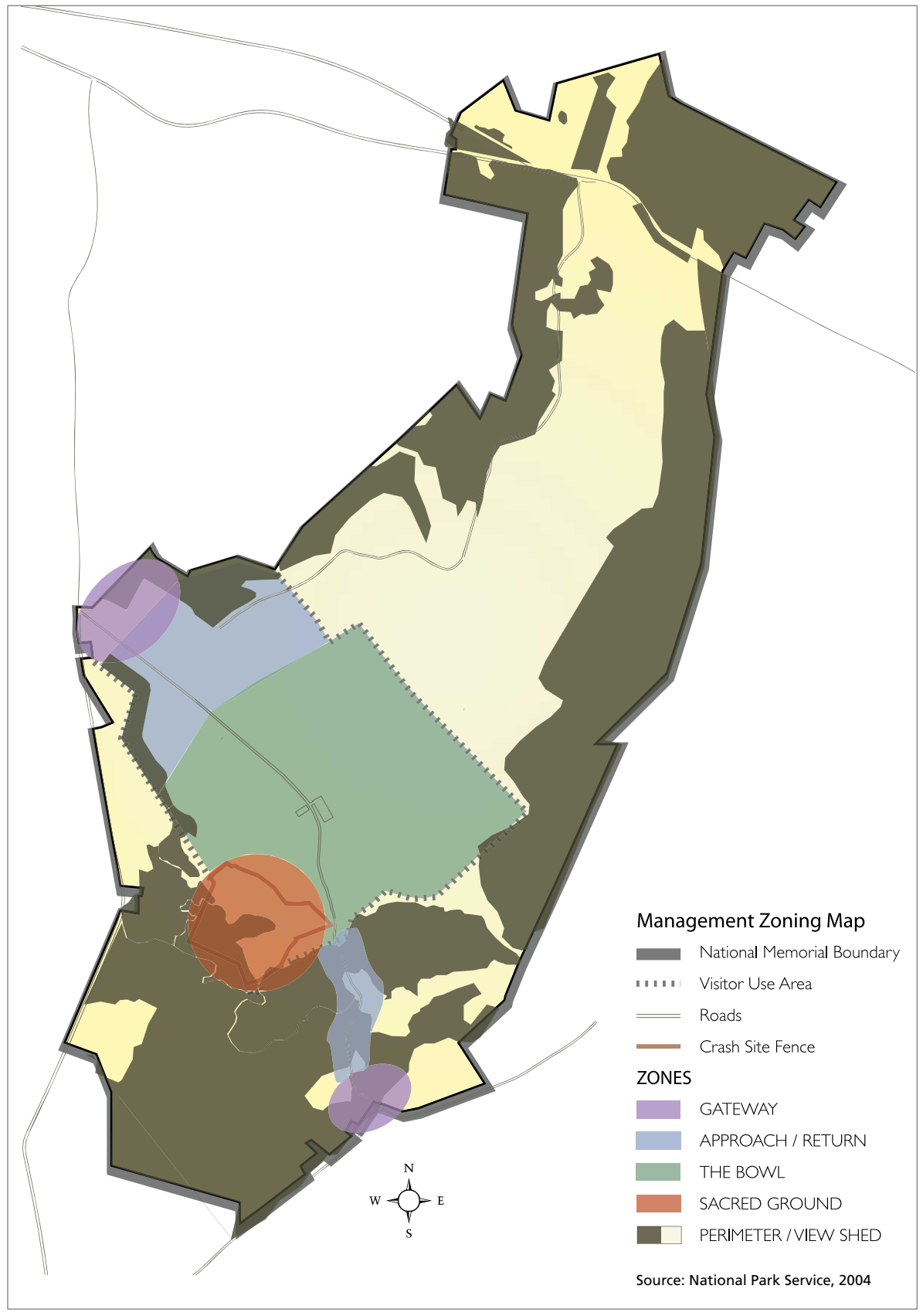


Table II-1: Alternative 1 – No Action Management Matrix			
Management Zone	Desired Visitor Conditions	Desired Resource & Landscape Conditions	Types and Intensity of Development and Use
Gateway	• Introduction and orientation to the site • Visitors have a sense of arrival	• Current pattern of open fields retained in the western Gateway and wooded buffers added along edge of fields to screen Lambertsville Road and adjacent development • Current pattern of open fields and woodlots retained in eastern Gateway, through conservation easements where possible	• No structures or facilities would be developed • Entrance and orientation signs would be added • Visitor use would be limited to driving, biking or walking along Skyline Road
Approach/Return	• Approach and return from the Bowl • Visitors have sense of anticipation on the approach and opportunities for contemplation on the return	• Current pattern of open fields retained in the western Gateway zone; wooded buffers added along edge of fields to screen adjacent development. Fields maintained through annual cutting or lease • Wooded approach from Lambertsville Road retained; lands protected by easements where possible	• No structures or facilities would be developed • Skyline Road would provide direct two-way approach and return to the Temporary Memorial. Stonycreek Township would continue to maintain Skyline Road • Visitor use would be limited to driving, biking or walking along Skyline Road
Bowl	• Temporary Memorial serves as a memorial to the passengers and crew • Explanation of the Flight 93 story and opportunity to view the crash site and the rural Pennsylvania countryside • Visitors have opportunities to understand events of Flight 93 and Sept 11, 2001 through site brochure, wayside exhibits, and volunteer interpreters • The peaceful, tranquil, quiet setting of the area is respected • Visitors can leave written messages and tributes and read and view those left by others	• Views of surrounding hillsides reflect Pennsylvania landscape and provide a respectful setting for the memorial • Current vegetation retained and woody successional growth periodically removed • Tributes at Temporary Memorial cleaned, catalogued, and stored • Sediment ponds retained as wildlife habitat	• Temporary Memorial would remain focus of a visit and would be improved for visitor safety • Interpretive displays would be provided • Parking relocated to and expanded on north side of Skyline Road • Visitors would continue to view the crash site, learn about Flight 93 from volunteers, leave tributes, and read messages left by others • No water supply or permanent restroom facilities provided
Sacred Ground	• Quiet, reverent, reflective atmosphere provided for family members • Opportunity for public to view crash site in its natural state	• Open field at crash site retained with wildflowers and grasses • Hemlock grove regenerated through natural processes; hemlocks and mixed plantings established adjacent to crash site to protect hemlock grove • Structures in hemlock grove retained	• No development • Access would be restricted to family members and authorized personnel • Security fencing and staging area for security staff would be retained
Perimeter/Viewshed	• Natural landscape offers appropriate setting for visitors to experience the memorial and is representative of Pennsylvania countryside	• Lands protected in rural state through partnerships with others (conservation easements and less-than-fee) where possible	• No memorial-related development or visitor use would occur

Source: National Park Service, 2005.

The Temporary Memorial would be retained in its current location. Tributes would continue to be catalogued and archived by National Park Service personnel and stored in an offsite location.

The National Park Service would not purchase the mining draglines due to prohibitively high acquisition, stabilization, and long-term maintenance costs. At least one of the draglines is expected to be retrofitted and returned to use at another mining site. The scrap and recycling facility is also expected to be relocated and its operation continued. The existing mining structures would most likely be removed as part of the mining reclamation prior to National Park Service acquisition, as many of the buildings are visibly in poor condition and present a liability in their current state. The National Park Service would consult with the Pennsylvania State Historic Preservation Office and comply with Section 106 of the National Historic Preservation Act before taking any action that would affect these structures.

September 11th Commemoration events would continue to be held in the Bowl. In the past, the gravel pad site along the eastern end of Skyline Road has been the site of these events and would continue to be the location for large, public events. Smaller events could also be staged at the Temporary Memorial.

First Amendment assemblies would be permitted in an area to the north and west of the Temporary Memorial. This First Amendment area would be managed to ensure public safety, to avoid or minimize conflict with other users, to avoid disruptions or distractions to visitors from viewing the crash site, and to preserve a dignified setting. A First Amendment permit would be required to regulate the time, number of participants, type of equipment used, and the type or use of the facilities. The content and the intended message would not be altered or modified. The Superintendent is authorized to issue or deny a First Amendment permit under 36 CFR 2.51.

Sacred Ground

The Sacred Ground would continue to be maintained as it currently exists and would be protected with security fencing. Access would continue to be restricted to family members and authorized personnel. Existing wildflower and grass cover would be retained. The edge of the hemlock grove would be buffered by a proposed thin band of hemlocks and hardwoods to protect the stand from the wind.

Perimeter/Viewshed

Currently, the viewshed is comprised of woodlots and agricultural farms with scattered residences. Protection of the setting for the memorial would be achieved through acquisition of conservation easements by the National Park Service and other partners, conservation groups, and agencies where possible. Acquisition of easements or other less-than-fee interests in land would focus on those areas visible from the Temporary Memorial. Potential threats to this zone include incompatible land uses, such as wind farms and cell towers. Because a new entrance to the site would not be developed under Alternative 1, the perimeter/viewshed zone would be expanded to include the areas north of the draglines to U.S. Route 30. The purpose in protecting this land is to ensure that potential incompatible industrial or commercial development and visual intrusions do not impact the integrity of the site and its setting.



(Jason Cohn 2004)

VISITOR CARRYING CAPACITY

With Alternative 1, visitor use would continue to be centered at the Temporary Memorial. Visitation primarily occurs between April and October, mainly on weekends, creating high peak periods. The average number of visitors between August and October in 2004 was 4,500 per week, not including the week of September 11th. The number of visitors on weekdays ranged between 250 and 500 daily, increasing to 750 to 1,600 visitors per day on weekends. In 2004, 88.7 percent of the visitors (115,101) visited the memorial between April and November, while only 11.3 percent (14,592) visited the site during the rest of the year.³

The primary approach to the memorial is a two-way route along Skyline Road. Existing visitor parking would be proposed for expansion. Overflow parking would occur to the west of the Temporary Memorial in the grassy areas of the Bowl. To accommodate these facilities, all visitor parking would be relocated to the north side of Skyline Road. Visitor carrying capacity in this area would be congested and restricted. Although it is assumed that without a permanent memorial, visitation would decline from its existing level of approximately 129,000 visitors a year to about 87,000 visitors over the planning period. However, there would most likely be periods of high loading which would create congestion. Although increasing the parking area would improve safety, it would not necessarily improve the visitor experience to the memorial during peak periods.

³Donna Glessner, Briefing to TMM Committee, Oct. 2004.



Visitor to the Temporary Memorial (Jason Cohn 2004)

Under Alternative 1, the length of the visitor stay would also be expected to remain relatively short with most visits extending from 30 minutes to one hour. Improvements to visitor facilities would be minimal under Alternative 1. Public rest facilities would be upgraded to vault toilets. Electricity would not be extended to the site and there would be no heated facilities, though a more substantial kiosk or shelter would be installed. There would be no lights before or after the park operating hours. The visitor experience would remain focused on the outdoors. However, once the site improvements are completed and visitation levels are better understood, the National Park Service would revisit the carrying capacity of the area and explore new standards and management strategies as follows:

- **Indicator:** The percentage of visitors reacting unfavorably to crowded conditions at the memorial site.
- **Standard:** No more than 10 percent of visitors express in a visitor survey that other visitors noticeably detracted from their experience.
- **Management Action:** The National Park Service would explore management actions such as redesigning elements of the site to disperse visitors and alter visitor flow or adopt policies to limit visitor activities or practices that disrupt the solemn setting of the site.

COSTS

Development

Alternative 1 would include only minimal improvements to the existing site. The Temporary Memorial would continue to be the focus of the memorial visit. Modest facilities and interpretive programs would continue to be offered. Skyline Road would continue to be owned and maintained by Stonycreek Township. Upgrading Skyline Road and the intersections with Lambertsville and Buckstown Roads is estimated to cost \$2.1 million. Extensive improvements outside the boundary to Lambertsville and Buckstown Roads would also be needed to safely accommodate bus and vehicle traffic. Although little development is proposed for Alternative 1, it is likely that minimal private funds could be raised. Table II-2 presents the estimated net costs for Alternative 1.

Table II-2: Estimated Development Costs for Alternative 1 – No Action

Item	Estimated Net Cost*
Memorial Feature(s)	\$ 0
Visitor Center	\$ 0
Utilities and Parking**	\$ 450,000
Roads	\$ 0***
Total	\$ 450,000

*Based on 2005 costs.

**Includes improvements to Temporary Memorial site

***Estimated \$2.1 million cost to upgrade Skyline Road would be borne primarily by Stonycreek Township, with assistance anticipated from the Commonwealth of Pennsylvania. Extensive improvements to Lambertsville and Buckstown Roads would also be necessary.

Source: National Park Service, 2005.

Staff and Operations

While visitation would be expected to decline under this alternative and development costs would be lower compared with Alternative 2, many of the costs related to operating a national memorial would be retained. The National Park Service would continue to work cooperatively with the Partners, local agencies and the community to serve visitors and tell the story of Flight 93. Some park functions would be achieved in cooperation with other park sites and with the assistance of a large volunteer force.

As of 2005, the park staff is currently comprised of four full-time park personnel, three interns, and several contract staff. For Alternative 1, the number of staff would most likely increase to eight full-time staff as the demands of operating the national memorial would increase (volunteer coordination, law enforcement, etc) even though visitation levels would decrease and proposed development would be at a modest level. Park positions would most likely include a Superintendent, administrative assistant, interpretive/cultural resource specialist, volunteer coordinator, curatorial, maintenance and law enforcement staff. Collections and tributes are currently being cataloged and archived by NPS staff, interns and volunteers. Security and police protection would be maintained through agreements with local law enforcement and the Pennsylvania State Police. Additional staff support would be available from other local national park units.

The park offices would continue to be located off-site, presumably in leased space in Somerset. However, Somerset Borough is approximately 18 miles from the national memorial, which makes it more difficult to manage, operate and maintain, and respond to visitor needs.

The National Park Service would continue to rely on the Ambassadors, a corps of local volunteers, for interpretation and greeting visitors to the memorial. Interpretation of the site, education and public outreach would be modest. Curatorial services would continue to be provided at the park offices with long-term storage at an off-site facility. Maintenance functions would be provided in cooperation with volunteers, other regional National Park Service sites, and with local partners. The costs of these functions are included in the operations item of the staff operating budget presented in Table II-3.

Table II-3: Estimated Operating Costs for Alternative 1 – No Action

Item	Estimated Cost*
Salaries and Benefits (8 Full-time Staff)	\$600,000
Operations	\$150,000
Total	\$750,000

*Based on 2005 costs. These estimates are for comparing the alternatives and planning purposes only.

Source: National Park Service, 2005.

The National Park Service would prepare a landscape management plan to guide maintenance of approximately 600 acres of open fields. It is assumed in this plan that current vegetation would be allowed to grow and woody successional growth would periodically be removed. Productive agricultural lands in the western

Approach zone could possibly be maintained through agricultural lease. These maintenance costs would be part of the park's annual operating budget.

Life Cycle Costs

Life cycle costs are not provided for Alternative 1 because no new long-term facilities are proposed. Currently, the total worth of annual costs (staffing and operations) over the 25-year planning period is estimated to be \$13.2 million.⁴

Land Acquisition

Currently, all land within the national memorial boundary is in private ownership. Land acquisition for Alternative 1 would focus on acquiring parcels within the Sacred Ground, the Bowl, and the approaches to the site along Skyline Road. Scenic easements or other less-than-fee acquisition strategies would be pursued where possible for those hillsides within the boundary that protect the setting for the memorial and for the wooded areas along the approach to the site from Buckstown Road. A total of 657 acres would be acquired in fee for resource protection and visitor use and an additional 1,605 acres would be protected through partnerships with others to protect the setting of the memorial.

Based on a total of 2,262 acres proposed for acquisition for Alternative 1, the total cost to acquire these lands, including relocation of the existing recycling facility, is estimated at approximately \$8 million. The difference in land acquisition costs between Alternative 1 and Alternative 2 reflects the smaller amount of land purchased for core visitor use. These estimates are based on 2005 land values. Acquisition of these lands would be contingent on willing sellers and availability of funding.



Temporary Memorial in winter
(Donna Glessner 2004)

⁴Reflects a 4% per year increase in salary costs and operational costs over the 25 year study period brought back to present worth assuming a discount rate of 7%. This represents the amount of money that would be required today to cover this year's annual costs with the balance invested and withdrawn over the next 25 years to meet annual costs when required.



View from 40 Memorial Groves
(Paul Murdoch Architects and Aleksander Novak-Zemplinski, 2005)

Alternative 2 – Preferred Design Alternative

(Agency's Preferred Alternative and Environmentally Preferred Alternative)

CONCEPT

Alternative 2 would commemorate the actions of the passengers and crew of Flight 93 by transforming the site into a designed memorial landscape. The design blends with the contour of the land and enhances the physical features of the site. It does not attempt to introduce symbolism, but rather focuses a visitor's attention on the crash site and presents a variety of opportunities for experiencing the site. A visitor center would provide basic visitor facilities and services and would facilitate interpretation of the actions of the passengers and crew and the stories of the events that occurred on September 11, 2001.

A tree-lined allée and curving landform would give definition to the edge of the Bowl. Additional plantings in an irregular pattern complete the inner ring of the landscape circle. This circle responds to the circular landform of the Bowl, engenders a gesture of collective embrace, and focuses on the crash site. The final flight path and crash site would be delineated as they break the circle of the Bowl.

The allée would lead visitors to a plaza extending to the crash site, which would serve as a ceremonial entrance to the Sacred Ground. Visitors could also reach the crash site along a ring road behind the curved landform or from trails that lead through the Bowl. The plaza extending toward the Sacred Ground would allow for a view of the crash site. Designed niches built into the sloped walls of the plaza would serve as a venue where tributes could be left. Visitors would also be encouraged to leave written expressions in books located in the visitor center.

All visitors would enter and exit the site at a new entrance off U.S. Route 30. Based on discussions with local residents, Stonycreek Township and Somerset County officials, the Pennsylvania Department of Transportation, and transportation consultants, direct access to U.S. Route 30 was determined to be the safest, most cost-effective and least disruptive option to access the site. A tower would mark the entrance and exit to the memorial. Visitors would follow an approach road or pedestrian trails through the site's former mining landscape to reach the Bowl and the crash site. All roads currently crossing the site would be terminated and closed to through-

traffic. An estimated 400,000 visitors are expected to visit the memorial in the years immediately after its opening; thereafter, annual visitation is expected to stabilize at 230,000 visitors a year.

MANAGEMENT ZONES

The following discussion addresses the desired resource and visitor conditions, as well as the types and intensities of development within the five prescribed management zones. Figure II-2 illustrates the management zoning proposed for Alternative 2. Table II-4 summarizes the specific management prescriptions in a matrix located after the description of these zones. Where appropriate, detail is provided from the design concept to illustrate the design intent. The final selection of finish materials, plant species, and design details will occur as the concept evolves and is given greater definition through the design development process, but all refinements should be consistent with the general direction provided in the below management prescriptions.

Gateway

The proposed entrance and exit to the memorial would be from U.S. Route 30. This Gateway would be marked with a tower set on a planted mound in a clearing with a pattern of evergreen trees radiating out from the tower. Based on the design concept, the tower would be 93-feet tall and house 40 white aluminum wind chimes. The outside of the curved concrete tower wall would be constructed of white glass mosaic tiles to create a reflective, ephemeral quality. Blue plaster would appear inside to evoke the sky. The tower would be surrounded by rings of white pines.

The purpose of the tower would be to celebrate the memory of those who are honored by the memorial. An information/orientation kiosk would be established in this zone. A small visitor parking area and limited visitor amenities would be constructed near the tower. Pedestrian trails would begin at the tower and lead to the Approach/Return Zone where a two-lane entrance road would continue into the park.

The desired visitor experience opportunities for this zone would involve visitor orientation, park entrance/exit, and feelings of reflection, anticipation and reverence.

Figure II-2: Alternative 2 – Preferred Design Alternative Management Zoning

Flight 93 National Memorial
Somerset, PA

National Park Service
U.S. Department of the Interior



Alternative 2: Preferred Design

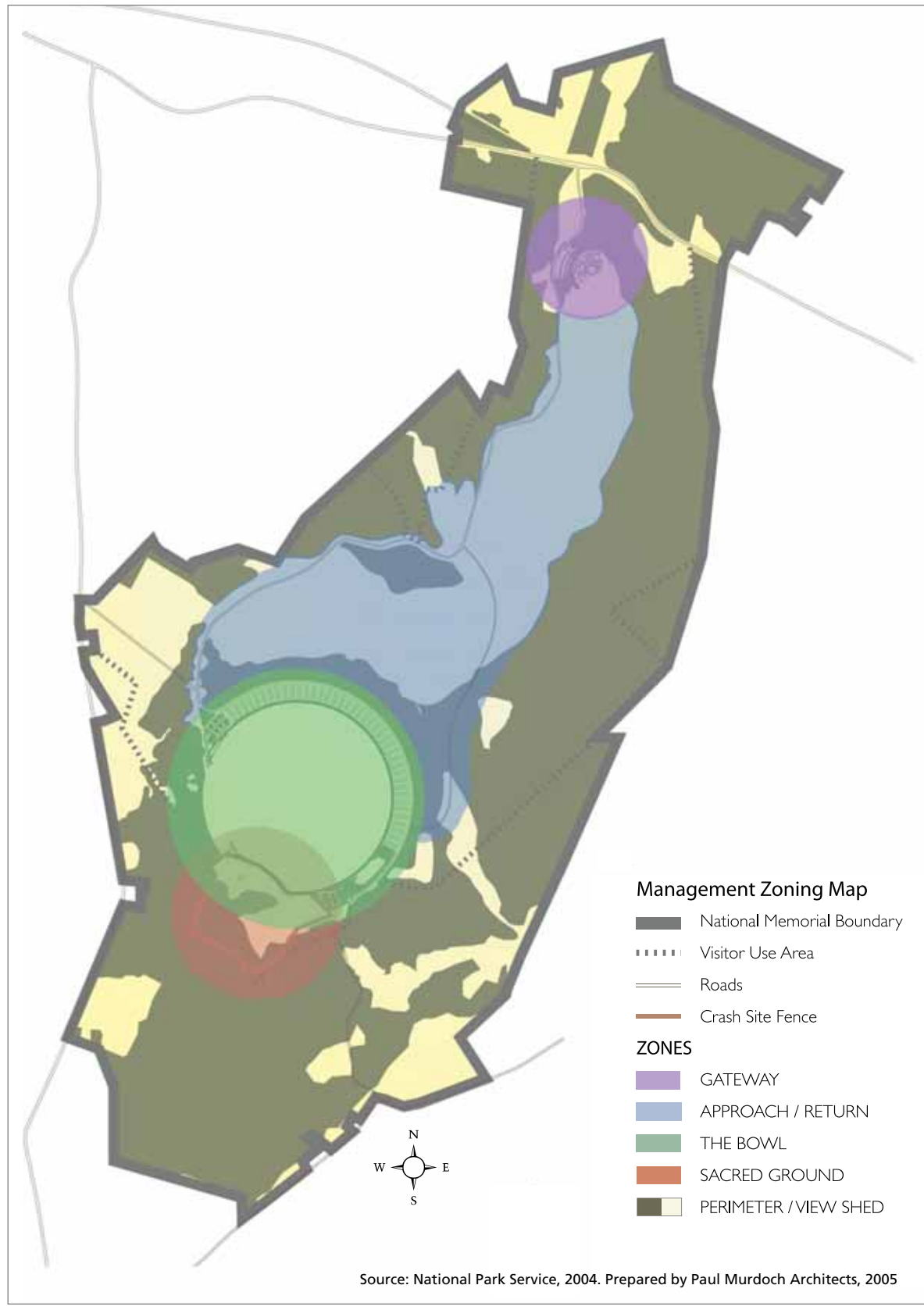


Table II-4: Alternative 2 – Preferred Design Alternative Management Matrix

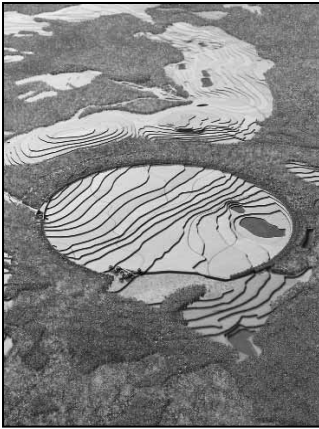
Management Zone	Desired Visitor Conditions	Desired Resource & Landscape Conditions	Types and Intensity of Development and Use
Gateway	• Memorial introduction and exit • Orientation • Reverence • Visitors have a sense of arrival • Memory of passengers celebrated through song of wind chimes	• Evergreen plantings resonate out from tower and maintained as a designed landscape • Landscape surrounding tower and the plantings are maintained as a wildflower meadow • US 30 screened and quieted by additional tree and shrub plantings	• New entrance would be developed at US 30 near intersection with Haul Road • Entrance would be marked by a tower that houses wind chimes • Tower set on a planted mound in a clearing surrounded by rings of evergreens • Information kiosk and parking would be provided • Visitor uses would include driving, biking, and visiting the tower. Tower would be originating point for pedestrian trails
Approach	• Approach to/from the Memorial • Preparation for Memorial • Experience the healing of the landscape • Visitors have opportunity to experience sense of anticipation	• Management focuses on healing the landscape • Remediation ponds retained with mixed woodland plantings for screening • Structures necessary for remediation screened and reduced in visibility • Open fields managed for wildlife habitat with existing successional planting allowed to reduce field area over time	• No structures built that would impede views or hinder anticipation of the Memorial • Two-lane, partially tree-lined approach road between the Gateway and portal plaza at the Bowl • One-way return road would exit Sacred Ground and the Bowl from the east • Pedestrian trails would lead to and return from: an overlook at the northeast corner of the site, the high ground at the site's eastern edge, and through the woodlands to the site's western edge; small seating areas are provided at the overlooks • Existing Skyline Road to the east and west of Bowl would provide only emergency access • Visitor uses would include driving, walking, biking (along approach and exit road only)
Bowl	• Entrance to Bowl and framed views to the Sacred Ground • Orientation and education at visitor center • Honor the passengers and crew • Respect and appreciation for Flight 93 passengers and crew • Visitors have opportunities to experience the Bowl in varied ways, including: pride, humility, and in particular, a sense of reverence at the portal platform overlooking the Bowl and Sacred Ground; solitude along the curving walkway; contemplation of the crash site; and awe at scale of Bowl	• Formal planting groves along the curving landform created and maintained as a designed landscape to focus visitors on the Sacred Ground • Mixed hardwoods and evergreens planted and maintained as a windscreen and backdrop on outside of ring road • Views from curving landform and the Sacred Ground remain open and unobstructed • Views of surrounding hillsides are representative of Pennsylvania countryside • Interior of Bowl planted with wildflower mix and maintained as a meadow; woody successional growth removed • Sediment ponds retained for wildlife habitat • Curved landform and the ring road cross the existing wetland	• Primary memorial feature is a curving landform that defines the Bowl; ground would be regraded. • A walkway and an allée of trees would descend around the Bowl to the crash site; behind the walkway are 40 groves of trees and a ring road (two-lane with parallel parking) that leads to the Sacred Ground. Irregular native plantings complete circular form to the south of the visitor center. • The first and main entrance into the Bowl and first view of the crash site would be through a portal and viewing platform that follow the flight path of Flight 93 • The visitor center would be integrated into the curving landform • Temporary Memorial would eventually be removed and the location marked by benches along a trail. Visitors would be encouraged to leave tributes at Sacred Ground plaza and written comments at the visitor center.

(Continued on next page)

Table II-4: Alternative 2 – Preferred Design Alternative Management Matrix *(continued)*

Management Zone	Desired Visitor Conditions	Desired Resource & Landscape Conditions	Types and Intensity of Development and Use
Bowl <i>(continued)</i>		Uncovered outside eating area, screened from view, located near visitor center parking area	- Welding shop structures would be removed but the footprints of the buildings would be marked. Pedestrian path would lead through this area to the Sacred Ground plaza. - Parking area would be provided at the portal - Pedestrian trails would lead from the allée to overlooks at the ridge and through the Bowl to the crash site; seating would be provided along trails and along curving walkway - Visitor uses would include walking, driving, biking (on roadways), sitting, gathering at portal plaza, leaving written tributes at visitor center - Motor vehicles would be prohibited in Bowl inside curving landform - Screened outside, uncovered eating area would be provided for visitors on west side of visitor center near parking area.
Sacred Ground	- Honor the passengers and crew - Revere the Sacred Ground as a cemetery - Provide family members quiet, reverent atmosphere and access to the Sacred Ground - Provide public opportunity to view the crash site and pay their respects closer to the Sacred Ground - Visitors have opportunity to experience sense of contemplation, reverence and remembrance	- Plaza plantings maintained as designed landscape - Mix of grasses, wildflowers, and bulbs maintained at crash site - Hemlock Grove allowed to regenerate through natural processes; new edge of Hemlock and mixed plantings established adjacent to crash site to protect hemlock stand - Structures in hemlock grove retained	- Public plaza would extend toward crash site; re-grading at plaza edge to create drop-off for protection and security of Sacred Ground - Walls would frame the flight path and ceremonial gateway for entry to the crash site - Home and seasonal cabins in hemlock grove would be retained - Security barrier around crash site would include grassy mound along the western limit - Parking area with plantings would be provided at terminus of curving landform - Visitor uses would include walking, sitting, gathering, ceremonies, and leaving tributes
Perimeter Viewshed	- Northern perimeter includes woodland buffer to preserve a planted context for the entrance - Southern viewshed preserves rural backdrop for the Hemlock Grove and Sacred ground - Provides visitors with an appreciation for the area as part of the Laurel Highlands	Landscape of farms and woodlots preserved to maintain views to and from the memorial and decrease outside disturbances	- No visitor facilities - Pedestrian trails would be proposed on federal lands only - Existing roads would provide emergency access

Source: National Park Service, 2005.



The Bowl surrounding the Sacred Ground at the bottom of the illustration (Paul Murdoch Architects and Aleksander Novak-Zemplinski, 2005)

Approach/Return

Visitors would be directed to drive or bike through this zone on a two-lane approach route, approximating the route of the existing Haul Road to the entrance of the Bowl. Pedestrian trails originating from the tower in the Gateway zone would lead through woods at the site's western edge and at higher elevations to the east, allowing for a view overlooking the national memorial. A one-lane return road would provide visitors with elevated views of the tower to the north and views back to the Bowl.

The "healing of the land" would be used as a metaphor for emotional healing. Areas of the mining landscape would be allowed to regenerate over time. Sedimentation ponds, open fields and the core meadow would be retained for wildlife habitat with existing successional growth allowed to reduce field area over time. Sediment and AMD treatment ponds would remain with some mixed woodland plantings for screening. The desired visitor experience for this zone includes an approach and departure from the memorial, preparation for the memorial and a healing landscape.

Bowl

The focal point of the memorial would be contained within a naturally occurring Bowl surrounding the crash site. This area would be lined by an allée composed of deciduous plantings. The allée would gently descend around the Bowl, extending through the wetlands toward the crash site. Behind the allée, 40 groves of maples or other deciduous trees and a ring road leading to parking near the crash site would be established. A backdrop and buffer of mixed evergreen and deciduous trees would be planted as a windscreen behind the groves and the ring road. Pedestrian trails through the Bowl would offer a variety of ways to experience the memorial, while benches situated around the allée would provide areas for quiet contemplation.

The main entrance to the Bowl would be through a walkway at the end of the western edge of the curving landform. Two walls would create a portal that frames the sky along the final flight path of Flight 93 to the crash site. A walkway would lead visitors through a plaza and portal onto a platform to give them their first look at the expanse of the Bowl and the crash site below. The end of the plaza would be open, giving a feeling of release to the overall curving landform. Based on the design concept, the portal walls would be made of warm-toned concrete, textured like the local cabins. The proposed plaza walkway would be black slate,

terminating at a sloped and lighted glass plaque that would be inscribed with the memorial's Mission Statement.

Under Alternative 2, the visitor center would be integrated into the proposed landform and would serve as the interpretive and educational hub of the park. The visitor center would feature exhibits explaining interpretive themes and stories, such as the events of Flight 93, the passengers and crew who died aboard Flight 93, the collective events that occurred on September 11th, and the history of the site. Tributes that have been left at the site would be displayed and visitors would be encouraged to leave written tributes. The program for the visitor center will be determined during the design development phase and interpretive media developed through future interpretive planning.

Proposed plantings of deciduous trees to the south of the visitor center would complete the inner ring of the circle. Unlike the allée, the ground in this area would not be regraded. The design elements, most likely red maples blended with a variety of other native species, would be planted in a loose, irregular pattern. Trails through this area would lead visitors through the welding shop complex to the crash site, enhancing the range of visitor experiences along the edge of the Bowl.

In this zone, visitors would learn about Flight 93 and the events of September 11, 2001, and would be provided opportunities to experience solitude, contemplation, reverence and awe of the landscape.

Temporary Memorial. Under Alternative 2, the Temporary Memorial would be retained in situ as long as visitation does not conflict with the construction of the memorial, but in the long-term, this feature would be removed to open views of the Bowl and crash site. The location of the Temporary Memorial would be marked by benches along a trail extending through the Bowl.

Draglines and Mining/Industrial Structures. The National Park Service would not acquire the draglines or preserve the other mining or industrial buildings under this alternative. At least one of the draglines is expected to be retrofitted and returned to use at another mining site and the Rollock scrap and recycling facility is also expected to be relocated and operations continued. In addition, many of the mining structures will be removed as part of the final site reclamation. Alternative 2 would utilize the

site's mining legacy as a metaphor for the "healing landscape" and would explain this history through site markers and interpretive media. The location of the welding shop buildings would be marked and a meandering path would allow visitors to access this area. Two of the building footprints would be within the trees marking the center of the investigation efforts, and one would be in the open, marking the location where the families first viewed the crash site. Some buildings, such as the miners' shower house, may be temporarily retained for storage or other functions. The National Park Service has documented the mining and industrial structures and will determine their significance as part of a separate effort. The agency will consult with the Pennsylvania State Historic Preservation Office and comply with Section 106 of the National Historic Preservation Act before taking any actions that would affect these structures.

September 11th Commemorations. With Alternative 2, September 11th commemoration events would continue to be held in the Bowl. Small-scale events could occur at or near the proposed visitor center and larger events would occur in the vicinity of the proposed parking near the Sacred Ground plaza. This could be in the form of a flat plinth within the Bowl adjacent to the parking area, with a stabilized base and grass/meadow as the surface. This area would be designed to blend in with the surrounding features and have minimal markings at its edges and corners.

First Amendment Assemblies. An area would be designated for First Amendment assemblies to the west of the visitor center parking area. This location would allow staff to monitor activities while preserving the sanctity of the Bowl and crash site inside the walls. This area would ensure public safety, avoid conflict with other users, and not detract from the visitors' view of the crash site. A First Amendment permit would regulate the time, number of participants, use of the facilities and number and type of equipment used, but not the content or the intended message.

Collections Facility and Maintenance Complex. The costs of developing the memorial and associated infrastructure proposed in this alternative make it unlikely that funding will be available for a separate collections facility or maintenance complex within the life of this plan. The collection is expected to continue to be stored in a secure off-site facility. Should it be determined that a new onsite facility is desirable and if

funding becomes available, the facility could be located in the general area of the visitor center parking area. This location would minimize new infrastructure and development costs and could be screened from view. Existing buildings or off-site facilities are expected to be used to meet maintenance storage, staging, and work area needs. Should funding become available for a maintenance facility, it is anticipated that such a complex could be located in the wooded areas to the west and south of the visitor center parking area. This location could be screened from view and could provide necessary space and access options.

Sacred Ground

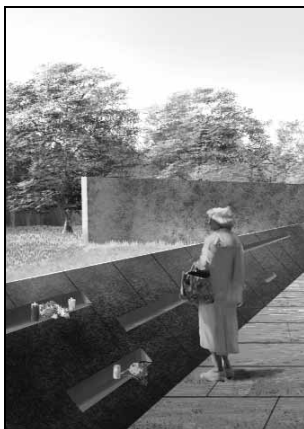
With Alternative 2, the Sacred Ground would be the focus of the memorial as it constitutes the final resting place of the passengers and crew of Flight 93 and holds the memory of their courage. The crash site and hemlock grove would be open only to family members of the passengers and crew and authorized personnel, but the public would be able to view the area from a plaza, framed by a sloped wall. Niches for tributes left by visitors would be carved into the wall separating the plaza from the Sacred Ground. The field at the crash site would be planted with low-maintenance grasses and seasonally blooming bulbs and wildflowers. Walls along the western edge of the plaza would align with the flight path and the viewing platform near the visitor center.

The design concept shows that the portal plaza would be constructed of black slate and benches would be placed at each end of the plaza. A 12-foot vertical drop would occur behind the sloped wall to prohibit intrusion into the Sacred Ground. The ground would then incline to the edge of the crash site. Offset concrete walls would frame a gate, opened only for ceremonies or family visits, through which families could enter the Sacred Ground and then proceed to a white stone slab along the flight path. The offset walls would serve as a screen from public view. The western wall would hold a folded band of polished, translucent white marble inscribed with the names of those honored and the date of the crash. A cluster of American beech trees would be planted at the walls to provide shade and shelter, and benches would be installed for visitor seating.

The location of the security fencing at the crash site would be shifted to enclose the existing earth mound within the Sacred Ground for family seating and contemplation. The hemlock grove and the cabins would be retained to



Ceremonial entrance to the Sacred Ground (Paul Murdoch Architects and Aleksander Novak-Zemplinski, 2005)



Plaza overlooking Sacred Ground
(Paul Murdoch Architects and Aleksander Novak-Zemplinski, 2005)

provide solitude and temporary shelter from weather to family members and for park uses.

The desired visitor conditions for this zone would be contemplation, reverence and accommodation of remembrances.

Perimeter/Viewshed

The existing landscape would be maintained to preserve memorial and landscape views, and to minimize noise and disturbances from sources outside the park. Visitor uses would occur only on lands owned by the Federal government. Pedestrian trails are proposed at the eastern and western perimeter. The northern perimeter would include woodland buffers to preserve a planted context for the park entrance. The southern viewshed would preserve the rural backdrop to the hemlock grove and the Sacred Ground. This zone would protect the setting of the memorial and would create opportunities for visitors to experience contemplation and reverence for the site.

VISITOR CARRYING CAPACITY

Indicators and standards for user capacity are identified in the General Management Plan to meet the legislative requirement for including “identification of and implementation commitments for visitor carrying capacities.” Indicators of user capacity are variables that can be measured to track change in conditions caused by human activity, so that progress toward desired conditions can be assessed. These indicators translate the desired conditions into something that can later be measured. Generally, indicators used to determine carrying capacity are obtained from existing park information and visitor surveys.

Because Flight 93 National Memorial has not been fully developed, nor has the land been acquired, reliance on existing visitation figures, comments from visitors to the Temporary Memorial and resource surveys were considered. As the park develops and matures, monitoring of visitor use, experiences and trends, as well as assessing the park’s fundamental resources and other resource values, will be conducted. Supplemental resource surveys will also be conducted to determine whether conditions that warrant additional resource protection exist.

Current visitation levels and patterns will change significantly if Alternative 2 is implemented. Annual visitation is estimated to be

230,000 after the projected peak of 400,000 visitors that are expected in 2011. Table II-5 describes the desired visitor experience for each zone. Visitor use would be concentrated in the Gateway, the Bowl and at the plaza along the edge of the Sacred Ground. Based on these estimates measured against the size of the landscape, visitation levels should be achievable without measurable impacts to the park’s natural and cultural resources. However, due to the solemn nature of the site, the visitor experience could be particularly sensitive to intensities of visitor use, patterns and behavior. Refinement of the design concept during the design development process could affect visitor patterns and use levels. Therefore, specific indicators, standards, and management actions are not included in this General Management Plan. The National Park Service would complete a study of visitor carrying capacity once the design has been finalized and the memorial has been constructed.

COSTS

Development

As part of the design competition, all submittals were required to be achievable within a set project budget. This budget was for planning and comparison purposes. The budget for the memorial feature was \$27 million gross. The cost estimates for the visitor center and infrastructure were developed through the use of the National Park Service Facility Planning Model, which estimates facility and infrastructure needs based on visitation projections, comparable National Park Service facilities, industry standards and regional conditions.

The Partners initiated a fundraising feasibility study that showed \$30 million in private funds could be raised for the memorial feature. For Alternative 2, the cost estimate for the memorial feature includes development of the tower and associated plantings; the portal plaza; the curving landform including the allée and 40 groves of trees; and the plaza at the Sacred Ground. In the spring of 2006, the Partners will launch a national fundraising campaign to raise funds for the Flight 93 memorial.

Since the conclusion of the competition, the project cost estimates for the visitor center and infrastructure have been refined (Table II-5). Based on the National Park Service’s facility planning model, the visitor center assumes a modest 8,000-square-foot facility that would be used to educate the public and interpret the

Table II-5: Development Costs, Alternative 2– Preferred Design Alternative, 2005

Item	Budget*	Funding Source
Memorial Feature	\$27.00 million	Private
Visitor Center	\$ 6.00 million	State, Federal
Utilities and Parking	\$ 4.97 million	State, Federal
Roads	\$ 6.73 million	State, Federal
Total (Gross)	\$44.70 million	Private, State, Federal

*These figures are for planning and comparison purposes only and represent gross costs. These costs are based on 2005 estimates. Actual costs will be determined through the design development process. Development of the proposed facilities and infrastructure is dependent on availability of funding.

Source: National Park Service, 2005.

story of Flight 93, provide basic visitor services, provide shelter from the weather, and house staff offices. Actual costs for the selected design will be refined through the design development process. Development of the proposed facilities and infrastructure is dependent on the availability of funds and the success of the private fundraising campaign.

The cost estimates shown in Table II-5 include almost \$650,000 for the illumination of the memorial features and the park during regular park hours. In the design concept, an extensive lighting program was proposed. The tower would be glazed with interior lighting and the exterior would be illuminated as a beacon. Lighting of the curving landform would occur through recessed lights in radiating markers that face the Bowl. Benches along the allée would have a recessed lighting source to illuminate the path and each of their radiating extensions through the groves is terminated at the ring road with a pole-mounted downlight.

The visitor center would provide a lantern-like image by means of diffuse, glowing light through an etched enclosure. A white stone slab set on the flight path would mark a separate entrance to the Sacred Ground for family members. This area would be illuminated with recessed in-grade linear blue lines of gentle light that are perpendicular to the path flown at the portal

plaza and the plaza at the Sacred Ground. Site elements, such as the Mission Statement plaque at the portal viewing platform and the list of names at the Sacred Ground plaza, would be illuminated. The western wall would hold a folded band of polished, translucent marble, with the 40 names of the passengers and crew and the date September 11, 2001, inscribed. This marble band would be backlit from within the surrounding wall.

It is not anticipation that the memorial would be open to the public before dawn or after dark. The lighting proposed in the design concept would be dramatic and effective during overcast days and during winter when darkness falls before 5 p.m. Although this alternative could include extensive lighting, final determinations on illuminating the memorial and park hours of operation will be based on available funding and will be made during final design development phase.

The National Park Service conducts facility cost indexing and asset priority indexing to understand the relative condition and importance of existing structures. These analyses have not been undertaken in this General Management Plan because all structures within the core of the memorial are privately owned and many will be removed as part of the site reclamation or prior to land acquisition by the National Park Service.



Entry portal
(Paul Murdoch Architects and
Aleksander Novak-Zemplinski, 2005)



Allée leading to the Sacred Ground (Paul Murdoch Architects and Aleksander Novak-Zemplinski, 2005)

Life Cycle Costs

Life cycle costs are used to make design and construction decisions, which reflect the aggregated one-time construction costs and any recurring costs into the future. The National Park Service typically uses a 25-year planning horizon to project life-cycle costs in design and construction projects. The present worth method is used to convert present and future expenditures into an equivalent expenditure today. This method is based upon the time value of money or the principle that a dollar spent today is worth more in the future because if it was invested it would yield a return.

To calculate the present worth of future annual and recurring (replacement) expenditures, a “discount rate” of 7 percent was used. The life cycle costs of the Flight 93 National Memorial are presented in Table II-6.

Table II-6: Life Cycle Costs over a 25-year Planning Horizon, Alternative 2 – Preferred Design Alternative	
Item	Cost ¹
Total Initial Cost (Net)	\$37.8 million ²
Total Replacement Cost/ Salvage Value	\$ 6.3 million
Total Present Worth of Annual Costs (Staffing and Operations)	\$17.5 million ³
Total Life Cycle Costs	\$61.6 million⁴
¹ Based on 2005 estimates.	
² Includes net costs for initial construction of visitor center, memorial feature, interpretive displays and infrastructure	
³ Reflects a 4% per year increase in salary costs and operational costs over the 25 year study period brought back to present worth assuming a discount rate of 7%. This represents the amount of money that would be required today to cover this year's annual costs with the balance invested and withdrawn over the next 25 years to meet annual costs when required.	
⁴ Represents the total amount of money that would be required today to cover initial costs and this year's annual costs with the balance being invested and withdrawn over the next 25 years to meet annual and replacement costs when required.	
Source: National Park Service, June 6, 2005.	

Staff and Operating Costs

Under Alternative 2, 14 full-time staffpersons would be necessary to effectively manage and operate the memorial. This staffing level assumes some functions would be achieved in cooperation with other national park sites in the region and that a large volunteer force would continue to be active and support operation of the memorial. National Park Service positions would include a Park Superintendent and staff for operations, administration, resource protection, interpretation, volunteer coordination,

curatorial, maintenance and law enforcement. The National Park Service would continue to utilize the service of the Ambassadors, a corps of local volunteers, and create additional opportunities for service through an official Volunteer-in-Parks Program.

The memorial would be open from dawn until dusk with extended summer hours. Should the National Park Service and the Partners decide through the design development process that illuminating the design is desirable and if funding is available, the National Park Service would revisit the operating hours and evaluate the increased utility costs and any increased staffing levels necessary to provide for resource and visitor protection.

For Alternative 2, park offices would be located in the visitor center or in an existing building within the park. Offsite space would no longer be leased and the park staff would be on the memorial grounds and closer to visitors and the park resources. Because of the development costs associated with creating the memorial, it is assumed that for the life of this plan, funding would not be available for new collections or maintenance facilities. Collections would continue to be stored at an offsite location and maintenance operations would be based in one of the existing buildings on the site with materials and equipment storage provided through a partnership with local governments, organizations and other national park sites in the region.

The park would prepare a landscape management plan to guide management of the open fields. The fields in the Bowl would receive the greatest attention and be managed as a meadow. For the Approach zone, natural regeneration would be allowed to continue and woody successional growth would be periodically removed. Productive agricultural lands in the western Approach/Return zone could be maintained through agricultural lease. These maintenance expenses are included in the park's annual operating costs and would be accomplished through the use of park staff, contractors, and volunteers (see Table II-7). It is assumed that the National Park Service will enter into an agreement with local nurseries to propagate trees to be used as replacements for plantings that are important in the memorial design and that an onsite nursery will not be created.

Table II-7: Estimated Operating Costs for Alternative 2 – Preferred Design Alternative

Item	Estimated Net Cost*
Salaries and Benefits (14 Full-time Staff)	\$ 800,000
Operations	\$ 200,000
Total	\$1,000,000
*Based on 2005 costs. These estimates are for comparing the alternatives and planning purposes only.	
Source: National Park Service, 2005.	

Land Acquisition

The National Park Service is in the process of acquiring the core resource and visitor lands within the national memorial boundary (refer to Chapter I, Figure I-2). All of these lands are currently in private ownership. The Flight 93 National Memorial Act authorizes the National Park Service to purchase lands from willing sellers. The official boundary map (Figure I-2) for the national memorial shows two principal areas: 1) 1,355 acres for resource protection and visitor use areas, which will be protected through fee-simple acquisition by the National Park Service, and 2) 907 acres for resource protection, which would be protected in partnership with landowners, conservation groups and other agencies through less-than-fee acquisition (i.e., easements), or through fee acquisition if necessary. The total cost to acquire land for Alternative 2, including relocation expenses, is expected to be approximately \$10 million, based on 2005 dollars. Acquisition of these properties would depend on availability of funds.

CONCLUSIONS

Alternative 1 would protect the crash site and surrounding setting and memorialize the passengers and crew by maintaining the current Temporary Memorial and the practice of leaving tributes. The National Park Service would continue the present management practices of relying on local volunteers to provide interpretation, visitor greeting and minimal site maintenance at the Temporary Memorial. A visitor center would not be constructed, and there would be no interpretive, public education or outreach programs. Visitors would continue to experience the site in the open as it currently exists. Public toilet facilities would be upgraded from “port-a-johns” to vault toilet facilities. Utilities would not be extended to the site.

Local residents would be impacted by the continued use of local roads to access the memorial. Some residents would be directly impacted by necessary improvements to Lambertsville and Buckstown roads. The danger of buses and high volumes of visitor traffic using narrow, local roads would continue as would the annoyances of visitors traveling along local roads, turning around in private driveways, disturbing private property and asking for driving directions or the location of local services. Within the boundary, the cost of upgrading and maintaining Skyline Road would be borne by Stonycreek Township and the Commonwealth of Pennsylvania.

If Alternative 1 is selected, the site may not be adequately protected from adjacent land development along US Route 30, especially those lands north of the existing draglines. There are no zoning or land use controls in Stonycreek Township. Before September 11, 2001, this land was considered for development as an industrial park or a wind farm. Alternative 1 would involve about 657 acres in fee simple acquisition, with approximately 1,355 acres acquired as scenic or conservation easements or through other partnership arrangements if possible. The total budget for a staff of eight full-time employees to operate and maintain the park would be about \$750,000 per year.

Alternative 2 is the preferred design alternative, as selected by the Partners, as well as the agency’s preferred alternative and the environmentally preferred alternative. Alternative 2 would memorialize the passengers and crew and attempt to more fully achieve the Mission Statement. It would protect the final resting place of the passengers and crew and place special attention on providing an appropriate setting for the memorial. It would commemorate the passengers and crew of Flight 93 through the creation of a designed memorial landscape.

The focal point of the memorial would be contained within a naturally occurring Bowl surrounding the crash site. This area would be lined by trees and 40 memorial groves of trees. The walkway would gently descend around the Bowl, extending through the wetlands toward the crash site. This alternative would not attempt to introduce symbolism into the site, but would add definition to the Bowl and focus visitors on the Sacred Ground, the final resting place of the passengers and crew of Flight 93. A visitor facility would be constructed to provide public

Alternative 2 is the Preferred Design Alternative, which creates a designed memorial landscape and more fully achieves the Flight 93 National Memorial mission.

education and interpretation. The public would be informed about the valor and deeds of 40 passengers and crew members on September 11, 2001.

Alternative 2 would entail construction of the memorial design and an approximately 8,000-square-foot visitor facility. Alternative 2 also would involve acquisition of about 1,355 acres in fee simple and 907 acres in scenic or conservation easements to protect the crash site, provide for visitors, and provide an appropriate setting for the memorial. Access to the memorial under Alternative 2 would be provided directly from U.S. Route 30. Visitor-related traffic would no

longer use local roads such as Lambertsville Road and Buckstown Road to access the memorial.

Alternative 2 would require employment of 14 full-time employees to administer and maintain the memorial. The total construction cost to develop the memorial feature, the visitor center, and related roads and infrastructure is estimated to be \$44.7 million. The total operating cost is estimated at \$1 million per annum and the proposed land acquisition costs are expected to be about \$10 million, based on 2005 estimates. Table II-8 compares the estimated costs of the two alternatives.

Table II-8: Comparison of Estimated Costs¹ by Alternative

Costs	Alternative 1 – No Action	Alternative 2 – Preferred Design Alternative
Development Costs¹:		
Memorial Feature	\$ 0	\$27.00 million (Private)
Visitor Center	\$ 0	\$ 6.00 million (State and Federal)
Utilities and Parking	\$450,000 ²	\$ 4.97 million (State and Federal)
Roads	\$ 0 ³	\$ 6.73 million (State and Federal)
Total (Gross)	\$450,000	\$44.70 million (State, Federal & Private)
Estimated Operating Costs:		
Salaries and Benefits	\$600,000	\$ 800,000 (14 full-time staff)
Operations	\$150,000	\$ 200,000
Total	\$750,000	\$1,000,000
Total Land Acquisition Costs	\$ 8.0 million	\$10.0 million
Total Land Acquisition	657 acres core resource and visitor use	1,355 acres core resource and visitor use
	1,605 acres viewshed protection	907 acres viewshed protection
¹ These figures are for planning and comparison purposes only and represent gross costs. These costs are based on 2005 estimates. Actual costs will be determined through the design development process. Development of the proposed facilities and infrastructure is dependent on availability of funding. ² Includes improvements to Temporary Memorial. ³ Estimated \$2.1 million cost to upgrade Skyline Road would be borne primarily by Stonycreek Township, with assistance anticipated from the Commonwealth of Pennsylvania. Source: National Park Service, 2005.		



CHAPTER III

Affected Environment



Chapter III – Affected Environment

LOCATION

Flight 93 National Memorial is located in Stonycreek Township, Somerset County, in southwestern Pennsylvania. Somerset County lies within a 500-mile radius of two-thirds of the nation's population, and is about one hour driving time from Pittsburgh, three hours from the Washington D.C./Baltimore area, and about four hours from Philadelphia. The Pennsylvania Turnpike (I-70/76) extends through the center of the county with an interchange (Exit 110) at Somerset Borough, which is also the county seat.

Stonycreek Township is situated just to the east of the mid-section of Somerset County. The township is bounded to the north by Shade and Quemahoning Townships, to the west by Somerset Township, to the south by Brothersvalley Township, and to the east by Allegheny Township. Counties surrounding Somerset are Cambria County to the north; Bedford County to the east; Allegany and Garrett Counties, Maryland, to the south; Fayette County to the southwest; and Westmoreland County to the northwest.

The memorial lies approximately 18 miles northeast of Somerset Borough and about 3.5 miles southeast of Stoystown Borough. The village of Friedens is about 7 miles to the west and the villages of Lambertsville and Buckstown are adjacent to the memorial. The Borough of Shanksville lies about 3.5 miles to the south. The region surrounding Flight 93 National Memorial is shown on Figure III-1.

Site Overview

Somerset County is situated on the Allegheny Plateau between the Laurel Highlands and the Allegheny Mountains. The area receives more snowfall and experiences colder winters than its neighboring counties, as well as strong, gusty winds. The average mean temperature is 46°F and the mean maximum temperature during

winter ranges between 18°F and 35°F. Summer temperatures are mild, ranging between 60°F and 84°F. Average annual precipitation is about 41.6 inches with an average annual snowfall between 60 and 66 inches.¹

The Flight 93 National Memorial site is composed of rolling hills dominated by a gentle ridge along its eastern limit. The central portions of the site are overlain with rocky, thin topsoil that was placed over the site as part of the reclamation of previous bituminous coal strip mining. Several sediment and treatment ponds, along with artificially constructed wetlands, are found scattered throughout the site. Power and telephone lines transect the site, and a cell tower is located on the north side of U.S. Route 30, just to the east of the Haul Road entrance. The core visitor lands within the memorial boundary are composed of approximately 1,355 acres. The perimeter or buffer encircling the core visitor lands is composed of approximately 907 acres.

Visitor lands within the memorial boundary are composed of approximately 1,355 acres. The perimeter or buffer encircling these lands is composed of approximately 907 acres. Figure III-2 shows the existing site from an aerial photograph.

The site was significantly shaped by more than 50 years of surface and subsurface mining. Mining equipment and buildings are scattered throughout the site and are described later in this chapter under Historic and Cultural Resources. Two of the most prominent features on the site are mining draglines formerly used during strip-mining operations. They are situated atop a ridge that forms the northeastern edge of the Bowl that slopes down to the crash site. The draglines are large mining machinery used during former mining operations on the site. The photo below shows one of the mining draglines.



Temporary Memorial in winter
(Tim Baird 2004)



Mining Draglines
(Jason Cohn 2004)

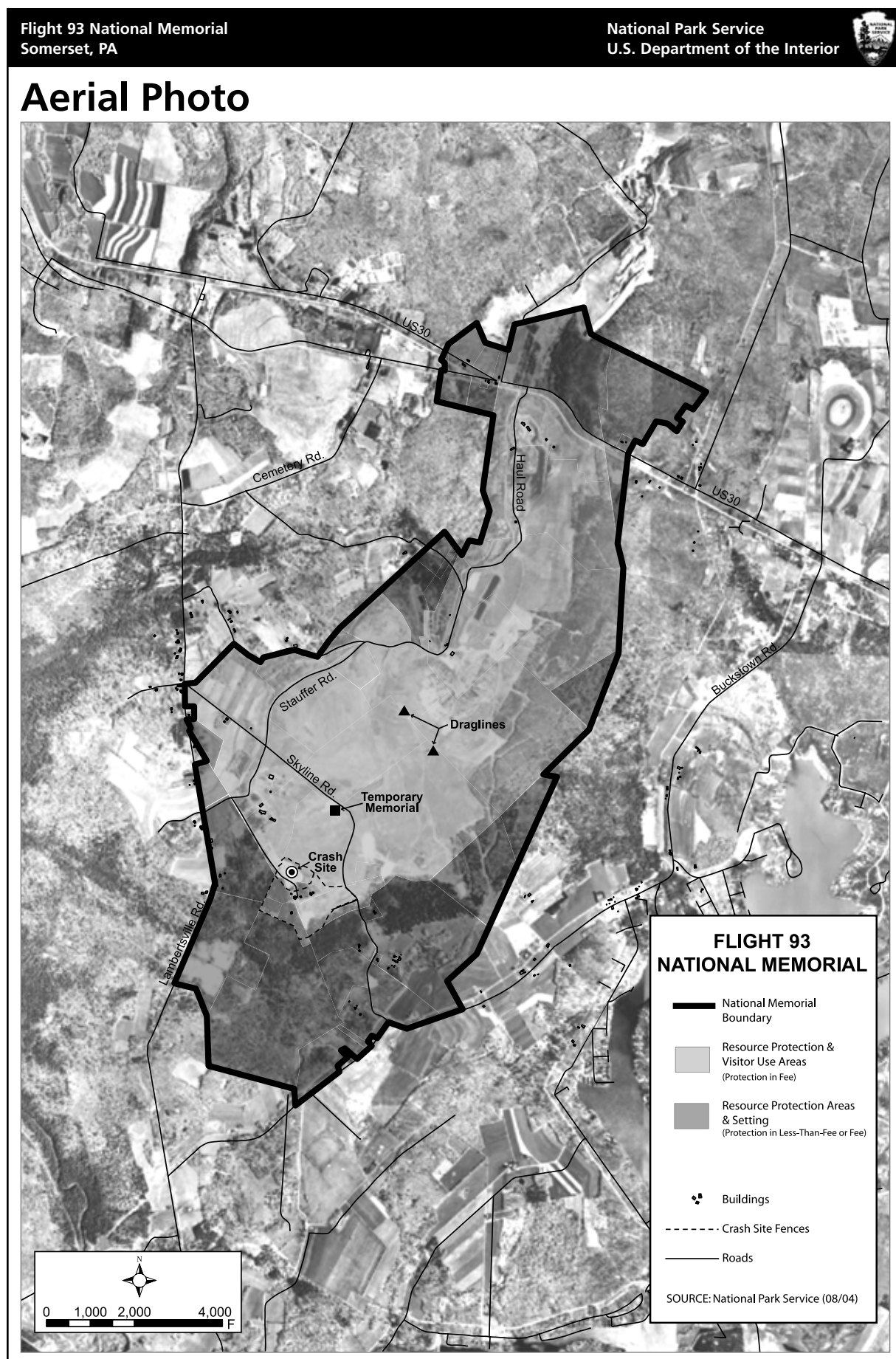
¹Bastian, Scott F. *Somerset County Naturally*. 2002. Somerset County Economic Development Corporation, Somerset County Profile, <http://www.scedc.net/county.html>.

Regional Map

This regional map shows the area around the Flight 93 National Memorial. The memorial is highlighted in a dark grey area, with the 'Flight 93 Crash Site' and 'Indian Lake' also marked. The map includes major roads such as the Pennsylvania Turnpike (I-76), US Route 30, and US Route 219. Several towns are labeled, including Jennerstown, Boswell, Hooversville, Stoystown, Friedens, Shanksville, Somerset, and Berlin. A scale bar at the bottom left indicates distances from 0 to 4 miles, and a compass rose shows the cardinal directions (N, S, E, W).

Source: Prepared by The Office of Merlyn Paulson, Inc., 2004.

Figure III-2: Aerial Photograph of Flight 93 National Memorial



Source: National Park Service, 2005



View into the Bowl (David Urda 2005)

The topography of the site creates a natural “bowl” around the crash site. This area includes the Temporary Memorial and a scrap metal and recycling facility owned by Rollock, Inc., which is situated at the top of a knoll, northwest of the crash site. Established in 1999, the Rollock facility comprises an administrative building, the scrap yard, and a cluster of buildings located further southwest of the scrap yard. An electric furnace smelts the scrap metal for recyclable products, and a narrow, 30-foot tall bag house collects fumes emitted from the burning metal for pollution control. The scrap yard is currently accessed from an entrance road southwest of Skyline Road.

The crash of Flight 93 occurred in an area about 30 to 40 feet north of the southern highwall of the strip mine and north of an access road off Lambertsville Road on land owned by Svonavec, Inc.² This area is situated at the base of the Bowl to the north and east of the hemlock grove. The crash and the subsequent investigation created a depression approximately 85 feet by 85 feet with a maximum depth of 27 feet. Immediately after the crash, investigators enclosed about 10 acres within security fencing to prevent the public from disturbing the site and later enclosed a larger area, approximately 47 acres that includes the hemlock grove, residences and a passive treatment pond.³ A large grassy mound, formed by material that was intended to fill in an adjacent settlement pond, is adjacent to the fence.

A mature hemlock grove, mixed with some hardwoods, is located immediately southeast of the crash site in an area where mining has not occurred. Several springs, Grove Run and a wetland occur within the hemlock grove. This area can be accessed by a private, gravel entry road extending from Skyline Road. Four homes, three of which are constructed of logs and one constructed of ashlar stone, are situated within the hemlock grove. Of the four residences, three are seasonal homes estimated to have been built during the 1930s-1940s.⁴ The fourth, an ashlar stone-cased house, is of newer construction and was a year-round residence. These residences have been vacant since the crash occurred in 2001. During the summer of 2002, hemlock trees that had been damaged by the fire from the crash were removed and chipped. The pile of wood chips remains west of the crash site just beyond the hemlock grove.

Nearly immediately after the crash, people began arriving in the area and leaving memorial tributes in a field located off Lambertsville Road. In November 2001, the existing Temporary Memorial (photo, below) was established at its current location off Skyline Road on a hill about 500 yards north of the crash site. A 10-foot by 40-foot section of chain link fencing was erected to provide an area for visitors to leave memorial tributes, flowers and messages.

The Temporary Memorial is located on private property and is open to the public year-round through an agreement with the owner. The site is

²United Airlines *Final Closure Report Flight 93*, Environmental Resources Management, 3 Sept. 2002, p. 3.

³National Park Service. *Draft Cultural Landscapes Inventory*, pp. 23 and 26.

⁴*Ibid.*, p. 32.



View of the Existing Temporary Memorial, Flight 93 National Memorial (OCLP 2003)

staffed by a group of local volunteers known as the Ambassadors, who were organized in January 2002 to explain the site to visitors and to answer questions.⁵ These volunteers explain the facts surrounding the crash and, most importantly, serve as personal contacts to the thousands of visitors who continue to come to the site each year. In December 2003, a temporary shelter, donated by Assateague Island National Seashore, was installed at the site to provide protection to volunteers and visitors from the weather.

MEMORIAL BOUNDARY AND LAND OWNERSHIP

Determining the boundary for the Flight 93 National Memorial involved more than a year of technical studies and a comprehensive public participation process. This collaborative process was led by a Resource Assessment Committee, comprised of community residents and local officials, the Partners, and the National Park Service. On July 30, 2004, the Flight 93 Advisory Commission signed Resolution 0401 recommending a boundary for the national memorial. The Secretary of the Interior signed and approved this boundary on January 14, 2005 (refer to Chapter I, Figure I-2).

To gain a better understanding of the resources on the site that required protection, a *Cultural Landscapes Inventory* (CLI) was completed by the National Park Service in 2004. A team of multidisciplinary specialists also prepared a series of technical studies, including transportation, an internal shuttle and traffic study; a visual resource analysis of the site; a preliminary geotechnical study; a Phase I environmental assessment for hazardous materials; natural resource inventories; and a water and sewerage feasibility study. Visitation projections and an economic impact analysis of the park on the local community were also prepared.

State-of-the art LIDAR (Light Detecting and Ranging) technology was used to help produce detailed maps and to develop a three-dimensional model to aid decisionmakers in understanding the important characteristics of the landscape. Geographic Information System (GIS) technology was used to demonstrate the views that visitors would have from different vantage points.

After considering all the resource information, the National Park Service and the Partners determined that the boundary for the memorial must: 1) protect the crash site, the debris field, and the lands where human remains were found

as the most significant resources of the memorial; 2) include lands for visiting the memorial and accessing the site with minimal disruption to the neighboring communities; and 3) provide a reverent, contemplative and appropriate setting. The total area within the boundary is 2,261.65 acres, of which about 1,355 acres is dedicated to the core visitor area of the memorial. An estimated 907 acres around the perimeter of the core visitor area would remain in private ownership and would be protected through conservation or scenic easements where possible.

All landowners within the central portion of the memorial have formally agreed to participate in the land acquisition process. As of early-2006, all land within the memorial boundary is in private ownership. The National Park Service and its partners are likely to close on several properties in the spring of 2006. PBS Coals, Inc. is the principal landowner for most of the core visitor lands and is working closely with the Pennsylvania Department of Environmental Protection to complete reclamation work before selling the property to The Conservation Fund. To date, PBS Coals and a private landowner within the boundary have announced intentions to donate approximately 29 and 5 acres, respectively. Consolidated Coal Company donated approximately 135 acres to the north of the boundary to The Conservation Fund to protect the area from development. The Conservation Fund has purchased the mineral rights underlying a portion of the site.

The properties within the boundary are all privately owned. The land is primarily wooded areas and scattered farms. It is anticipated that this land will be protected through partnerships with local residents and other organizations and agencies, and where possible, through less-than fee acquisition methods such as the purchase of scenic or conservation easements.

PARK VISITATION

People have been coming to the Flight 93 crash site since the crash occurred in September 2001. Approximately 150,000 people visited the Temporary Memorial in 2003, and in 2004, volunteers recorded 129,702 visitors to the site. Current projections show that about 130,000 visitors are now visiting the site annually, and by the 10th anniversary (2011), given construction of a permanent memorial and visitor facilities, a peak of about 400,000 visitors are projected to visit the memorial that year. Long-term projections show that visitation to the park is expected

More than 1 million people have come to the site since the September 11, 2001 crash. Approximately 130,000 people visited the site in 2004.

⁵Ibid., p. 14.



Visitors at the Temporary Memorial (Chuck Wagner 2005)

to decline slightly after 2011 and then stabilize to about 230,000 visitors annually.

Current visitors to Flight 93 National Memorial come from every State and around the world. School children and retired seniors comprise an important part of the visitation. Tour groups en route to Gettysburg, Baltimore/Washington, D.C., New York, Pittsburgh or Philadelphia also stop at the memorial. Large groups of motorcyclists, specialty car clubs, and bicyclists have visited the site while touring the area.

Based on visitor records, many of the visitors to the memorial return to the site numerous times, including multi-generational groups, many of whom now visit the site as part of an annual trip through the area. Visitors have expressed a desire to pay their respects to those honored and to see the place in remembrance of the September 11th events.

Visitors express curiosity about the site, the community, the environment, the plans for the permanent memorial, and about the family members of those who were lost in the crash. Others contemplate and are reflective about the events that created the memorial. Many visitors come to the site with some form of tribute to leave at the memorial. Some study the tributes and messages left at the memorial and nearly everyone wants to share where they were and what they were doing on the morning of September 11, 2001.⁶

EXISTING PARK ADMINISTRATION AND OPERATIONS

In September 2002, the Flight 93 National Memorial was established through legislation enactment (Chapter I) when Congress gave the National Park Service the responsibility of administering the site as a unit of the national park system. In 2005, the memorial was staffed by four full-time park staff, including the park superintendent, park planner, historian/curatorial specialist, an administrative assistant, three interns, and three contracted curatorial staff. Additional staff support is available from other national park units in western Pennsylvania, including Allegheny Portage Railroad National Historic Site, Fort Necessity National Battlefield and Johnstown Flood National Memorial. The National Park Service Flight 93 National Memorial project office is located in Somerset Borough about 18 miles from the memorial.

⁶Donna Glessner, March 2005. "Visitor Profile."

⁷National Park Service. *Draft Cultural Landscapes Inventory*, 2004.

⁸TransAssociates. *Flight 93 National Memorial Traffic Impact Study, Phase I Assessment*. 2004.

The Flight 93 Temporary Memorial is staffed year-round by a group of local volunteers known as The Ambassadors. The Ambassadors were organized in January 2002, and have continued to greet visitors, answer questions and provide information on the site.

The memorial is open to the public from dawn to dusk. However, because the Temporary Memorial can currently be accessed from a public road, people can drive to it at any time.

Approximately 20,000 curatorial items and tributes have been left at the Temporary Memorial since 2001. These items are processed locally at the National Park Service office, archived and stored offsite in a secure location north of Pittsburgh.

SITE INFRASTRUCTURE

Access and Circulation

Flight 93 National Memorial is situated between Lambertsville Road on the west side of the site and Buckstown Road which extends along the east side. U.S. Route 30 (Lincoln Highway), an east-west highway, traverses through the northernmost tip of the site. The mining operation created a network of compacted dirt mining roads leading to different areas throughout the site. These roads were originally constructed to provide temporary access to certain areas, and then were abandoned or backfilled during the reclamation process.

Skyline Road (T-613), a two-lane township road, is currently the main access to the site. Skyline Road extends southeast about 2 miles from Lambertsville Road to Buckstown Road. It provides access to the Temporary Memorial and a paved parking lot spanning both sides of the road. Farther to the east and south, Skyline Road passes a gravel parking lot that accommodates auxiliary parking and tents for large events. A small, private gravel road extends to the west off Skyline Road and provides access to the ashlar stone and log cabins in the hemlock grove.⁷ The roadway surface of Skyline Road is a combination of bituminous and rock/gravel, and varies from fair to poor condition. No speed limit is posted though it is assumed that the speed is 25 miles per hour (mph). The posted weight limit is 10 tons. Several residences are located along the eastern edge of this roadway.⁸

Stauffer Road (T-708), a two-lane, 16 to 30-foot-wide township road, connects Skyline Road to Cemetery Road. The surface of Stauffer Road is rock/gravel and is in poor condition. The speed limit is posted at 15 mph only within the vicinity of Cemetery Road; it is not posted elsewhere and is assumed to be 25 mph. Stauffer Road is also weight-restricted to 10 tons within the vicinity of Cemetery Road. Several residences are located along Stauffer Road in the vicinity of Cemetery Road.

Sturtz Road (T-615) is a two-lane, township road connecting Lambertsville Road to Stauffer Road. The roadway width varies from a single travel lane, or approximately 8 feet to 22 feet wide, resulting in an average lane width of 11 feet wide without shoulders. The roadway surface is rock/gravel and is in poor condition. No speed limit is posted, though it is assumed to be 25 mph. The posted weight limit is 10 tons. Several residences are located along this road.

The Haul Road is a privately owned, rock/gravel road that has restricted (gated) access. The Haul Road extends between Stauffer Road and U.S. Route 30 and was used for hauling coal by heavy trucks during mining operations. This road is not posted for either weight or speed limits. It is approximately 30 feet wide and ranges even wider at some locations. Just south of U.S. Route 30, the Haul Road is paved for a short distance.

A gated, private gravel road that provides access to the scrap and recycling facility, the welding shop complex and the crash site extends south from the intersection of Stauffer Road and Skyline Road to Lambertsville Road. The portion of the road nearest Lambertsville Road has been paved and provides restricted access to the crash site for visiting family members and authorized personnel, and access to the Sheriff's Deputy trailer.

Utilities

Above-ground electric power and telephone lines currently transect the memorial site in many places. Electricity was used to power the draglines and to provide power to well pumps, the welding shops, the shower facility and other structures, as well as to the Rollock scrap yard. Electric and telecommunications services are provided by Penelec-A First Energy Company, Rural Electric Cooperative and Verizon.

A communications cell tower, owned and operated by Wireless Development Group, LLC, was erected in 2004 on the north side of U.S. Route 30 near the Haul Road in Shade Township. The tower is situated on a 100'x100' parcel that lies within the boundary in the area designated for scenic protection. A 25-year lease agreement between Wireless and PBS Coals, Inc. was signed on June 27, 2001, and includes the right to renew for three additional 25-year terms.⁹

Numerous wells have been drilled at the Flight 93 National Memorial as part of the past mining operations. The only well that reportedly produces a significant yield of good quality water is the Diamond T Mine shower house well. This well is 131 feet deep and has an estimated yield of 7 gallons per minute (gpm). Water quality analyses provided by PBS Coals showed that this well produces water excessively high in iron.¹⁰ Figure III-3 illustrates the local infrastructure at the Flight 93 National Memorial.

There are four areas within the boundary where sewage disposal systems once operated. These onsite sewage systems were in the following locations:¹¹

- Diamond T Mines "C" and "D" – This system is estimated to have had a 2,500 gpd capacity, but is reportedly unusable and not functioning.
- Diamond T Mine Shop and Warehouse.
- Two on-lot residential systems located north of U.S. Route 30 near the cellular tower.
- Rollock sewage holding tank, located at the Rollock scrap yard.

The Diamond T Mines "C" and "D" sewage treatment facility was previously used to treat sewage from the shower house facility operated by PBS Coals, Inc. Due to the mine closure, the small size of the onsite treatment facility and its high elevation, it was determined impractical to expand this facility to support the park's needs.

Sewage disposal for the cabins located in the hemlock grove are served by on-lot septic systems. In September 2003, an *Act 537 Sewage Facilities Plan for Stonycreek Township* recommended that the sewage along Lambertsville Road, which could include the Flight 93 National Memorial, be conveyed to the Shanksville Borough Sewage District.¹²



Skyline Road near Grove Run
(Donna Glessner 2005)

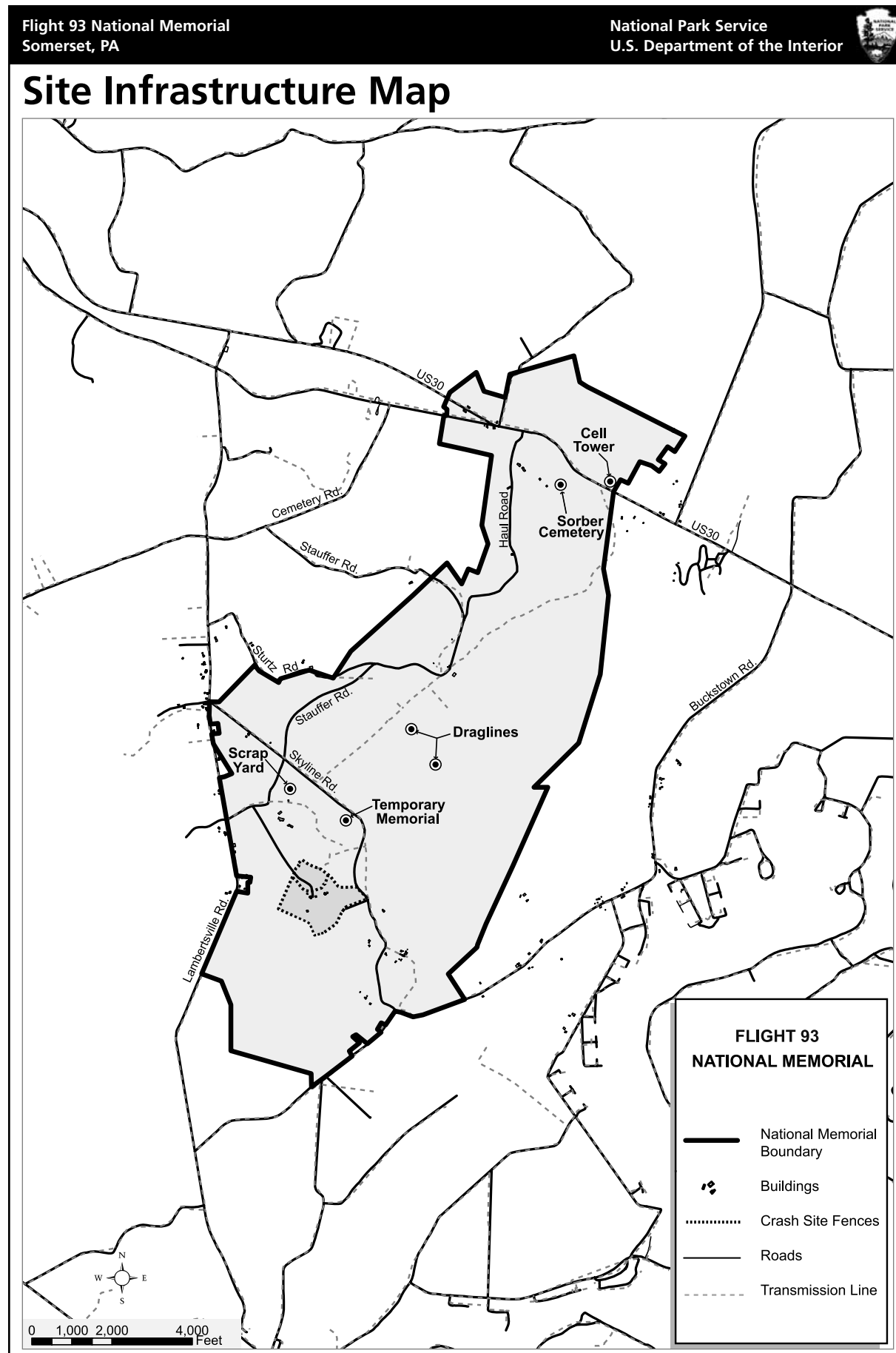
⁹Wireless Development Group, LLC. Letter to Jay Zimmerman from John Malloy, dated July 19, 2001.

¹⁰Secondary Maximum Contaminant Level (SMCL) for public water supplies is 0.3 mg/l. Casselberry & Associates letter to Steve Sesack, P.E., dated April 25, 2005, p. 3.

¹¹The EADS Group, April 2005. *Flight 93 National Memorial Water and Sewage Service Feasibility Study*, p. 26.

¹²Telecon with Brad Stinebiser of The EADS Group, July 13, 2005. *Act 537 Sewage Facilities Plan for Stonycreek Township, Somerset County, PA*, Sept. 2003, pp. 19-20 and p. 31.

Figure III-3: Flight 93 National Memorial Existing Infrastructure, 2005



Source: National Park Service Cultural Landscapes Inventory, 2004. Prepared by The Office of Merlyn Paulson, Inc., 2005.

NATURAL RESOURCES

Commonly referred to as the Laurel Highlands, the region consists of a series of parallel, rounded ridges oriented northeast/southwest with high elevated stream valleys that drain into the Ohio River basin. Laurel Hill forms the ridge to the west and the Allegheny Mountains lie to the east. The prevalent orientation of the major ridges and valleys in the region is northeast-southwest. The county's land area totals 1,085 square miles, and is almost entirely in the Ohio River drainage area. Elevations within Somerset County range from 1,040 feet in Southampton Township located in the far southeast corner of the county, to 3,213 feet at Mount Davis near Meyersdale—the highest point in Pennsylvania—located about 25 miles southwest of Flight 93 National Memorial.

Consistent with the regional terrain, the memorial site is composed of rolling hills dominated by a gentle ridge along the northeastern limit. Maximum elevations at the site range from 2,550 feet to 2,600 feet above sea level, and the minimum elevation along the western limit is about 2,260 feet. The southern limit near the crash site is 2,350 feet above sea level and the crash site is approximately 2,400 feet above mean sea level.¹³ The site's latitude and longitude are 40.03.02 (DD>MM>SS) West and 78.54.17 North. The study area is depicted primarily on the Stoystown USGS quadrangle, with the eastern perimeter of the site extending into the Central City USGS quadrangle. Figure III-4 illustrates the topography of the site.

Geology, Soils and Topography

In 2004, a preliminary geotechnical study was conducted on the core visitor lands within the memorial boundary. This study summarized the strip- and deep-mining conducted at the site and general soil conditions that could affect foundation construction, grading, and other geotechnical considerations of the project. In addition, a groundwater and hydrology study for potable water was conducted in 2005. Descriptions of existing geologic conditions and the mining history of the site are presented.

Somerset County lies entirely in the Allegheny Mountain section of the Appalachian Plateaus physiographic province. The area was formed during the Paleozoic era, more than 290 million years ago.¹⁴ The Allegheny Front physiographic

escarpment along the eastern border of the county creates updrafts and thermals that have formed a well-established raptor migration corridor.

Somerset County has three primary regions with coal deposits: 1) Southampton Township, 2) the area between the Little Savage Mountain and the Big Savage Mountain in the Berlin area, and 3) the Lower Productive coal measure, which occupies more than half of the county's surface and consists of coal beds from 3 to 5 feet deep.¹⁵

Surficial bedrock in this area is composed of the Freeport Formation (Fm), Allegheny Group (Grp), Pennsylvanian System, with mining extending to the Clarion Formation. These bedrock intervals include several economically important bituminous coal seams, descending from the Upper Freeport coal, to the top-most member of the Freeport Fm, to the Lower Kittanning coal, the basal member of the Kittanning Fm.¹⁶

Other members of these formations are interbedded sequences of limestone, coal and sandstone with shale and claystone. These seams are basically horizontal thin beds of sedimentary rocks which have been deformed over time by tectonic movements, folding and faulting. Limestone beds on the site are thin and are not conducive to cave formation. Although the Loyalhanna Fm is a limestone unit that pervades throughout much of the county, there are no known caves located within the memorial boundary.

The memorial site occupies a broad northeast-trending ridge that is truncated by the headwaters of Lamberts Run to the north and Grove Run to the south. The groundwater flow systems are developed within gently folded Pennsylvanian and upper Mississippian-age bedrock belonging to the Glenshaw Fm of the Allegheny Grp, the Pottsville Grp and the Mauch Chunk Fm.¹⁷ The Glenshaw Fm is a heterogeneous unit composed of alternating layers of shale, sandstone, limestone, claystone and coal.¹⁸

An assessment of the site's soils showed the biotic conditions, such as areas where certain plants and animals occur including wetlands; identified construction constraints; determined suitability for sewage disposal systems and groundwater aquifers; and identified prime farmland.

The memorial site is composed of rolling hills that are typical of the Laurel Highlands.

¹³Engineering Mechanics, Inc. *Flight 93 National Memorial Geotechnical Report*. July 8, 2004. Cited PBS Coals, Inc. for elevations.

¹⁴Ibid.

¹⁵*Somerset County Comprehensive Plan Update*, July 31, 2003, p. 2-9.

¹⁶Engineering Mechanics, Inc. *Geotechnical Report*. July 8, 2004.

¹⁷Casselberry & Associates. Letter report to Steve Sesack, P.E., The EADS Group, dated Apr. 25, 2005.

¹⁸Ibid, p.2.

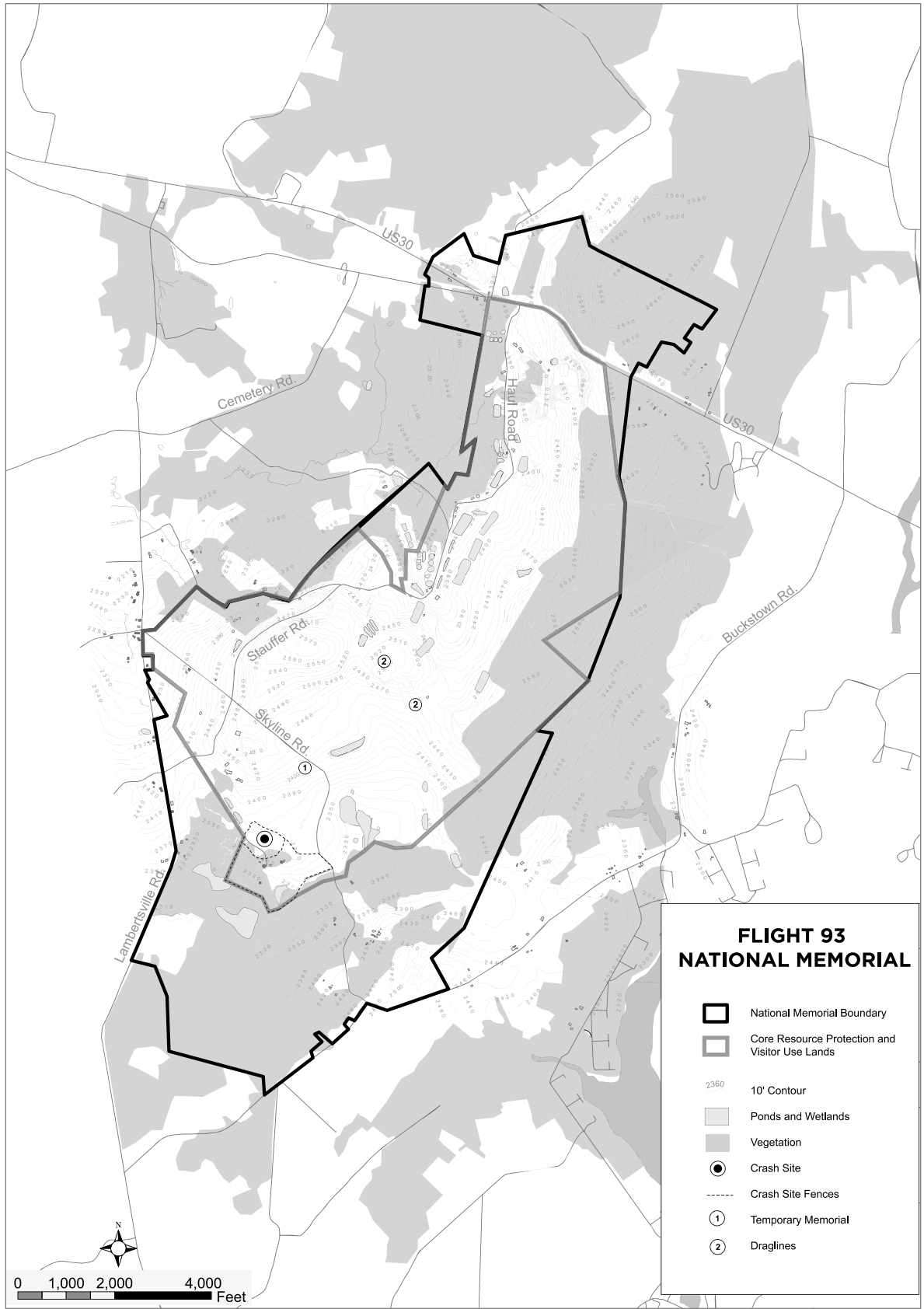
Figure III-4: Flight 93 National Memorial Topography

Flight 93 National Memorial
Somerset, PA

National Park Service
U.S. Department of the Interior



Topography



Source: National Park Service, 2005

Although the soils on the site are generally not classified as hydric, hydric soils do occur adjacent to streams and in some low-lying areas on the site. All of the soils of the study area are acidic in reaction and developed under forest vegetation. They formed by weathering of bedrock in place, except for alluvium along stream channels. According to the Soil Survey of Somerset County, more than 70 percent of the soils in Stonycreek Township are considered unsuitable for on-lot sewage disposal systems.

Soil type also determines whether the land is classified as prime farmland and farmland of statewide importance, as defined in the Farmland Protection Policy Act (FPPA). Prime farmland is defined as land that has the best combination of physical and chemical characteristics for producing food, feed, fiber, forage, oilseed, and other agricultural crops with minimum inputs of fuel, fertilizer, pesticides, and labor, and without intolerable soil erosion. The Somerset County Comprehensive Plan Update estimates that the county has approximately 81,000 acres of prime agricultural soils.¹⁹

Small areas of prime farmlands existed on the memorial site prior to surface mining.²⁰ Three soils mapping units in the core part of the site are classified as prime farmland. These are Hazelton channery sandy loam (HaB), 3-8% slopes; Rayne-Gilpin channery silt loams (RgB), 3-8% slopes; and Wharton silt loam (WhB), 3-8% slopes (only those areas with 5.4% slope or less are considered prime farmland). Soils of statewide importance are composed of Atkins silt loam (At); Cavode silt loam (CaB), 3-8% slopes; Ernest silt loam (ErB), 3-8% slopes; Hazelton channery sandy loam (HaC), 3-8% slopes; and Rayne-Gilpin channery silt loams (RgC), 8-15% slopes.

Air Quality

Based on the U.S. Environmental Protection Agency's listing of counties in nonattainment for 8-hour ozone standards, Somerset County is not listed and therefore is designated as a county that is in attainment for meeting air quality standards. Within the 9-county study area, Cambria County is the only county that is nonattainment.

In 2003, PennDOT released the *Air Quality Conformity Analysis Report for the Johnstown Non-MPO Ozone Nonattainment Area*.²¹ Though this report acknowledged that Somerset County

is in attainment by USEPA standards, it identified two major highway projects in the county that could have a significant effect on emissions as a result of increasing capacity or significantly impacting vehicular speeds. The transportation projects that could result in adverse effects on the county's air quality are—

- U.S. 219 Garrett—Construction of a new four-lane roadway connecting the existing southern terminus of US 219 in Somerset Township to the current northern terminus of the Meyersdale Bypass in Summit Township.
- U.S. 219 Meyersdale to I-68—Relocating/constructing U.S. 219 from the Meyersdale Bypass in Summit Township to I-68 in Maryland.

Vegetation and Wildlife

In 2004 and 2005, two natural resource surveys were conducted mainly of the core visitor lands of the site. The core visitor lands are comprised of approximately 1,355 acres, or about 60 percent of the entire area within the memorial boundary. In July 2004, Schmid & Company focused on inventorying the site's vegetation, water resources, and terrestrial habitat. In March 2005, a supplemental natural resource inventory was conducted by the Western Pennsylvania Conservancy to augment the 2004 information and to focus on species of concern, wildlife species and habitat, birds, venomous snakes and invasive species. The following sections summarize both natural resource surveys that were conducted within the boundary.

Long before mining occurred in the area, the memorial site and most of the surrounding area was farmland, forests and pastureland. The vegetation types found at the memorial reflect the land use history, existing land management practices and the varied environmental settings. Based on the mining reclamation plan obtained from the Department of Environmental Protection, PBS Coals, Inc. is backfilling and regrading the mining area to its approximate original contours and overlaying the site with an average of 12 inches of topsoil (soil generated from the site) prior to reseeding.²² It should be noted that the stipulations provided in the Department of Environmental Protection reclamation plan were followed as closely as possible but in many areas the site exceeds a foot of overburden and in other areas the top soil is less than a foot.



Open fields and rolling hills at the site (David Urda 2005)

¹⁹Somerset County Comprehensive Plan Update, July 2003, p.2-11.

²⁰Schmid & Company, 2004. Preliminary Natural Resource Inventory, Flight 93 National Memorial Study Area.

²¹Southern Alleghenies Planning and Development Commission. *Southern Alleghenies Rural Planning Organization Long Range Transportation Plan FY 2003-2023*, "Air Quality Conformity Analysis Report for the Johnstown Non-MPO Ozone Nonattainment Area," Vol. I, Executive Summary. PennDOT, 2002.

²²PaDEP. Diamond T mine reclamation plan.

The fire resulting from the crash destroyed a portion of the hemlock grove.

The standard seed mixture used by PBS Coals, Inc. during reclamation included birdsfoot trefoil (*Lotus corniculatus*), Kentucky #31 tall fescue (*Festuca arundinacea*), redbud (*Agrostis gigantea*), perennial ryegrass (*Lolium perenne*), timothy (*Phleum pratense*), orchard grass (*Dactylis glomerata*), red clover (*Trifolium pratense*), white clover (*Trifolium repens*), and annual ryegrass (*Lolium perenne* L. ssp. *multiflorum*); all of which are non-native species. In addition, several species may have been planted to increase wildlife forage and cover, such as switch grass (*Panicum virgatum*), white spruce (*Picea glauca*), white pine (*Pinus strobus*), Scots pine (*Pinus sylvestris*), autumn olive (*Elaeagnus umbellata*), and sawtooth oak (*Quercus acutissima*).²³

The reclaimed strip mine community type is represented by grasses and dominated by herbaceous species such as goldenrods. Black locust (*Robinia pseudoacacia*), bristly locust (*R. hispida*), devil's walking-stick (*Aralia spinosa*), and staghorn sumac (*Rhus typhina*) are found to form dense clones in places.²⁴ Today, about 59 percent of the memorial site is reclaimed strip mine and about 27 percent is forestland. Most of the forest patches within the memorial boundary are predominantly modified variations of naturally occurring forests. Though classified mainly as northern hardwoods forest types, the forests within the boundary vary in composition due to logging. The forests are composed of small seedlings and stump sprouts from former overstory trees. Shade and deer browsing may limit oak recruitment in this forest, thus increasing the number of red maples. The upland forests on the eastern border of the core visitor lands are essentially young, degraded versions of the northern hardwood forests typical of southwestern Pennsylvania.

A stand of eastern hemlocks and mixed deciduous hardwoods exists within the fenced area south of the crash site. The trees in this area are about 70 feet high, and average 10 inches in diameter. Along the northern and eastern edges of this grove, several trees have fallen due to high winds and shallow root systems. The outer edge of the hemlock grove toward the crash site was burned during the crash and explosion.

The fire resulting from the crash and subsequent logging destroyed the natural buffer that was composed of shrubs, small deciduous trees, and younger hemlocks. Since September 11, 2001,

several large hemlocks have fallen over from high winds and heavy snow. In this area, shrubs and other woody vegetation have re-established, including rambling rose, black raspberry, red elder, hay-scented fern, pokeweed, timothy, reed-canary grass, coltsfoot and broadleaf dock.²⁵

The high water tables and rocky soils found within the memorial boundary prevent trees from establishing deep root systems though hemlocks naturally do not have extensive root systems. Individual trees in even aged stands are likely to devote resources to shoot growth at the expense of root development where competition for light is high, as is the case in even aged hemlock stands. Consequently, interior trees do not develop large root systems. These trees are buffered from high winds by adjacent trees. However, when the buffer was removed by the fire from the crash, the trees that were once in the interior of the hemlock stand are now exposed and the chance for additional fallen trees due to high winds and heavy snowfall is high. Overtime, trees will naturally establish along the edge.

Black locust forests and hawthorn thickets occur on highly disturbed sites, most often following agricultural abandonment.²⁶ A hawthorn thicket was found adjacent to the Sorber Cemetery, which most likely indicates that a relict orchard had once been present.

Hemlocks, interspersed with deciduous trees, are dominant trees found near Grove Run and Lamberts Run. The ground layer around these streams consists of sphagnum moss, sweet wood-reed [grass], and broad stands of skunk cabbage.

The non-wetland deciduous forest in the lower elevations of the site (up to about 2,400 feet) supports a wide variety of plants and typically has a conspicuous understory of small trees and shrubs, as well as a diverse ground layer. Typical species are oak, American beech, black gum, white pine, birch, sassafras, maples, eastern hemlock, shagbark hickory, bitternut hickory, and American basswood. Typically, the canopy in the older woods of the lower elevations is about 70 feet tall.

Woodlands dominated by black locust and black cherry occur in the higher elevations (above 2,400 feet). Trees at this elevation seldom

²³Western Pennsylvania Conservancy, April 2005. *Rapid Inventory and Assessment of the Ecological and Biodiversity Resources of the Flight 93 National Memorial in Somerset County, Pennsylvania*, p. 18; Source, PaDEP, Diamond T Reclamation Plan.

²⁴Ibid.

²⁵Schmid & Company, 2004. Preliminary Natural Resource Inventory, Flight 93 National Memorial Study Area, p. 7.

²⁶Ibid.

exceed 50 feet in height and are most noticeable along the eastern ridge and to the northwest of the site. Black locust is the primary species on the older mine spoils. Native wood species include white oak, black oak, hawthorns, black cherry, and trembling aspen. Staghorn sumac and autumn-olive are common shrubs.

With the exception of the hemlock communities south of the site, the habitats encountered during natural resource surveys support species tolerant of disturbance. There are, however, a significant number of rare plant records in the general vicinity of the site, a few of which should be considered as having potential to occurring on the site, either because the hemlock grove may provide suitable habitat or because the species are tolerant of disturbance. Because there is some potential for seasonal ponds to occur on the site, these areas could also support rare plant populations. No vernal pools were apparent from the aerial photos, and if any are present, they are most likely very small.

Although no federally or State listed or candidate plant species of conservation concern were found or are known to occur within the memorial boundary, limited but significant potential exists for plant species of conservation concern to occur on the site. Vegetative surveys conducted during two natural resource surveys did not discover any rare plant populations. However, time constraints prevented the timing of those surveys to coincide with the optimal seasonal times to observe any of the rare plant species known to occur in the region.

Hemlock Grove—The hemlock grove south of the crash site was surveyed by Western Pennsylvania Conservancy biologists on March 17, 2005. The stand is composed of three eastern hemlock-dominated plant community types: hemlock white pine (terrestrial) forest, hemlock palustrine forest, and hemlock mixed hardwoods palustrine forest. The 10-acre hemlock white pine (terrestrial) forest patch is dominated by hemlocks (>25 cm dbh) and scattered white pines and hardwoods. The overstory trees appeared to be healthy and there was a substantial number of seedling and sub-canopy sized hemlock stems. Large clones of rosebay rhododendron (*Rhododendron maximum*) were found in the understory. Because the area is protected by fencing, hemlock seedlings may be protected from deer browsing.

The hemlock communities at the south end of the site are probably the healthiest natural communities at the site and have the greatest potential to support viable populations of rare plants, such as *Juncus debilis* (weak rush, proposed Pennsylvania Tentatively Undetermined), *Listera smallii* (kidney-leaved twayblade, Pennsylvania Endangered), and *Listera cordata* (heart-leaved twayblade, Pennsylvania Endangered).

Southeast of the hemlock grove, the elevation declines and there is a greater amount of standing water. The trees are decidedly smaller and there is a greater hardwood cover. This change in community types from a nearly pure hemlock forest stand to a hemlock-mixed hardwoods palustrine forest to red maple-mixed hardwoods palustrine woodland creates habitat for a number of species that require both conifer forests and deciduous species (such as magnolia and black-throated green warblers), and adds to the significance of the hemlock grove.²⁷

Sorber Cemetery—The Sorber Cemetery is located at the north end of the core visitor area and was not disturbed by mining operations. This family cemetery dates to the mid-1800s. This site is represented by three vegetation types: Black locust forest, hawthorn thicket, and an artificially constructed pond. A combination of plant species around the grave site includes day lilies (*Hemerocallis c.f. fulva*) and pear (*Pyrus c.f. communis*), as well as a number of species common to the herbaceous-dominated reclaimed strip-mine community, hawthorn thicket and black locust forest communities.

An artificially constructed pond situated nearly 10-15 m from the graves is surrounded by reed-canary grass (*Phalaris arundinacea*), monkey-flower (*Mimulus ringens*), wool-grass (*Scirpus cyperinus*), wrinkle-leaf goldenrod (*Solidago rugosa*), smooth goldenrod (*Solidago c.f. gigantea*), and redtop (*Agrostis c.f. gigantea*). Although this area is only a small patch and exhibits a relatively non-native occurring plant community type, it is one area of the site that has not been disturbed by strip-mining. Because of this, this site and other non-strip mined areas could potentially harbor or support species of concern.

Only a few mammals were documented during the Western Pennsylvania Conservancy field visits in March 2005. These species included eastern chipmunk (*Tamias striatus*), white-tailed



Hemlock Grove (OCLP 2003)

²⁷Western Pennsylvania Conservancy, 2005, pp. 42-43.

The past stripmining of most of the site created disturbed wildlife habitat and a fragmented, open landscape.

deer (*Odocoileus virginianus*) and fox (tracks and den) believed to be red fox (*Vulpes vulpes*). Some signs of small mammals (voles, shrews) were noted, although no estimation of those species could be made. Black bears have been seen at the site and an interview with Mr. John Weir (PBS Coals, Inc.) revealed that fox and bobcat trappings had occurred near the hemlock grove at the southern end of the property.²⁸

Because most of the site has been strip-mined, it represents disturbed habitat for wildlife and creates a fragmented open landscape that is less optimal for many species. Post-surface mining has created changes in water as an element of habitats in two ways. First there are several pools and ponds that are now part of the memorial's landscape. These represent diversification of habitats on the site, although existing pond quality is low. Secondly, the history of coal mining in the area has altered the quality of surface and subsurface water sources.²⁹

The results of the field study relative to mammals and reptile habitat showed a rather diverse assemblage of habitats within the memorial boundary.³⁰ The site revealed that habitat exists suitable for about 63 species and 33 sub-species of mammals.

Two venomous snakes, the northern copperhead (*Agkistrodon contortrix mokasen*) and the timber rattlesnake (*Crotalus horridus*), are known to occur in the region. However, there are no known records for either of these species to occur on or in the vicinity of the memorial and the probability that this snake is present on the property is low.³¹

The Western Pennsylvania Conservancy's natural resource survey reported that 70 bird species were recorded at or near the Flight 93 National Memorial. A listing of these species can be obtained from the National Park Service office in Somerset. Of these bird species, 20 species were recorded at the memorial during Western Pennsylvania Conservancy surveys and during the 1st and 2nd Pennsylvania Breeding Bird Atlases (PBBA). Nine species were observed at the memorial in 2004 and during the first year of the 2nd PBBA.³²

On July 26, 2004, 32 bird species were observed at the memorial. Wild turkey (*Meleagris gal-*

lopavo) was the only species confirmed to be breeding based on criteria established by the PBBA. A great-blue heron (*Ardea herodias*) and a pair of red-tailed hawks (*Buteo jamaicensis*) flew over the site during the survey. Tree and bank swallows (*Tachycineta bicolor*, *Hirundo rustica*) and cedar waxwings (*Bombycilla cedrorum*) were also observed foraging over grassy, open areas at the site. The remaining species were considered possible breeders.³³ About 39 percent of the bird species observed using the reclaimed strip mine portion of the site are grassland-dependent species.

Three species of special concern were observed at the memorial during a survey in March 2005:

- northern harrier (*Circus cyaneus*), a State candidate at-risk species of special concern;
- Wilson's snipe (*Gallinago delicata*), a State-threatened species of special concern; and
- a short-eared owl (*Asio flammeus*), a State-endangered species of special concern.

Both the northern harrier and Wilson's snipe were considered to be probable breeders. The northern harrier uses upland and wetland habitats, including marshy meadows; wet, lightly grazed pastures; old fields; freshwater and brackish marshes; dry uplands; and riparian woodland. The Wilson's snipe uses wetlands to well-drained grassy uplands, and marshy edges of streams, though it appears to avoid tall, dense vegetation and cattails.

The short-eared owl was observed using the site for wintering habitat in March 2005. This species prefers large expanses of grassy, upland habitats similar to those found at the memorial for all or part of its life cycle. Nests are usually located on dry sites and slight ridges with enough vegetation to conceal incubating females.

Invasive Species. Due to the significant alteration and disturbance to the site from past mining activities, much of the site is composed of non-native species. Most of these species do not pose significant threats to natural communities in this geographic area, although there were some species found in more natural habitats at the site that do have the potential to spread and displace native species.

²⁸Ibid, p. 36.

²⁹Ibid, p. 36.

³⁰Ibid. pp. 38-39.

³¹Western Pennsylvania Conservancy, 2005, p. 36, and PA Fish and Boat Commission's Natural Diversity Section. This conclusion was also supported in conversation with Mr. John Weir (PBS Coal, Inc.).

³²Ibid, p. 40.

³³Ibid.

Kentucky #31 tall fescue (*Festuca arundinacea* Schreb.) was approved for use in the seed mixture during the reclamation of the site by the Pennsylvania Department of Environmental Protection. Tall fescue, a long-lived grass with short underground stems, is a versatile plant that establishes quickly; is used for livestock feed, lawns, turf and conservation purposes; and is adapted for a wide range of soil and climatic conditions. It is widely used on construction sites and slopes because of its ability to rapidly establish and to control erosion. The Pennsylvania Game Commission acknowledged its usefulness in controlling erosion and establishing quickly, but commented that this grass is non-native, is very thick and does not present suitable habitat for birds or for other wildlife species.³⁴

Viable gypsy moth (*Lymantria dispar*) egg masses were also observed at the memorial. Because gypsy moth populations have declined in the region, and because oak-dominant forests occupy minimal area at the site, this species was not of serious concern.³⁵

In addition to the invasive species observed at the site, one non-native species that was not observed, but which is of serious concern, is the hemlock woolly adelgid (*Adelges tsugae*). The woolly adelgid (photo, below) is an insect that has been known to occur in the United States since 1924. This introduced species, believed to

be a native of Asia, is a serious pest of eastern hemlocks. In the eastern United States, the woolly adelgid ranges from northeastern Georgia to southeastern Maine and west to eastern Tennessee.³⁶ This species has been identified as a serious threat to the hemlock grove at Flight 93 National Memorial, as its range is expanding from the east towards Somerset County.³⁷

In addition to hemlock woolly adelgid, Pennsylvania has been experiencing a threat called “maple die-back” or “sugar maple decline” to sugar maples (*Acer saccharum*). This threat is due in part to soil fertility problems and insect defoliation. Red maples are susceptible to fusarium canker, which results in long, narrow lesions on the bark.

Federally and State Protected Species. The Endangered Species Act of 1973, as amended, (87 Stat. 884, as amended; 16 U.S.C. 1531-1543) is administered by the U.S. Fish and Wildlife Service (FWS) and provides protection to certain plant and animal species. Pennsylvania’s Act 170, Wild Resource Conservation Act, administered by the Department of Conservation and Natural Resources, preserves and enhances species in the Commonwealth, including those that are rare or endangered. For the most part, Pennsylvania defers to the Federal listing of species maintained under the Endangered Species Act of 1973. The Pennsylvania

³⁴Conversations with Barry Zaffuto, Pennsylvania Game Commission and Environmental Management Collaboration, Ltd., 2003 and 2005.

³⁵Western Pennsylvania Conservancy, 2005, p. 20.

³⁶USDA-Forest Service website <http://na.fs.fed.us/fhp/hwa/>.

³⁷National Park Service, website <http://www.nature.nps.gov/biology/ipm/manual/aphids.htm>



Adult Hemlock Woolly Adelgid (*Adelges tsugae*)
(Dennis J. Souto, USDA Forest Service, www.invasive.org)



Mining ponds and dragline as seen from U.S. Route 30
(Jason Cohn 2004)

Natural Diversity Inventory (PNDI) is a listing species of special concern in the State.

Two upland sandpipers (*Bartramia longicauda*), State threatened species of special concern, were observed about 5 miles southwest of the memorial. In 2004, a northern harrier (*Circus cyaneus*), a State candidate at-risk species of special concern, and Wilson's snipe (*Gallinago delicata*), a State-threatened species of special concern, were observed at the memorial. A short-eared owl (*Asio flammeus*), a State-endangered species of special concern, was also observed using the site for wintering habitat during the March 11, 2005, site visit.³⁸

In December 2003, the National Park Service initiated consultation with the U.S. Fish and Wildlife Service and the Pennsylvania Natural Heritage Inventory (PNDI) through the scoping process for the Flight 93 National Memorial General Management Plan/Environmental Impact Statement and a request for natural resource data within the affected environment. On December 16, 2003, the PNDI responded that their records showed no occurrences of plant species of special concern within the project area. Further, impacts to endangered, threatened or rare plant species at this site were not anticipated.

On December 22, 2003, the U.S. Fish and Wildlife Service submitted initial scoping comments to the National Park Service and stated that except for occasional transient species, no federally listed or proposed threatened or endangered species under their jurisdiction were known to occur in the project area. Copies of these agency letters are provided in **Appendix B**.

On April 5, 2005, the National Park Service re-established coordination with the U.S. Fish and Wildlife Service pursuant to the Endangered Species Act of 1973, as two years had passed since the initial coordination had occurred. The U.S. Fish and Wildlife Service responded with comments regarding potential occurrence of the federally endangered Indiana bat (*Myotis sodalis*) and potential hibernacula that may exist on this site due to the former coal mines.

The Indiana bat (*Myotis sodalis*) is listed in the "Federally Listed, Proposed, and Candidate Species in Pennsylvania" (rev. July 27, 2004) that was provided by the U.S. Fish and Wildlife

Service. This species is listed as federally endangered and is the only federally protected species known to occur in Somerset County. Consultation with Mr. John Weir of PBS Coals, Inc. revealed that the mines within the memorial boundary were immediately closed and portals and opening sealed after mining activities ceased. These mines were not abandoned for any prolonged period of time. Bats have never been seen in active mines, most likely due to the high level of noise and bright lights that are used during mining operations. Bats could not hibernate under these conditions and would be more likely to use abandoned limestone mines rather than active coal mines.

The Western Pennsylvania Conservancy stated in their recent natural resource survey that the Conservancy is not aware of any known occupied summer habitats for the Indiana bat within the Flight 93 National Memorial area. It was acknowledged that the PNHI database shows two known hibernacula within Somerset County, both of which are located about 8 to 25 kilometers from the site. Information collected from field studies, site maps and interviews did not show winter habitat or particularly suitable summer habitat for the Indiana bat on or near the memorial site. In addition, no knowledge of any open portals that could have served as a winter hibernacula were known.

Water Resources

Resources discussed in this section include onsite wetlands and floodplains, surface waters and existing potable water supplies within the memorial boundary. Figure III-5 shows the location of the wetlands found on the NWI maps, as well as the sediment and treatment ponds used for treating acid mine drainage.

In 1998, the Somerset County Conservancy acquired 49 acres located to the west of the western boundary of the mine through a transfer from the Diamond T Mine. The Natural Resource Conservation Service (NRCS) designed a passive treatment system (the Lamberts Run AMD Remediation Project), approximately 39 acres in size, to treat approximately 100 gpm of acid mine drainage from five separate seeps in the headwaters of Lamberts Run. The Stonycreek Conemaugh River Improvement Project (SCRIP) and the Southern Alleghenies Resource Conservation and Development Council participated in the project, which was constructed by the Pennsylvania Mountain Service Corps.³⁹

³⁸Western Pennsylvania Conservancy, 2005, p. 30.

³⁹Stonycreek-Conemaugh River Improvement Project, "Lamberts Run," <http://www.scrip.pa-conservation.org/stlambtr.htm>

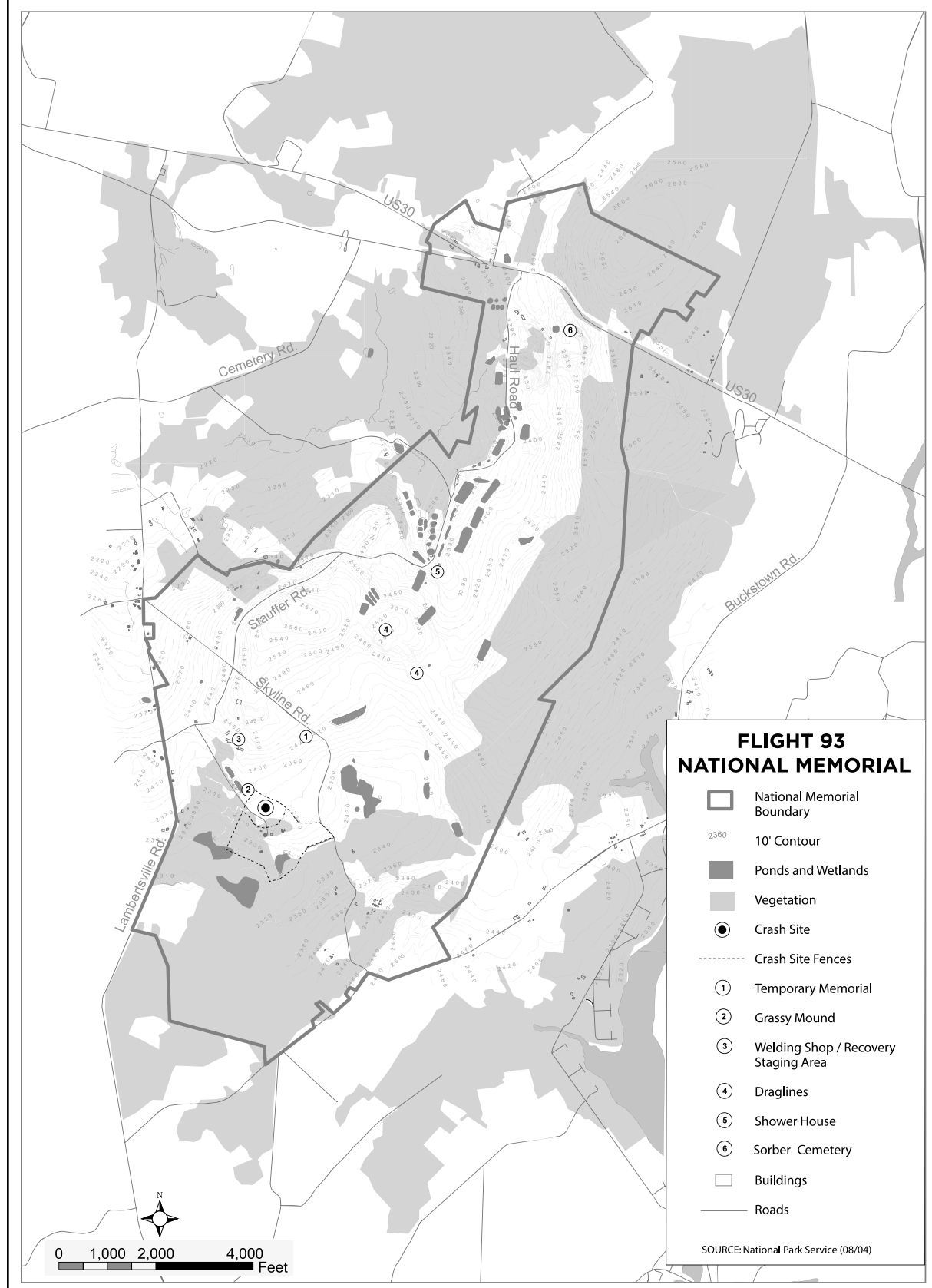
Figure III-5: Flight 93 National Memorial Resources and Constraints, 2004

Flight 93 National Memorial
Somerset, PA

National Park Service
U.S. Department of the Interior



Resource/Constraints



Source: National Park Service, 2004. Prepared by The Office of Merlyn Paulson, Inc., June 2005.



Wetlands and ponds to the east of the Temporary Memorial
(OCLP 2003)

Vegetation in the area of the Natural Resource Conservation Service mitigation site includes willows, spike-rushes, sedges, rushes, tear-thumbs, and goldenrods. Other herbaceous dominants, such as wide-leaved cattail (*Typha latifolia*), narrow-leaved cattail (*Typha angustifolia*), soft rush (*Juncus effusus*), wool-grass (*Scirpus cyperinus*), boneset (*Eupatorium perfoliatum*), purple-stemmed aster (*Symphotrichum puniceum*), monkeyflower (*Mimulus ringens*), beggar's ticks (*Bidens* sp.), and wild mint (c.f. *Mentha arvensis*), were also noted. There are several shrubs and small trees scattered throughout these wetland areas.⁴⁰ Although the species composition and hydrology of these sites have been altered, these areas provide some habitat for waterfowl.

Other wetlands occupied by woods, scrub shrub, and herbaceous openings are associated with a riparian band along Grove Run in the southern margin of the study area and along Lamberts Run to the west of the surface-mined lands. Shrubs along the streams include spicebush, smooth arrowwood, great laurel, mountain laurel, and early azalea. The canopy trees along the stream courses typically are about 80 feet or taller. These wetlands appear to receive water from seeps and springs as well as from surface flow. Hydrophytic vegetation establishes quickly in artificial ditches and sediment ponds throughout the study area.⁴¹

Several examples of naturally occurring wetland patches occur outside the hemlock palustrine forest and hemlock mixed hardwoods palustrine forest patches found within the fenced area of the crash site. Fed predominantly by groundwater, these areas receive a significant amount of drainage from the mined or filled areas. Orange iron deposits were observed in the creeks through the forests, and in the substrate of palustrine woodlands and cattail marshes on the western border of the core visitor area. Despite a substantial amount of AMD, these areas may also support rare plant species since they were not mined or disturbed. Their diverse understory and conifer composition may provide habitat for warbler species.

Similar diverse stands of hydrophytes are conspicuous within the fenced crash site. The topsoil replaced over the almost flat excavation of 6.1 acres of mine spoil following recovery of the crash site is of fine texture, and slight ruts retain water for long periods of time. These wet-

lands are developing as a result of topographic impoundment of surface water.

Red maple (*Acer rubrum*) dominates the tree stratum with a mixture of eastern hemlock (*Tsuga canadensis*), eastern white pine (*Pinus strobus*), yellow birch (*Betula alleghaniensis*), trembling aspen (*Populus tremuloides*), swamp white oak (*Quercus bicolor*), and black ash (*Fraxinus nigra*). Shrubs include red willow (*Cornus amomum*), winterberry (*Ilex verticillata*), hawthorn (*Crataegus* sp.), spicebush (*Lindera benzoin*), smooth alder (*Alnus serrulata*), and common elderberry (*Sambucus nigra*). Ferns usually dominate the herbaceous layer.⁴²

Wetlands. No formal wetlands delineation was conducted for this site. Field inspections by qualified wetlands scientists and review of hydric soils (outside the surface mined areas) and National Wetland Inventory maps were used to approximate the location and classification of wetlands. These investigations showed that much of the area south of the core visitor lands and along Lamberts Run and Grove Run support wetland communities. Approximately 25 acres of mitigated replacement wetlands are located below the core visitor lands of the memorial, and 1.9 acres of National Wetland Inventory wetlands are scattered throughout the site. There are also 107 ponds located onsite, most of which were constructed to contain sediment. Other wetlands that were not shown on the National Wetland Inventory maps include about 1.0-1.5 acres associated with the Natural Resource Conservation Service Lamberts Run AMD Remediation Project. These, too, are constructed wetlands.

Palustrine wetland communities include the hemlock palustrine forest, hemlock-mixed hardwoods palustrine forest, red maple-mixed shrub palustrine woodland, and cattail marsh. The cattail marsh located south of the hemlocks is composed of plant species that can tolerate standing water throughout the year. These are robust emergent marshes dominated by common cattail (*Typha latifolia*), or less commonly, narrow-leaved cattail (*T. angustifolia*). This type can occur in a variety of landscape positions in Pennsylvania including river backwaters, protected pond and lakeshores, and upland depressions. The substrate may be muck or mineral soil. The surface is usually flooded for most of the year. Associated species include bulrushes (*Scirpus* spp.), sensitive fern (*Onoclea*

⁴⁰Ibid.

⁴¹Schmid & Company, 2004.

⁴²Western Pennsylvania Conservancy, 2005. p. 19-20.

sensibilis), tear thumb (*Polygonum sagittatum*), reed canary grass (*Phalaris arundinacea*) and sedges (*Carex spp*).⁴³

Surface Waters and Water Quality. The Pennsylvania Department of Environmental Protection defines a watershed as a land area from which water drains toward a common watercourse in a natural basin or a crucial dividing point or line. Somerset County includes parts of three river basins: the Ohio River Basin, the Potomac River Basin and the Susquehanna River Basin. All waters west of the Eastern Continental Divide flow toward the Ohio River and ultimately to the Mississippi River.⁴⁴

The Flight 93 National Memorial lies in the upper Stonycreek River Watershed, which is a part of the Conemaugh River Watershed. Stonycreek River joins the Little Conemaugh at Johnstown to form the Conemaugh River, which discharges into the Kiskiminetas River. The Kiskiminetas River is the largest tributary to the Allegheny River, which then joins the Monongahela River in Pittsburgh to form the Ohio River, which flows into the Mississippi River.

The Stonycreek River, a major tributary to the Kiski-Conemaugh, is an important recreation resource for the northern Somerset-southern Cambria County region. The Stonycreek River drainage area encompasses about 467 square miles. Although most Stonycreek headwater streams are of good quality, Lamberts Run, Oven Run and Wells Creek have been substantially impacted over the years by acid mine drainage (AMD). When coal is mined, the associated materials such as high-sulfur, iron pyrite are exposed to the air and bacteria, resulting in the formation of sulfuric acid which dissolves metals—especially iron, manganese, and aluminum, but also zinc, arsenic, cadmium, and mercury. These compounds are carried by groundwater to streams, where the resulting concentrations are often toxic to most fish and benthic (streambed) organisms.

The rivers and streams of the region are beginning to form the basis of a strong recreation and tourism economy. Through the use of improved management practices, many of Somerset County's creeks and rivers are showing dramatic improvements in water quality and ecological health. Environmental legislation requires the active treatment of mine-polluted wastewater by mine operators so that it meets water quality standards prior to its discharge to streams. As a

result, fish and the aquatic organisms on which they depend are beginning to return to those waterways.⁴⁵ Both natural and stocked trout populations are found in the Stonycreek River basin. Protected uses in the Stonycreek River and its tributaries, including Grove Run and Lamberts Run, from the headwaters to U.S. Route 30 (confluence of Beaverdam Creek) are those of a trout stocking fishery.

Typical fish within the study area include small-mouth bass (*Micropterus dolomieu*), largemouth bass (*Micropterus salmoides*), brown bullhead (*Ameiurus nebulosus*), channel catfish (*Ictalurus punctatus*), suckers (*Catostomidae*), carp (*Cyprinus cyprio*), sunfish (*Centrarchidae*), and minnows (*Cyprinidae*). The ambient water quality of the streams within the study area assessed during the 1990s is documented in Appendix E.

The Lamberts Run and Oven Run watersheds have been accorded high priority by the Pennsylvania Department of Environmental Protection for remediation of AMD. Oven Run is one of the most severely degraded streams in Pennsylvania. The entire Flight 93 National Memorial study area lies within the Pennsylvania Bureau of Abandoned Mine Reclamation (PABAMR) Hooversville Planning Unit (PU-314) and Water Cataloging Unit 05010001. The reclaimed Diamond T surface mine occupied the central section of the memorial site. To mitigate AMD occurring from this mine, more than 100 sediment and treatment ponds were constructed by the mining company to catch eroded sediment and to treat mine wastewater. Most of the artificial ponds on the Diamond T surface mine discharge into Lamberts Run and require perpetual maintenance.

The streams within the memorial study area are typical of streams in the surrounding region with respect to their degradation by coal mining. The following section focuses on the streams within the memorial boundary.

Lamberts Run—Lamberts Run is a small headwaters tributary of the Stonycreek River, flowing through a largely isolated ravine that includes a significant waterfall. Lamberts Run drains the core visitor area of the memorial. It flows westward to join the Stonycreek River about 2 miles west of the study area, and has a drainage area of 3.77 square miles. The stream has suffered from low pH caused by AMD, which also adversely impacts the Upper Gorge of the Stonycreek

The rivers and streams of the region are showing dramatic improvements in water quality and ecological health and are beginning to form the basis of a strong tourism economy.

⁴³Ibid. p. 20.

⁴⁴*Somerset County Comprehensive Plan Update, Draft, 2003. pp. b-49 to b-51.*

⁴⁵Ibid.

River. As a result, Lamberts Run is listed by the Pennsylvania Department of Environmental Protection, pursuant to Section 303(d) of the Clean Water Act, as water quality limited, and receives both actively treated mine wastewater and untreated acid mine drainage from the abandoned underground mines under the site. The headwaters of Lamberts Run have been designated a problem area by the Department of Environmental Protection, and a part of this problem area extends eastward beyond the surface drainage divide into the Calendars Run watershed.

Water is pumped almost continuously into upper Lamberts Run from closed mines located under the memorial site. This discharge is treated first by caustic soda and then by a series of ponds within the Diamond T Mine. It flows down the steep gradient in a limestone-lined channel at a rate determined by the rate of pumping. This pumping has been undertaken voluntarily by PBS Coals since late 2001 to reduce the potential flow of mine water into a small pond located just south of the crash site.

Since its completion in 1999, the Lamberts Run treatment system has treated AMD from five separate seeps flowing from the abandoned mines of the site, typically raising the pH of the incoming water before discharging it to Lamberts Run. Data collected in 2002 showed that the system continues to function and raw water coming into the system has a pH of 3.8, a total acidity of 343 mg/l, total Al of 33.4 mg/l, total Fe of 13.5 mg/l and total Mn of 31.2 mg/l. These values compare with the treated water from the system, which shows a pH of 6.1, a total acidity of 0.0 mg/l, a net alkalinity of 24.0 mg/l, total Al of 0.8 mg/l, total Fe of 1.5 mg/l and total Mn of 25.7 mg/l.⁴⁶

The water quality in Lamberts Run has varied chiefly in response to the operations of and discharges from the surface and underground mines in the watershed. When the Diamond T Mine was active during the 1980s and 1990s, its treated wastewater generally kept the pH of Lamberts Run within acceptable limits (6.0 to 9.0), despite occasional permitted discharges that exceeded limits. During the period January 1997 through October 2000, the average for pH taken from 77 measurements was 6.27 and the average for alkalinity was 11.97 mg/l at Lamberts Run. During mid-2000, the pH in

Lamberts Run began to drop below 6.0, as mining activities were curtailed and the volume of treated mine discharge dwindled.

From late May through mid-November 2001, the pH ranged between 3.25 and 5.00, and measured alkalinity consistently was 0 mg/l. In January 2002, the pH returned to 6.0. Most pH values reported during 2003 and 2004 were within the acceptable range.⁴⁷ Figure III-7 shows the early monitoring results of water quality in Lamberts Run.

In April 2004, a rapid bioassessment of benthic invertebrates was performed at four stations on Lamberts Run for the Southern Alleghenies Conservancy. The overall characterization of Lamberts Run resulting from the benthos analysis was that of an impaired but recovering stream.⁴⁸ In 2005, the Natural Resource Conservation Service updated the water quality information, based on updated data from the PA Department of Environmental Protection, as shown on Figure III-6.

Figure III-7 shows that the alkalinity starts out high (60.8) in the headwaters because of the active treatment of the mine water, and then decreases to (12.9) at the mouth of the stream due to the acid production of the precipitation reaction of the iron. Therefore, the acidity increases from (11.8) in the headwaters to (30.1) at the mouth, and the pH decreases as expected with the increase in acidity. As a result of treatment, acidity in the raw water is being reduced from 334 mg/l to 0 mg/l in the treated outflow during periods of normal flow volume, and the average alkalinity of the discharge is 77 mg/l. The excess alkalinity helps neutralize acidity downstream in Lamberts Run and in the Stonycreek River. In 2000, trout were stocked for the first time above the falls on Lamberts Run, and stocking occurred again in 2002.⁴⁹

Grove Run—The southern section of the study area includes much of the headwaters of Grove Run, which flows westward and then northwest to join the Stonycreek River about 1.5 miles from the memorial. Grove Run currently exhibits intermittent flow within the site, perhaps because its flow is being diverted by pumping to Lamberts Run. Grove Run becomes a permanent watercourse downstream from sizeable natural wetlands where it passes beneath Lamberts Run at about elevation 2,300 feet.

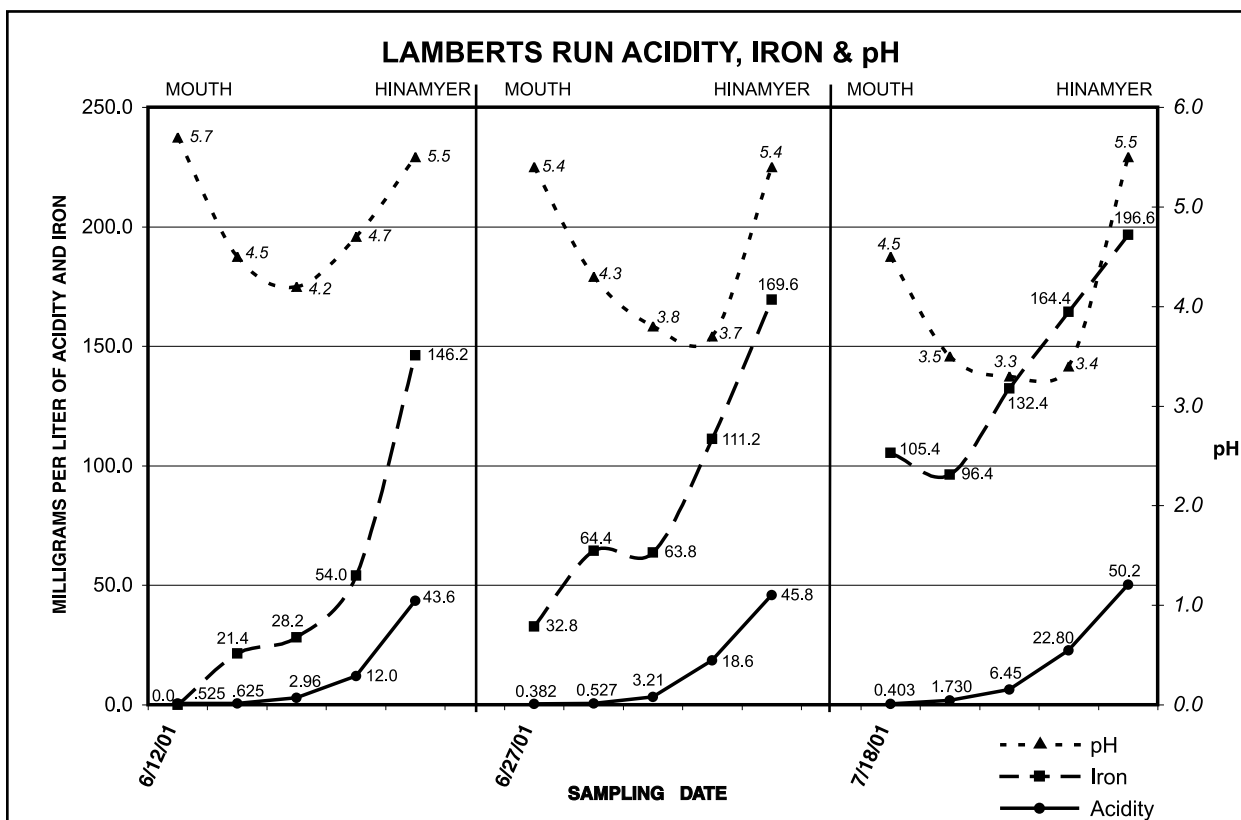
⁴⁶USDA-NRCS, Somerset Technical Center, Somerset, PA, 2005

⁴⁷Schmid & Company and Cahill Associates, 2004.

⁴⁸Western Pennsylvania Conservancy, 2005.

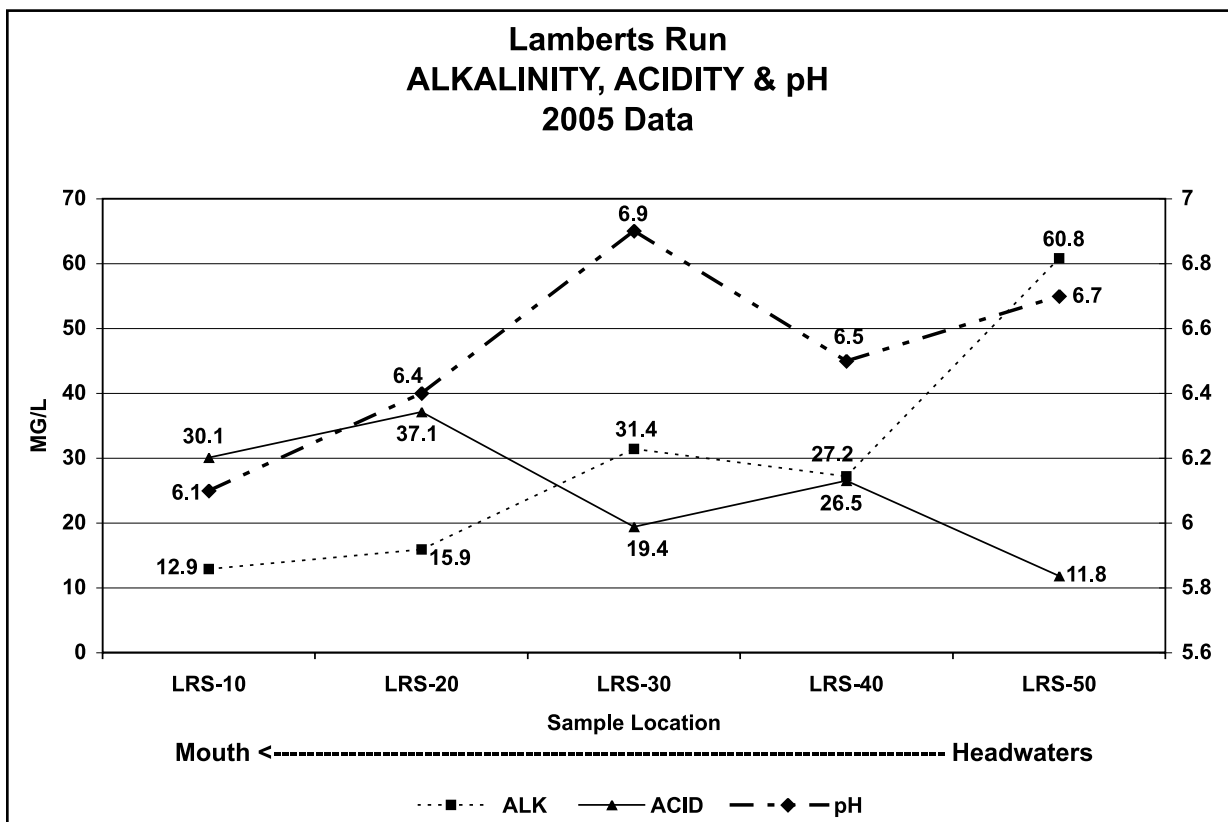
⁴⁹USDA-NRCS, Somerset Technical Center, 2005.

Figure III-6: Water Quality Monitoring Results of Lamberts Run Remediation Project, 2001



Source: U.S. Department of Agriculture, Natural Resources Conservation Service, Somerset Technical Center, Somerset, PA, 2005.

Figure III-7: Lamberts Run Water Quality, 2005



Source: U.S. Department of Agriculture, Natural Resources Conservation Service, Somerset Technical Center, Somerset, PA, 2005.



Log home in hemlock grove
(OCLP 2003)

Grove Run accepts surface runoff from much of the reclaimed Diamond T Mine, including overflow from the created wetlands just east of the crash site and from other erosion control basins farther east. Water quality in the large pond associated with created wetlands located just east of the crash site is reported to be satisfactory, and fish were noted in this pond. This pond appears to be isolated from groundwater of low pH. Its clay liner is reported as effective in retaining surface runoff in the pond, except in one forebay in its southwestern section, which has been isolated by a berm to prevent leakage from the pond. An older and smaller pond located just south of the crash site within the fenced area is reportedly affected by AMD.⁵⁰

During periods of relatively low flow, the chemical quality of the water is better in Grove Run where Skyline Road crosses it just southeast of the crash site than downstream at Lambertsville Road farther west. During periods of high flow, there is less difference in measured water quality parameters along the stream. Small, acidic seeps of iron-laden water typically associated with coal mining are noticeable along the south side of Grove Run at Lambertsville Road. These seeps most likely are associated with the underground mining in the study area, but no detailed information on the hydrology and hydraulics of the study area mines is available.

The average of 38 measurements of pH in Grove Run at Lambertsville Road made by Thurman Korns of the Wells Creek Watershed Association during November 1997 through July 1998 was 5.09, with slightly higher values prevalent toward the end of the monitoring period. The average alkalinity of these samples was 18.16 mg/l. On 31 March 2004 the measured pH was 4.8 with alkalinity 19.50 mg/l, and on 18 April 2004 pH was 5.7 with alkalinity 0.625 mg/l. Lower Grove Run reportedly is capable of supporting fish, and its entire length is listed by the Pennsylvania Fish and Boat Commission as supportive of natural reproduction of trout.

HISTORIC AND CULTURAL RESOURCES

Stonycreek Township was first settled in 1762 and later incorporated in 1792. This township was formed from a portion of Quemahoning Township, and was one of the six original townships that formed Somerset County. In 1795,

Somerset County was established through the assimilation of portions of Brothersvalley, Turkeyfoot, Quemahoning, Milford, Elk Lick and Stonycreek Townships in Bedford County. Shanksville Borough, the main borough of Stonycreek Township, was first settled in 1798 and later incorporated in 1913.

In 2004, the National Park Service prepared a *Cultural Landscapes Inventory* of Flight 93 National Memorial. The report described the pre-September 11, 2001 history of the site and the landscape as it existed on September 11, 2001, and in the months that followed. In addition to the site's landscape characteristics and infrastructure, the site's views and vistas, water resources, adjacent lands and archeological sites were also described.

The *Cultural Landscapes Inventory* noted that it is highly unlikely that any prehistoric archeological evidence remains on the site due to the extensive strip mining activities that occurred during the 20th century. Mining disturbance of the ground exceed 30 feet in most places. However areas that have never been excavated, such as the hemlock grove and the agricultural areas within the outlying areas, have potential to contain prehistoric archeology.⁵¹

The *Cultural Landscapes Inventory* also addressed the possibility that some features within the memorial may have local significance outside the context of Flight 93, such as the log homes within the hemlock grove that were constructed by a member of the local Lambert family and date back to the 1930s. Due to the age of these cabins and their connection with a locally prominent family, they may have historic significance within the context of the vernacular architecture for this region of southwest Pennsylvania.⁵²

The site has acquired its historic significance both from the events of 2001 and from the Act of Congress that established the site as a national memorial. It is an historic area that is essentially commemorative in nature and as such, is automatically listed on the National Register of Historic Places (36 CFR 60.1). National Memorials frequently consist wholly or partly of created resources that are considered historic because they are commemorative.

The boundaries of an historic area are not necessarily coterminous with the boundaries of

⁵⁰Schmid & Company and Cahill Associates, 2004.

⁵¹National Park Service. 2004. *Flight 93 National Memorial Landscape Pre-Memorial Existing Conditions, Draft Cultural Landscapes Inventory*.

⁵²Ibid.

a park, although until documented, the boundaries of an historical area are the authorized park boundaries (National Park Service Cultural Resource Management Guideline, Appendix Q). Exclusions may include non-historic buffer zones. The National Park Service documented the log homes, mining structures, and other site resources in the Cultural Landscapes Inventory, but has not determined their historic significance. This evaluation will occur separately from this planning effort.

It is likely that some of the mining and industrial structures and equipment at the site will be removed prior to National Park Service acquisition of the properties. The scrap and recycling operation is a functioning business and will be relocated to a new site to continue operation. Many of the buildings associated with the mining operation are in very poor condition and the ground surrounding them is contaminated from the mining operation. Most of these structures will be removed as part of reclamation. Several companies have shown interest in purchasing and retrofitting the draglines and returning the machinery to operation.

Pursuant to Section 106 of the National Historic Preservation Act (16 U.S.C. 470) and its promulgating regulations (36 CFR 800), the National Park Service has formally consulted with the Pennsylvania Historical and Museum Commission, Bureau for Historic Preservation, the State Historic Preservation Office (SHPO), concerning potential effects to historic properties and cultural resources. This correspondence is summarized in Chapter V and the letters are presented in Appendix B.

Structures in the Hemlock Grove

Four homes are located within the hemlock grove south of the crash site, three of which are constructed of hemlock logs and one of ashlar stone. The three log homes are seasonal homes used mainly during hunting season and the summer. The stone house was used as a year-round residence. These homes, constructed by a local family from logs taken from the hemlock grove, may date back to the 1930s or the 1940s. Due to the age of these homes, their connection with a locally prominent family and their construction, they may have local historic significance within the context of vernacular architecture.

The smallest of these homes, located farthest to the west, is constructed on a stone foundation. The structure has a corrugated metal roof and log walls mortared with concrete. Small porches were constructed on the front (screened) and back façades. The second seasonal home, located southeast of the home with the stone foundation, is also constructed of hemlock logs and was built upon a poured concrete foundation. No additions were built on this structure.

The third home, located adjacent to the crash site fence, is constructed of hemlock logs and mortar, and has had several additions constructed of vertical wood siding. A wood deck is attached to the addition and an ashlar stone fireplace was constructed on the gabled end of the original structure. This home was damaged by the crash and is vacant. The fourth house, constructed of ashlar stone, has a large screened porch attached to one façade. Other structures associated with these homes include a small trailer and an outhouse.⁵³

Mining Legacy

During the mid-twentieth century, the area within the Flight 93 National Memorial boundary was rural farmland. From the 1950s through about 2002, most of the site was extensively mined for bituminous coal. Deep mining occurred basically in the Lower and Middle Kittanning seams, and strip-mining occurred along the western and southern limits of the site, where no deep-mining was conducted. Strip mining extended to the Lower Kittanning seam, which was as much as 200 ft below existing grade on the west and up to a maximum of 350 ft deep on the east. The approximate locations of the Longview Mine portals are shown on Figure III-8 for reference.

In the mid-1960s, Svonavec, Inc. mined the coal of the Upper Kittanning Fm. A mining permit was issued in 1969 for Diamond T Coal Company to conduct mining of the coal in the Upper Kittanning, Middle Kittanning, and Lower Kittanning Fms, including the area that later was the crash site. The crash site was reclaimed from the late 1960s through the early 1970s by backfilling with overburden that consisted of shale/sandstone and plantings of pines and grasses.⁵⁴ In the mid-1980s, PBS Coals, Inc. purchased the 1,400-acre Diamond T mines and actively strip-mined the site between 1991 and 1998. In 1989, PBS Coals began mining the coal



Stripmining of the The Bowl
(PBS Coals and Bill Zeigler)

⁵³Ibid.

⁵⁴ERM. 2002. Final Closure Report, p. 3-4.

The plane impacted the relatively soft stripmine backfill, plowed to a depth of 30 ft, then collided with the remaining strip excavation rock highwall, causing the plane to explode.

from the site from the north to the south, making bench cuts that ran east to west. According to PBS, the depth of the strip-mining at the southwest limit of the area near the crash site ranged from 115 feet to 150 feet. Reports of investigators and emergency response personnel indicate that during the crash, the plane impacted the relatively soft strip-mine backfill, plowed to a depth of 30 ft, then collided with the remaining strip excavation rock highwall, causing the plane to explode.

Most of the site was extensively deep- and strip-mined from the 1950s through about 2002. Coal was last removed from the Longview Mine on July 30, 2002, and final sealing of that mine was accomplished on April 11, 2003.⁵⁵ Deep mining was conducted with continuous mining equipment, using “room and pillar” configurations. The mining plan was to either cause immediate subsidence or protect the surface against subsidence. Active mining in the Diamond T mines was conducted from 1991 through about 1998. In 1992, PBS Coals began backfilling the area and reclaiming the site with topsoil and grasses through 1994. The Diamond T portals were backfilled between 1999 and 2000. Other coal seams were strip-mined above the deep mines.

Mining Draglines. Two draglines, large crane-like machinery, remain on the site from the surface mining operations. The larger dragline, a Marion 7500 with a 22-cubic yard bucket, was manufactured in 1976 and is situated on a ridge-line near the center of the memorial. The smaller dragline, a Marion 7400 with a 14-cubic yard bucket, was manufactured during the 1960s and is located southeast of the larger one. Both structures were set in their current locations during the mid-1990s when surface mining operations were completed on the PBS Coals property. On the morning of September 11, 2001, Flight 93 descended over the Rollock scrap yard less than a mile southwest of where the dragline are situated and crashed at the northwestern edge of the hemlock grove. Flight 93 was initially believed to have flown near the two mining draglines at the site. The National Transportation Safety Board later provided information that showed that assumption was inaccurate.

Since the crash, the draglines have served as markers on the landscape (see photo, page III-1). A 17-foot American flag was flown on the Marion 7500 immediately after the crash and a flag has flown there ever since. The draglines can be seen from many distant vantage points, including U.S. Route 31.

Industrial and Mining Structures. The Cultural Landscapes Inventory documented all the structures related to the industrial and mining operations at the site. Many of the structures on site were built during the 1960s and are being removed as part of the reclamation and clean-up work. Structures related to the treatment of mine drainage will remain. A blue office and shower house was constructed in the Diamond-T B and C areas in the 1980s. Most of the other structures consist of a steel frame and concrete slab and range from poor to good condition.

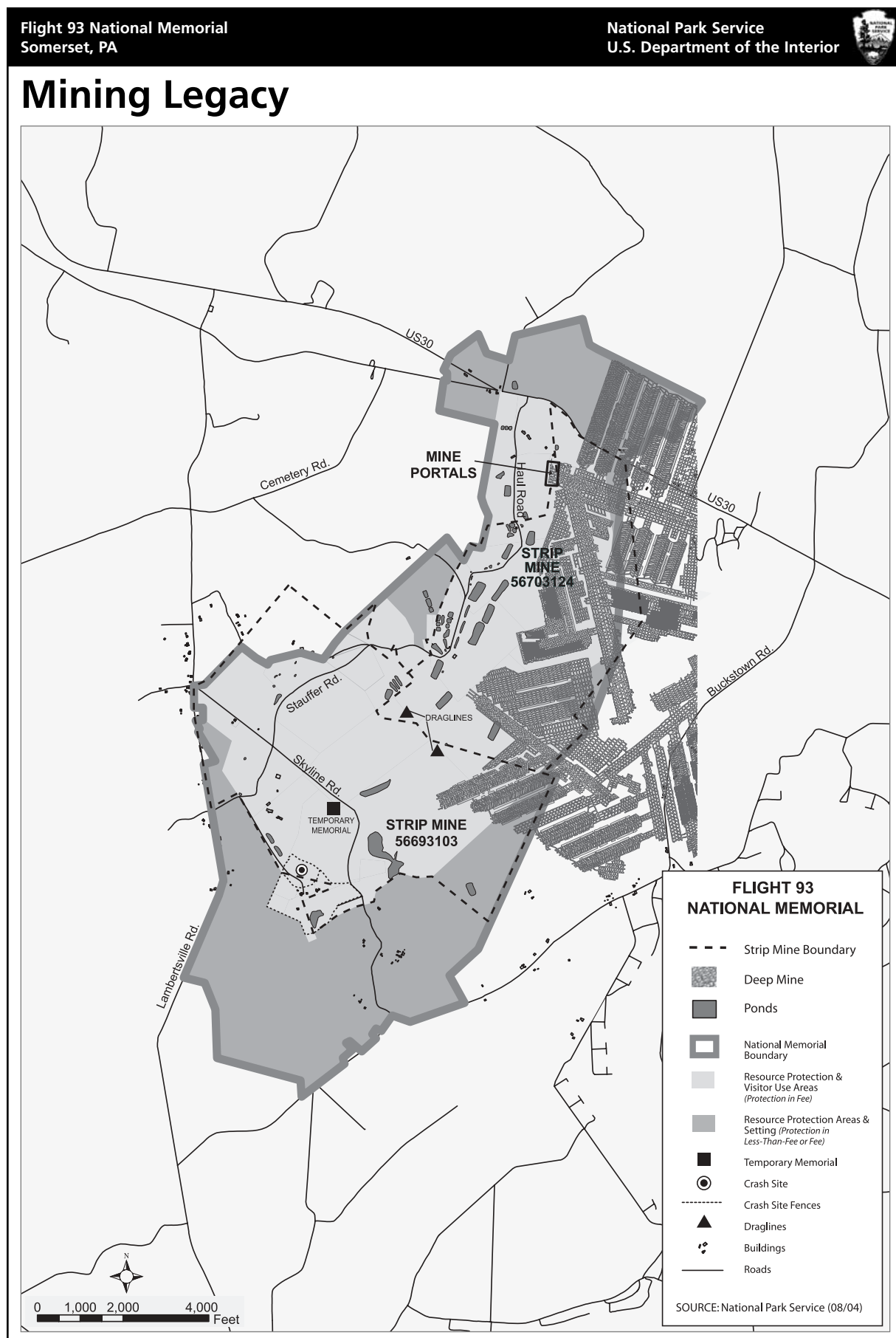
Several small garages exist throughout the site. A single-bay frame garage with a wooden door is located on the north side of Skyline Road.⁵⁶ Another garage is located at the corner of Skyline Road and the Haul Road, and still another garage for pump trucks used for cleaning the treatment ponds is located near the Rollock scrap and recycling operation.

The scrap and recycling complex includes a metal storage building and a single-story administration building with aluminum siding. The yard includes piles of scrap metal and vending machines. A metal-framed warehouse, a garage used as a truck washing facility and a bucket/welding shop are located in the Diamond-T welding shop complex to the west of the crash site. This area was the staging and headquarters area security and investigation operations. Family members of the passengers and crew were also brought to this area to first view the crash site.

⁵⁵Ibid.

⁵⁶Ibid, p. 31.

Figure III-8: Flight 93 National Memorial Mining Legacy Map, 2004



Source: National Park Service. Data provided by Engineering Mechanics, Inc. and PBS Coals, Inc., 2004.

Local Family Cemeteries

A small family cemetery, dating from the mid-19th century (1856 through 1892) is located within the memorial boundary and is a historic resource. This cemetery, referred to as the Sorber Cemetery, is located south of U.S. Route 30 across the road from the cell tower and about 200 meters southwest of the roadway in a grove of trees. The Sorber Family cemetery is situated on PBS Coals, Inc. property just west of the Camp Allegheny property line. The family members believed to be buried in this cemetery are listed in Table III-1.

Table III-1: Sorber Family Cemetery Grave Sites

Name	Dates
Lewis, Rebecca (1st wife of Charles of New Jersey)	23Sep1844-08Aug1863
Rebecca	16Mar1863-26Oct1863
Charles	d-29Nov1856 ag 3-11-26
Margaret (Brant)	No dates inscribed
Annie Jane	d-28Dec1856 ag-7-0-3
Sorber, Daniel, Jr.*	Jul1892 ag 77-4-28

Note: Stoystown Lutheran Church records show Daniel's birthdate as March 1, 1811, and baptism date as September 25, 1812. Although these dates do not correlate with the age given on his headstone, the inscription is very clear with the date shown above.

Source: Nancy Hallberg, Stonycreek Township, Mar. 23, 2005.

Coordination with a Stonycreek Township historian and genealogist was conducted in 2005. The historian reported that there are at least three Daniel Sorbers in the Sorber line. Based on the historian's records, the Sorber family cemetery is the burial site of the second generation of Sorbers, Daniel Jr.'s family.

- Daniel 1777-1852 and his wife Elizabeth Sivits (1782 - 1851) buried in the Sorber Cemetery in Shade Township.
- Daniel & Elizabeth had a son named Daniel, Jr. who married Margaret Brant on Feb. 21, 1839, another of his sons, Joseph Sorber (1805-1887) was the one who married Mary Brant (the Brant girls were probably sisters, married to brothers) and they had a son named Daniel W. Joseph is buried in the Lambertsville Cemetery.
- Daniel W. Sorber, the youngest child of Joseph & Mary Sorber, was born sometime shortly after 1850. As of 1884, records show Daniel W. was still living on the family farm in Stonycreek Township. Daniel W. married Jane Richardson.

A single grave was also formerly located on the Duppstadt farm within the memorial boundary. Prior to mining the area, PBS Coals, Inc. exhumed the gravesite. Only pieces of glass, a few buttons and rotten wood were found. PBS re-interred these artifacts at the Lambertsville Cemetery and placed a marker at the new gravesite showing the family name of the deceased as "Brant."

According to the Lambertsville Cemetery caretaker, the person who had been buried on the PBS Coals site was thought to have been Mr. Brant, a veteran whose grave was marked annually at the original location on the Duppstadt property with a flag. However, since that time, descendants of the Brant family have said that the former grave on the Duppstadt farm was that of Mrs. Brant.

National Register of Historic Places and National Historic Landmarks.

There are 30 sites listed in and 54 sites determined to be eligible for inclusion in the National Register of Historic Places in Somerset County, Pennsylvania. Two sites within Stonycreek Township are listed in the National Register, including the Flight 93 Crash Site, and two sites are eligible for listing in the National Register. National Register sites and their listing dates are shown below—

- Flight 93 Crash Site-Listed November 8, 2002
- Glessner Bridge-Listed December 10, 1980
- South Pennsylvania Railroad Allegheny Tunnel-Eligible 1998
- Jonathan Yoder House-Eligible 2003

Appendix D presents a complete listing of sites included in the National Register of Historic Places for Somerset County. There are no listed National Historic Landmarks or National Natural Landmarks listed in Somerset County.

Other Cultural and Historic Sites. Other significant historic and cultural sites in the vicinity of Flight 93 National Memorial include, but are not limited to, the following:

- Allegheny Ridge Heritage Area
- Allegheny Portage Railroad National Historic Site
- Johnstown Flood National Memorial
- Lincoln Highway Heritage Corridor
- National Road Heritage Corridor
- Great Allegheny Passage Trail
- Fort Necessity National Battlefield
- Fallingwater and Kentuck Knob

Appendix C provides a listing of related historic sites, plans and projects in the area.

Native Americans and Tribal Lands. Today, there are no federally recognized tribal lands within the Commonwealth of Pennsylvania. The Pennsylvania Historical and Museum Commission and the Somerset Historical Center were consulted regarding the presence of Native American resources in Somerset County, particularly in Stonycreek Township.

The Monongahela was the first tribe known to inhabit the area between 900 AD-about 1300 AD. This tribe mysteriously disappeared in the 1600's and no one knows where they went or why they left the area, though some believe they may have been absorbed into other Indian nations. The Shawnee and Delaware tribes were eventually pushed westward into western Pennsylvania from the east in the early 1600's, and were permitted to settle in western Pennsylvania by the Iroquois Confederation, which had strong political control in the area.

In 1681, King Charles II declared William Penn the sole owner of all land in Pennsylvania. In the mid-1700's, William Penn purchased the land from the Iroquois before selling land to European settlers. In 1763, there was a rebellion at the end of the French & Indian War (1754-1763), called Pontiac's Rebellion, where the Native Americans revolted against European settlers basically "squatting" on their land. Subsequently, the Native Americans left the Somerset area between 1768 and the late 1770's.⁵⁷ The Treaty of Fort Stanwix in 1768 opened the land to settlement by whites and the Native Americans were pushed farther west.

Other tribes that may have moved through the area include the Lenni Lenape, or Delaware tribe, who were pushed westward out of their traditional homelands in eastern Pennsylvania, New Jersey and Delaware during the French and Indian War. Like the Delaware tribe, the Shaw-

nee were pushed from their homeland westward and are thought to have moved through Somerset County during the 18th century. The Kickapaulin's Old Town, located about 8 miles from Stonycreek, was probably the closest Indian settlement in the area and was believed to have been a temporary Shawnee settlement.⁵⁸

VISUAL AND AESTHETIC RESOURCES

The open character of the rolling landscape affords views from many different vantage points throughout the site. The most important views are to and from the crash site. The location of the crash site at the bottom of the bowl-like topography near the center of the site creates expansive views that extend toward the north and east to the edge of the knoll and ridge.

The Temporary Memorial, located on a knoll inside the Bowl, provides visitors with a view directly to the crash site. Views to the Lambert Farm and wooded hillsides provide the setting for understanding the rural nature of this area. The draglines situated on the ridge line to the north can also be seen from the Temporary Memorial. Due to the rolling terrain, the scrap metal operation is not visible from this vantage point.

From the crash site, the Temporary Memorial is visible to the north and two draglines rest at the edge of the viewshed (photo, below). The views south and west are blocked by the hemlock grove. The welding shop complex and scrap operation are visible beyond a tall grassy mound located just northwest of the crash site.

Due to the dense vegetation of the hemlock grove, there are only limited views outside of the woods. However, due to the removal of burned and damaged trees and the fact that more trees have fallen over time, the views to the crash site are now more open than before the crash or within a year after the crash.



View of Lambert's Farm from the Temporary Memorial (OCLP 2003)



Panoramic view from crash site looking northeast toward draglines (OCLP, 2003)

⁵⁷Telephone conversation with Charles Fox, Site Administrator, Somerset County Historical Center, March 15, 2005; and Sturtz, Richard W., Harry W. Gibson and John J. Brett. *Reflections of Stonycreek, 1776-1976*.

⁵⁸Email communication from Nancy Hallberg to Eileen Carlton, March 17, 2005.

Panoramic view from the Welding Shop Complex looking southeast toward crash site with Lambert Farm in background (OCLP 2003)



The lower buildings adjacent to the Rollock scrap metal yards are part of a welding shop complex associated with the mining operations and provide a good overview of the impact site with the Lambert Farm and the wetlands in the background (photo, above). This is the first vantage point from which family members saw the site immediately after the crash. Closer prospects were not available to the families until after the initial investigations were complete.

The view over the Bowl from the ridge where the draglines are located is another important view. Both the Temporary Memorial and the crash site are in view, as well as a settling pond and the constructed wetland. The Lambert Farm and the scrap yard can be seen from the draglines.

The views from U.S. Route 30 at the high point near the northeastern boundary of the memorial provide an excellent view of the landscape leading to the Bowl and the crash site. This landscape includes many mining ponds and treatment facilities and the draglines are visible on the horizon. Views along U.S. Route 30 are of wooded areas, reclaimed fields, or small residences.

Through meetings and mail-in and online comment forms, the public and the Partners strongly supported the need to protect the open, rural views of the site that are indicative of Somerset County and provide an appropriate commemorative setting for the memorial. To supplement the information provided in the *Cultural Landscapes Inventory*, a visual and aesthetic analysis was conducted of Flight 93 National Memorial to identify and describe all significant resources that may be affected by the various alternatives. The following discussion provides the methodology, the conditions and the results of this analysis.

Methodology

The method employed for this study is based upon the premise that aesthetic quality derives from interaction between features of the land-

scape and perception of residents and visitors. It utilizes applicable components of Federal aesthetic inventory and evaluation systems: 1) the USDA Forest Service's *Scenery Management System*; and 2) the USDI Bureau of Land Management's *Visual Resource Management System*. The method combines and streamlines site-specific components of both systems, including the following aesthetic elements and indicators: landform, vegetation, water, structures, and land use. Three evaluation criteria portray relative sensitivity to change in the visual environment: 1) existing visual conditions; 2) viewer location; and 3) view context/viewer expectation.

Viewer Location. This analysis is generated for representative public viewing locations, termed Key Observation Points (KOPs). KOPs are designated based upon relative numbers of viewers, viewer sensitivity, and potential visibility of introduced elements. Determining the visibility of critical study area elements is a central component of this analysis and plays an important role in evaluating affected environments and potential aesthetic impacts.

View Context/Viewer Expectation. This analysis documents the relative aesthetic sensitivity of viewers. It is a premise of the study that those individuals whose primary purpose is to visit the national memorial possess major scenery expectations, while those who utilize the study area roadways only for purposes of transportation expect less with regard to the quality of scenery. It is also a premise of the study that those individuals who possess major scenery expectations are more sensitive to alterations of the landscape than those who have minor scenery expectations.

Characteristic Landscape

The regional landscape is known for its pastoral patterns of hills and valleys of fields, farms, and villages surrounded by groves of tall, broadleaf hardwoods and softwoods. The project area's reclaimed coal mine landscape and two draglines situated at the ridgeline are among the predominant landscape features of the vicinity. The character of the mined areas, associated

mine-related buildings, and scrap yard is industrial, while the character of remaining portions of the project area is natural or pastoral.

The site's topography is comprised of flat lowlands in the bowl area surrounding the crash site and along the Stauffer Road near U.S. Route 30. Flat to moderately sloping (10-15 percent) landforms rise at the edges of the Bowl and north of Stauffer Road, and moderately sloping to steeply sloping (15-25 percent) landforms define the eastern portions and edges of the mined area. Some road-related embankments along Stauffer Road are sloped at approximately 3:1 and afford roadway viewers substantial vistas over the landscape. Refer to Figure III-4 for an exhibit showing the site's topography.

Vegetation patterns have an important impact on the characteristics of the landscape. The hemlock grove south of the crash site is an aesthetically beautiful and mature landscape. The characteristic vegetation of the uplands and the undisturbed areas is mixed northern hardwoods and softwoods. Native and non-native shrubs occupy the edges of fields and roadways. Rectangular patterns of grasses and rows of immature pines characterize inclined portions of previously mined areas. Farm fields contribute substantially to the region's strong pastoral character and are layered with organic patterns of hay and grain crops. The site's water features include constructed mine-related water and sediment ponds. They are typically geometric in shape and industrial in character.

Existing Visual Conditions

The scale and influence of existing alterations is significant throughout the project area landscape. The cultural influence of the surrounding farmsteads, farm fields, and residential structures is pastoral, while the landscape modifications created by the scrap yard, mine-related industrial structures, unvegetated landforms, geometric water and sediment ponds, electrical lines, and mined area clearings are industrial in character. The stone and log residential structures associated with the hemlock grove are particularly high in aesthetic quality.

The open nature of the mined areas and central focus of the Bowl contribute minimally to visual absorption of industrial elements in the landscape. Moderate to high surface pattern variation of tree cover along the edges of the mined areas and beyond topographic ridgelines contributes substantially to visual absorption of modifications in those areas. The tree cover pattern is typically 45 to 70 feet in height. The

overall degree of naturalness or pastoral character and related quality of aesthetic elements in the surrounding landscape is high. The overall degree of naturalness or pastoral character and related quality of scenery of the mined area and mining-related structures is low.

Viewer Locations

Three key observation points (KOPs) are identified as follows: 1) Temporary Memorial; 2) knoll near the draglines; and 3) intersection of US30 and the entry road.

KOP 1 – Views of and from the Temporary Memorial are exemplified by the crash site to the south, draglines to the north, and farms, forests, and fields to the east. While the analysis was conducted at the Temporary Memorial, it is characteristic of the conditions experienced at locations throughout the Bowl. Due to its position in the Bowl and its close proximity to the Crash Site the view location at KOP 1 and its aesthetic environment are highly sensitive to change.

KOP 2 – Views from the knoll near the draglines extend to a wide range of elements of the site and region. Visible is the Crash Site, Temporary Memorial, scrap and recycling operation, mining ponds, and 360 degree panorama of the landscape of the region. The view location at KOP 2 and its aesthetic environment are highly sensitive to change.

KOP 3 – Views along US30, both eastward and westward, are comprised of a variety of pastoral landscapes and highway-related structures. Views from US30 toward the north and south contain elements of the mine area. The view location at KOP 3 and its aesthetic environment are moderately sensitive to change.

Context/Expectation

KOP 1 – The context of the Temporary Memorial represents the nature of visitors' connections with the crash site and with intimate memorial expressions of past visitors. Visitors to the Temporary Memorial anticipate foreground experiences consistent with a commemorative landscape and background experiences that borrow content and meaning from the farms, fields and forests of the rural countryside. The context/expectation at KOP 1 and its aesthetic environment are highly sensitive to change.

KOP 2 – The context of views from the knoll near the draglines offers a rich diversity of elements of the site and region. Elevated positions



View from U.S. Route 30 looking south toward the draglines
(Jason Cohn 2004)

such as this one are uniquely situated for visual exploration of the site and the varied expressions of landscape. Visitors to the knoll expect aesthetic experiences consistent with a commemorative landscape, with the ongoing reclamation of a coal strip mine, and with distant views of the farms, fields and forests of the rural countryside. The context/expectation at KOP 2 and its aesthetic environment are highly sensitive to change.

KOP 3 – The context of views eastward and westward along U.S. 30 is that of roadway development, rolling forest and field landscapes, and a relatively high volume of vehicular traffic. Views from U.S. 30 toward the north and south contain elements of the mine area reclamation areas. Visitors traveling U.S. 30 foresee aesthetic experiences consistent with the built environment of the highway corridor and with the rural countryside. However, visitors to the memorial are anticipating a commemorate setting for the memorial so the context/expectation at KOP 3 and its aesthetic environment are moderately sensitive to change.

Table III-2 ranks the aesthetic sensitivity of the affected landscapes. Values were assigned based upon a relative scale of high, moderate, and low aesthetic sensitivity. The composite value for each KOP indicates overall sensitivity to changes in the landscape as a result of development of features of the national memorial, compared with typical Somerset County landscape viewing situations. Based upon these indicators, it is estimated that KOP 1 and similar locations within the Bowl are the most sensitive to change, followed closely by elevated positions such as KOP 2. KOP 3 is less sensitive to change than are KOP 1 and KOP 2.

SOCIOECONOMIC CHARACTERISTICS

The socioeconomic characteristics of the 9-county region, including Somerset County, will be summarized based on U.S. Census data, the draft Somerset County Comprehensive Plan Update and *A Socioeconomic Atlas for Flight 93 National Memorial and its Region*, 2004.

Demographic Profile

Population. In 2000, a total of 2,221 people lived in Stonycreek Township. This estimate is projected to increase 10.2 percent between 2000 and 2020, based on the draft Somerset County Comprehensive Plan Update.⁵⁹ Table III-3 summarizes the existing population and changes over the past decade for the 9-county region, and projects changes in population through 2020. As shown in the table, Somerset County has realized a 2.3-percent increase in population between 1990 and 2000, and is expected to continue to grow by only 1.5 percent during the next 20 years. Census estimates show 79,515 residents were living in Somerset County in 2004, compared with 80,023 in 2000.⁶⁰

Age Composition. The median age of the Somerset County resident was just about 40 years. Seniors, 65 years and older, comprised 18 percent of the population in 2000. The county's Comprehensive Plan shows that many senior residents choose to remain in Somerset County, as the percentage of persons aged 85 years and older sharply grew by 369.4 percent between 1990 and 2000. Middle-aged residents in the 45-54 age group also increased 43.7 percent.⁶¹ Based on the *Socioeconomic Atlas for Flight 93 National Memorial*, Somerset County is projected to see a 22.6-percent increase in its elderly population by 2020.

Table III-2: Aesthetic Sensitivity of Affected Landscapes by Criteria, Key Observation Points and Sensitivity Values, Flight 93 National Memorial

Criteria	KOP 1	KOP 2	KOP 3	Typical Somerset County
Existing Visual				
Condition	High	Moderate	Moderate	Moderate
View Location	High	High	Low	Moderate
Context/Expectation	High	High	Moderate	Moderate to High
Composite	High	High	Low to Moderate	Moderate
KOP=Key Observation Point. Source: The Office of Merlyn Paulson, Inc., April 2005.				

⁵⁹U.S. Census Bureau; BonData Service. Somerset County Comprehensive Plan Update, 2003, p. b-14.

⁶⁰U.S. Census Bureau, Population Estimates Program. American FactFinder. <http://factfinder.census.gov>

⁶¹*Somerset County Comprehensive Plan Update*, Draft. July 31, 2003, pp. 2-3.

Table III-3: Current Population, Changes in the 9-County Region, 1990-2020

County	Population (2003)	Population Change (1990-2000)	Projected Population Change (2000-2020)
Bedford	49,941	4.3	5.7
Blair	127,175	-1.1	-3.0
Cambria	149,453	-6.4	-9.9
Fayette	146,121	2.3	3.3
Indiana	89,054	-0.4	3.1
Somerset	79,365 ²	2.3	1.5
Westmoreland	368,224	-0.1	2.1
Allegany, MD	73,668	0.0	-4.9
Garrett, MD	30,049	6.1	21.2
Pennsylvania	12,365,455	3.4	7.1
U.S.	5,508,909	13.2	21.1

¹U.S. Census Bureau American FactFinder <http://factfinder.census.gov>. Data Set: 2004 Population Estimates.

Sources: U.S. Census Bureau, 2000 and *A Socioeconomic Atlas for Flight 93 National Memorial and its Region*, Woods & Poole, Inc. 2002.

Table III-4: Median Age, Elderly and Racial Diversity in the 9-County Region, 2000

County	Median Age (2000)	Percent of Elderly Population (65 & older)	Percent of Minority Population ¹
Bedford	39.5	16.5%	1.5%
Blair	39.5	17.4%	2.4%
Cambria	41.2	19.7%	4.2%
Fayette	40.2	18.1%	4.7%
Indiana	36.2	14.9%	3.1%
Somerset	40.2	18.0%	2.6%
Westmoreland	41.3	18.3%	3.4%
Allegany, MD	39.1	17.9%	7.0%
Garrett, MD	38.3	14.9%	1.2%
Pennsylvania	38.0	15.6%	14.6%
United States	35.3	12.4%	24.9%

¹Minorities include African American, American Indian and Alaska Native and Pacific Islander, including Native Hawaiian, Hispanic and multiracial.

Source: U.S. Census Bureau, 2000 and *A Socioeconomic Atlas for Flight 93 National Memorial and its Region*, Woods & Poole, Inc. 2002.

Table III-5: Somerset County Racial and Ethnic Diversity, 2000

Race	Number	Percent of Total
White	77,938	97.4%
African American	1,275	1.6%
Native American and Alaska Native	65	0.1%
Asian ¹	178	0.2%
Hispanic ² /Latino	532	0.7%
% Minority Pennsylvania		14.6%
% Minority U.S.		24.9%

¹Includes Native Hawaiian and other Pacific Islanders.

²Hispanics may be of any race and are included in applicable race categories.

Source: U.S. Census Bureau. MapStats from FedStats. www.fedstats.gov/qf/states/42/42111.html

Racial Diversity. Approximately 2.6 percent of the county's population is minority. After whites, African-Americans represented the second racial group, with only 1.6 percent of the county's population, followed by Latinos and Hispanics. Table III-4 summarizes the median age and the racial diversity for the 9-county region. Table III-5 summarizes the racial and ethnic diversity within Somerset County, as reported in the 2000 Census.

Income, Unemployment and Poverty. Somerset County's annually adjusted unemployment rate for 2000 was 5.7 percent, which showed steady improvement from the 1980 and 1990 rates of 11.4 percent and 7.4 percent, respectively. However, 11.8 percent of the county's population was still living below poverty, which was greater than the State average but below the national average of 12.4 percent. Poverty in Somerset County dipped 2.5 percent in 1999 from 14.3

percent a decade earlier. Table III-6 shows the household and personal incomes, unemployment rate and poverty levels for the 9-county area.

Unemployment has steadily declined over the past 20 years. Most of the county's labor force works in management and professional level jobs (24.7 percent), followed by sales and office jobs (22.5 percent), and production, transportation, and material moving occupations (22.2 percent). Most of the resident workforce (74.2 percent) live and work in Somerset County.⁶²

Major Employers and Job Sectors. Somerset County has historically been a supplier of raw materials, such as coal, sandstone and lumber. A shifting economy has led industry to change focus in order to provide more diversity in the industrial base. Table III-7 lists the top employers in Somerset County by number of employees.⁶³ Table III-8 shows the number of establishments by industry and the number of

employees for 2001 and the percentage change in these industries between 1997 and 2001.

Mining represents the greatest loss in both the number of establishments as well as the number of employees, whereas retail trade and manufacturing showed declines in employees but gains in the number of establishments. Agriculture, forestry and fishing showed the highest increases in both the number of establishments and employees.

Table III-9 shows the percentage of total earnings by industrial category within the 9-county region in 1999. Sales and Services, followed by Construction and Manufacturing, were the leading economic sectors. In Somerset County, the highest percentage of employment occurred in the Sales and Services sector (58%), followed by Construction and Manufacturing (21%), Government (13%) and lastly, Agriculture and Natural Resources (8%).⁶⁴

Table III-6: Household and Personal Incomes, Unemployment and Poverty in the 9-County Region, 1999

County	Median Household Income	Personal Income	Percent Unemployed	Percent Property
Bedford	\$32,731	\$16,316	5.7	10.3
Blair	\$32,861	\$16,743	6.2	12.6
Cambria	\$30,179	\$16,058	8.8	12.5
Fayette	\$27,451	\$15,274	8.3	18.0
Indiana	\$30,233	\$15,312	8.2	17.3
Somerset	\$30,911	\$15,178	5.7	11.8
Westmoreland	\$37,106	\$19,674	5.1	8.6
Allegany, MD	\$30,821	\$16,780	8.9	14.8
Garrett, MD	\$32,238	\$16,219	5.6	13.3
Pennsylvania	\$40,106	\$20,880	5.7	11.0
U.S.	\$41,994	\$21,587	5.8	12.4

Source: U.S. Census Bureau data and *A Socioeconomic Atlas for Flight 93 National Memorial and its Region*, Woods & Poole, Inc. 2002.

Table III-7: Somerset County Top Employers by Number of Employees, 2004

Somerset Co. Top Employers by Number of Employees	Employees
Somerset Hospital	725
Fleetwood Folding Trailers	650
PBS Coals, Inc.	362
Gilmour Manufacturing Co.	361
Highland Tank & Manufacturing Co., Inc.	351
Windber Medical Center	350
CVS/Pharmacy Distribution	350
Snyder of Berlin	325
Sunrise Medical/Respiratory Products Division	300
Mincorp, Inc./PBS Coals, Inc./Roxcoal, Inc.	280

Source: *Directory of Industrial and Related Firms in Somerset County, Pennsylvania, 2004*. Published by Somerset County Economic Development Council and Somerset County Chamber of Commerce, p. 21.

⁶²Ibid, pp. 2-6 to 2-7.

⁶³Somerset County Chamber of Commerce Membership Directory & Community Profile, 2005, p. 23.

⁶⁴Ibid, p. 26.

Table III-8: Number of Establishments and Employees by Industry for Somerset County, 2001

Industry Category	No. of Establishments 2001	Percent Change 1997-2001	Number of Employees 2001	Percent Change 1997-2001
Agriculture, Forestry & Fishing	42	35.5%	258	57.3%
Mining	41	-4.7%	877	-10.1%
Construction	232	9.4%	1,434	12.2%
Manufacturing	147	9.7%	5,137	-1.7%
Transportation & Utilities	186	8.8%	1,731	5.9%
Wholesale Trade	105	5.0%	1,075	4.4%
Retail Trade	460	6.0%	4,946	-2.5%
Finance, Insurance and Real Estate	130	6.6%	957	12.9%
Services	604	9.6%	8,413	5.2%
Public Administration	74	8.8%	2,062	14.9%
TOTAL	2,021	8.3%	26,890	3.4%

Source: Somerset County Economic Development Council, <http://www.scedc.net/work.html>. 2005.

Table III-9: Percentage of Total Earnings by Industrial Category within 9-County Region, 1999

County	Agriculture & Nat. Resources	Construction & Manufacturing	Sales & Services	Government
Bedford	5%	37%	44%	14%
Blair	1%	23%	61%	15%
Cambria	5%	18%	58%	19%
Fayette	3%	21%	59%	17%
Indiana	22%	15%	42%	21%
Somerset	9%	25%	49%	17%
Westmoreland	2%	32%	54%	13%
Allegany, MD	1%	23%	54%	23%
Garrett, MD	11%	20%	56%	14%

Source: A Socioeconomic Atlas for Flight 93 National Memorial and its Region, Woods & Poole, Inc. 2002.

Local Government Structure. Somerset County government is comprised of 25 townships and 25 boroughs. The County board is comprised of three county commissioners. Each township elects three township supervisors and each borough has a mayor, and a council of five to seven members.

Tourism and Recreation. An estimated 2.7 million visitors annually are estimated to visit the county.⁶⁵ Two major ski resorts (Seven Springs and Hidden Valley) are located in Somerset County, along with a system of heritage tourism sites and State parks and game lands. U.S. Route 30 is also known as the Lincoln Highway and was the first cross-country road. It is now part of a state heritage park that protects and promotes the corridor. Somerset County's domestic traveler market supports more than 4,000 jobs, most in the restaurant and lodging categories. The significance of the recreation and tourism industry to the local economy can

be indicated by the percentage of county workers the industry supports.⁶⁶

Workers counted as recreation and tourism employees include country club managers, campground employees, fishing and water guides, motel attendants and other providers of recreation services. The percentage of total paid employees in arts, entertainment, recreation and accommodation services for Somerset County was 2.7 percent in 2001.

Somerset County assesses a hotel tax which is currently set at 3 percent. This tax reportedly generates from \$500,000 to \$700,000 per year. Approximately 40 percent of the tax income is distributed to the Somerset County Tourism Grant Program Committee for marketing and advertising, and capital improvement project that benefit local tourism. The remainder is divided between Somerset County and the Laurel Highlands Visitors Bureau and is used for similar purposes.

⁶⁵Somerset County Economic Development Corporation. County Profile. <http://www.scedc.net/county>

⁶⁶A Socioeconomic Atlas for Flight 93 National Memorial and its Region, Woods & Poole, Inc. 2002.

Table III-10: Percentage of Total Paid Employees and Total Sales in Arts, Entertainment, Recreation, and Accommodation Services within 9-County Region, 2001

County	Percent of Paid Employees	Percent of Total Sales
Bedford	3.9%	1.2%
Blair	1.7%	0.5%
Cambria	1.8%	0.6%
Fayette	7.6%	3.1%
Indiana	1.6%	0.7%
Somerset	2.7%	1.1%
Westmoreland	2.0%	0.6%
Allegany, MD	2.4%	0.2%
Garrett, MD	7.2%	3.3%

Source: A Socioeconomic Atlas for Flight 93 National Memorial and its Region, Woods & Poole, Inc. 2002.

A high level of recreation/tourism employment indicates that the area attracts visitors and vacationers or those residents have more disposable income. The percentage of total sales in Somerset County from this service sector was 1.1 percent compared to 0.9 percent for the State.⁶⁷ Table III-10 shows the percentage of paid employees and total sales from the entertainment, recreation and accommodation services for all counties in the study area.

Payments in Lieu of Taxes. Public Law 94-565 (31 U.S.C. 6901-6907), commonly referred to as the Payments in Lieu of Taxes Act (PILT) provides certain payments from the Federal Government to local governments based upon the removal of land from the real estate tax rolls. The act authorizes the Secretary of the Interior to make annual PILT payments to local governments for entitlement lands and acquired lands. PILT payments are designed to supplement other Federal land receipt-sharing payments that local governments may be receiving. Payments are based on funding levels adopted by Congress.

Local Transportation Systems

Roadways. Somerset County contains 2,264 miles of roads, of which 30 miles consist of the Pennsylvania Turnpike (Interstate 70/76). The Turnpike traverses the width of the county with an interchange (Exit 110) located at Somerset. Stonycreek Township and Somerset County have installed temporary signs directing travelers to the memorial. These signs will be eventually replaced with standard National Park Service signs. Brochures provided at the Turnpike tollbooth, at the site, and on the project website direct visitors to take S.R. 281 from Somerset Borough to U.S. Route 30 to Lambertsville Road to the site. However, visitors follow a com-

bination of routes to reach the site. A brief description of those roadways is provided below.

U.S. Route 30, known as the Lincoln Highway, crosses the central portion of Somerset County. U.S. Route 30 is a state-owned and maintained two-lane, east-west principal arterial highway that crosses the state and connects Pittsburgh and Philadelphia. This highway was the first cross-country, all-weather highway in the United States. U.S. Route 30 provides access to major roadways, such as U.S. Route 219, U.S. Route 522, Interstate 70/76, Interstate 79, Interstate 81 and Interstate 99.

The average lane width of U.S. Route 30 varies from 10 to 11 feet in each direction in the vicinity of the memorial. The roadway and shoulder surfaces are bituminous and range from good to fair condition. Average shoulder widths vary from 5 to 10 feet. Speed limits are generally not posted; thus, a statutory speed limit of 55 mph is assumed. A 35-mph speed limit is posted for trucks on some steep grades and in the village of Buckstown, located east of the memorial. Weight restrictions are not posted.

East of the memorial, U.S. Route 30 widens to four lanes (two lanes in each direction) within the vicinity of Bedford Borough. The average lane width ranges from 10 to 11 feet in each direction and the shoulder widths average from 5 to 10 feet. The roadway and shoulder surfaces are bituminous and range from good to poor condition.

State Route 601 (S.R. 0601) is a state-owned and maintained three-lane (one travel lane in each direction and a center left turn lane) north-south major arterial roadway that runs through Somerset Borough. The average lane width of

⁶⁷Ibid, pp. 46-48.

S.R. 601 is 15 feet in each direction for both travel lanes and the center left turn lane. Speed limits range from 25 mph between Patriot Street and the Turnpike ramp to 35 mph between the Turnpike ramp and the intersection with U.S. Route 219. There are no posted weight restrictions. The roadway surface is bituminous with concrete curb and gutter pan, and ranges from good to fair condition.

State Route 281 (S.R. 0281) is a state-owned and maintained two-lane, north-south minor arterial that connects Somerset Borough to U.S. Route 30. The average lane width for S.R. 0281 varies from 10 to 11 feet (in each direction) and average shoulder widths vary from 3 to 5 feet. Speed limits range from 15 miles per hour in school zones, to 35 miles per hour within the village of Friedens, to 55 miles per hour in the vicinity of the memorial (near U.S. Route 30). There are no posted weight restrictions. The roadway and shoulder surfaces are bituminous and range from good to fair condition.

U.S. Route 219 is a state-owned and maintained four-lane (two lanes in each direction) north-south limited access divided highway. The average lane width is 12 feet in each direction and the average shoulder widths vary from 5 feet to 11 feet. The roadway and shoulder surfaces are bituminous and are in good condition. Speed limits are posted at 65 miles per hour. Weight restrictions are not posted.

Airports. The Somerset County Airport, located off Route 281 near the village of Friedens in Somerset Township, lies approximately 6 miles southwest of the memorial. The airport is open to the public and currently serves turbo-prop commuter aircraft. The airport is primarily used for recreational flying, pilot training and flight instruction, law enforcement, military, air taxi, aerial photography/surveying and aerial inspections, environmental patrols, agricultural purposes and medical support services.

In 2003, 38 aircraft were based at Somerset, and 42 based aircraft are projected through 2020. Of these aircraft, 35 are single-engine, two are multi-engine and one is a business jet. The airport averages 59 flights per day, or a total of 18,050 annual operations, which are expected to remain stable through 2020. The primary runway is 4,697 feet long and the secondary runway is 2,695 feet in length. In February 2003, the PennDOT Bureau of Aviation conditionally approved an updated Airport Layout Plan

(ALP), which included a 300-foot runway extension. This extension would allow business aircraft, such as corporate jets, to operate at this airport. The end of the primary runway is about 5.5-6 miles from the memorial.

Indian Lake Airport, located about a mile to the east of the memorial, was constructed in 1966 as part of the Indian Lake resort community. The airport is a private facility that is not certified by the FAA, and has no aircraft based at the airport and no available services. The airport's primary runway is Runway 14/32, which is a paved 50 foot by 4,490 foot runway, with a 524-foot displaced threshold. In 1971, Allegheny Mountain Lakes Inc., the former owner of the community, sold the resort.⁶⁸ The airport was later closed in 1999. During a scoping meeting conducted in December 2003, the Mayor of Indian Lake commented that he would like to sell the Indian Lake Airport to an airport authority and reopen the facility. To date, the airport remains closed.

Seven Springs Airport, a public airport owned by the Severn Spring Airport Authority, is located at the Seven Springs Resort in Fayette County. The airport has one runway, Runway 10/28, which is 42 feet by 3,045 feet long, and serves as base for the single-engine aircraft owned by the resort.

The closest commercial airport is John Murtha Johnstown-Cambria County Airport, about 27 miles north of Flight 93 National Memorial in Johnstown and Arnold Palmer Regional Airport in Westmoreland County, about 29 miles west of Somerset Borough. The memorial is less than 2 hours from Pittsburgh International Airport.

Rail. Currently, Conrail and CSX Transportation provide freight service to Somerset County. The nearest passenger rail service is located in Johnstown.

Land Use

Somerset County is currently preparing an update to the County's Comprehensive Plan. The draft County Comprehensive Plan is a general policy guide for the physical development of Somerset County. The plan serves as a guide for the county's future and evaluates the existing land uses, transportation systems, housing, community facilities and services and natural and cultural resources. The plan also projects future growth trends, sets goals and direction for the townships and boroughs, and proposes land use and implementation strategies to accommodate



Seven Mile Stretch of the Lincoln Highway (Flight 93 National Memorial Area: Design & Development Concepts 2005)

⁶⁸“Abandoned & Little-Known Airfields: Southwestern Pennsylvania,” http://www.airfields-freeman.com/PA/Airfields_PA_SW.htm.



Somerset County farm
(Flight 93 National Memorial Area:
Design & Development Concepts 2005)

the projected growth while balancing the county's resource values.

The draft County Comprehensive Plan gives policy guidance and direction toward establishing County regulations and codes in a manner that is consistent with the municipal comprehensive plans, as required by the Pennsylvania Municipalities Planning Code. The draft Comprehensive Plan identified the following goals that apply to Flight 93 National Memorial:

- Expand zoning/land use controls and update existing codes to control commercial development along the Route 219 and U.S. Route 30 corridors
- The creation of a National Park Memorial for Flight 93 could have a positive impact on the county's tourism economy. However traffic and land use ramifications for the Shanksville and Somerset areas would likely occur as well.⁶⁹

The draft County Comprehensive Plan set forth Ten Key Initiatives to "spur new economic opportunities and enhance quality-of-life..." Initiative 7 addresses zoning and land development ordinances. This initiative established a goal "to ensure that new development conserves and maintains the positive character qualities of the County and its landscapes and to provide for growth which is consistent with infrastructure investments."

The Somerset County Planning Commission, with the assistance of the Pennsylvania Environmental Council, is preparing a corridor planning study of the major routes between the Somerset turnpike interchange (Exit 110) and the Flight 93 National Memorial to understand the types of development that could occur in the vicinity of the park. The study will evaluate Routes 281, 219 and U.S. Route 30 and the potential for residential, commercial and other development along the highway corridor and recommend strategies for "encouraging economic development while keeping the rural character of the area intact."

Stonycreek Township, Shade Township and Somerset County do not have land use regulations in place near the memorial at this time. More than 90 percent of the land area in Somerset County is classified as undeveloped, of which 63.4 percent is forested and 35.6 percent is agricultural.⁷⁰ The rural character and aesthetic quality of the county is changing as a form

of suburbanization, sprawl and mixed development is occurring, particularly in Somerset Township and around the turnpike interchange. The proliferation of windmill power farms is also affecting the county's scenic qualities and rural character.

Land uses along U.S. Route 30 through the northern portion of the site include residential, communications and mining uses. Land north of U.S. Route 30, is owned primarily by Berwind Coal Sales Company, and is currently under reclamation. In 2004, a cell tower was erected immediately north of U.S. Route 30.

Camp Allegheny, a United Methodist church camp, lies adjacent to the east side of the memorial boundary along U.S. Route 30. The camp offers year-round facilities and programs for children, youth and adults. Facilities include a large camp center, a sports center hosting basketball, volleyball and other large group activities, and eight lodges or cabins available for groups and families during their stay at Camp Allegheny. The closest commercial establishments are Duppstadt Country store to the east, at the intersection of Buckstown Road and U.S. Route 30, and Castagnia's restaurant at the western boundary of the memorial along U.S. Route 30.

Indian Lake Borough is located to the east of the site, off State Route 160, south of U.S. Route 30. The community is comprised of 750 acres with 20 miles of shoreline that supports boating, fishing, swimming, and water skiing. Indian Lake was originally built as a resort community on a 5-mile long horseshoe lake, and offers two golf courses, a lodge and restaurant and a marina.

Single-family residences, pastureland and farms are the predominant land uses along Buckstown and Lambertsville roads. Most of the property adjacent to the west side of the memorial is residential. Highland Tank & Manufacturing Co., Inc. is located at the intersection of Lambertsville Road and U.S. Route 30. This industrial land use occupies both sides of Lambertsville Road.⁷¹ Immediately south of the memorial lie several residential properties in wooded areas through which Grove Run flows. In 2004, a game hunting preserve for wild boar and deer was established on land adjacent to the crash site. Another deer farm (Stonycreek

⁶⁹Somerset County Draft Comprehensive Plan Update, July 2003, p. E-10.

⁷⁰Ibid, p. 2-11.

⁷¹ERM. *Final Closure Report, Flight 93*, 2002, p. 4.

Whitetails) is situated on 160 acres on Stutzman-town Road southwest of the memorial.

Wind farms are proliferating throughout Somerset County and southwestern Pennsylvania. Existing projects include 6 wind turbines south of the Pennsylvania Turnpike, which are 330 feet tall and serve about 3,400 homes, and 8 wind turbines near Garrett in the southern part of the county. Numerous other wind farms planned near the memorial include a 23 wind turbine project in northern Somerset County.

Stonycreek WindPower LLC is a 65-megawatt project located in central Somerset County, supplying energy to the PJM Interconnection LLC. The project is currently configured for up to 40 or more wind turbine locations, is fully developed and permitted, and is expected to be operational at the end of 2006. The wind turbines are 387 feet above ground level (agl). Other components of the project include a new substation and local road/distribution line upgrades and an onsite meteorological tower with a height of 262 feet agl. The estimated annual 170,000 MWh of energy generated will interconnect with the PJM grid through the 115 kV Somerset-Allegheny transmission line owned and operated by the Pennsylvania Electric Company (Penelec).

Forward WindPower LLC is a 30 MW project to be located in northern Somerset County, supplying energy to the PJM Interconnection LLC. The project is currently configured for 23 wind turbines and should be operational by the end of 2006 or early 2007. Like the Stonycreek WindPower Project, this project will include a new substation and local road/distribution line upgrades. The estimated annual 115,000 MWh of energy generated will interconnect with the PJM grid via the 115 kV Hooversville-Central City transmission line owned and operated by the Pennsylvania Electric Company (Penelec). Gamesa Energy and St. Francis University submitted plans for a 5- to 10-turbine wind farm north of U.S. Route 30 in Reels Corner in Shade Township.

In December 1997, Somerset County adopted an ordinance, establishing setback and decommissioning requirements for wind and communication towers. This ordinance also conditionally exempts leases of these towers from a subdivision plan while filing a nonresidential development plan. In January 2005, the county amended

this ordinance to require developers to obtain waivers from adjacent property owners before building wind turbines or cell towers within a set distance of those properties. The County Commissioners decided that a proposed 3,000-foot setback was too restrictive and settled on a formula that takes into account the height of the structure. Based on the height of the wind turbines, setbacks would range between 990 and 1,320 feet.

Public Health and Safety

Hazardous Materials. Because of the industrial nature and the historic mining activities that occurred at the memorial site, hazardous materials and contaminants were found on site. Some of these materials and conditions will be addressed as part of the final mining reclamation of the site. The more prevalent hazardous materials⁷² include:

- Arsenic, caused by the disturbance of heavy metals during mining, is typically found in areas where strip mining has occurred. During a Phase I Environmental Site Assessment, arsenic levels were detected in three soil samples, located within the Bowl. Of the 10 soil samples collected within the boundary, three samples confirmed the presence of arsenic. One (SS-8) sample showed the arsenic level was 14 ppm, which exceeds the residential Statewide Health Standard (rSHS) of 12 ppm. SS- 6 detected arsenic at a concentration of 10 ppm and SS-7 revealed concentrations of 12 ppm, which is equal to the rSHS. The effects of these conditions are addressed in Chapter IV-Environmental Consequences.
- Pole-mounted and ground-mounted transformers were observed throughout the site. Transformers have the potential to contain PCBs, though no staining was visible in proximity to these transformers.
- Soil staining was observed throughout the Long-T area, and numerous 5-gallon buckets of lubricating oil on a pallet were observed leaking in this area. Staining was also observed near a valve protruding from secondary containment situated under five 275-gallon aboveground storage tanks containing lubricating oil. Surface staining was also observed throughout the Long-T area most likely due to equipment and maintenance use.

⁷²RT Environmental Services. *Flight 93 National Memorial Phase I Site Assessment*, May 2004.

- Numerous 55-gallon drums were observed in the Diamond-T area. These drums are being removed as part of the reclamation activities. A few of these drums contained oil filters and were discharging oil to the surface. A burn pit area was also observed in proximity to the truck wash garage in the Diamond-T area. The type of materials burned in this area was not identified. Some surface staining from equipment and maintenance was observed inside the bucket shop/weld shop in the Diamond-T area.
- A fill port and vent pipe for an underground storage tank was observed behind the bucket shop/weld shop. This UST was most likely used for heating oil. PBS reported that six underground storage tanks were properly removed and a closure report filed.
- A number of treatment ponds are located throughout the subject property.
- Bonds for the PBS coal mining activities at the site had been planned to be released in March of 2003, but seepage was noted and further treatment was required. Pond 25-5, which had been planned for closure but will remain open due to debris findings from the crash, also held up release of the bonds. The Department of Environmental Protection has indicated that many of the treatment ponds onsite will need to remain for perpetual treatment. There are also seeps associated with the Longview Mine.
- Draglines contain PCBs, heavy metals and other contaminants.
- Acid mine drainage which drains from the mines.

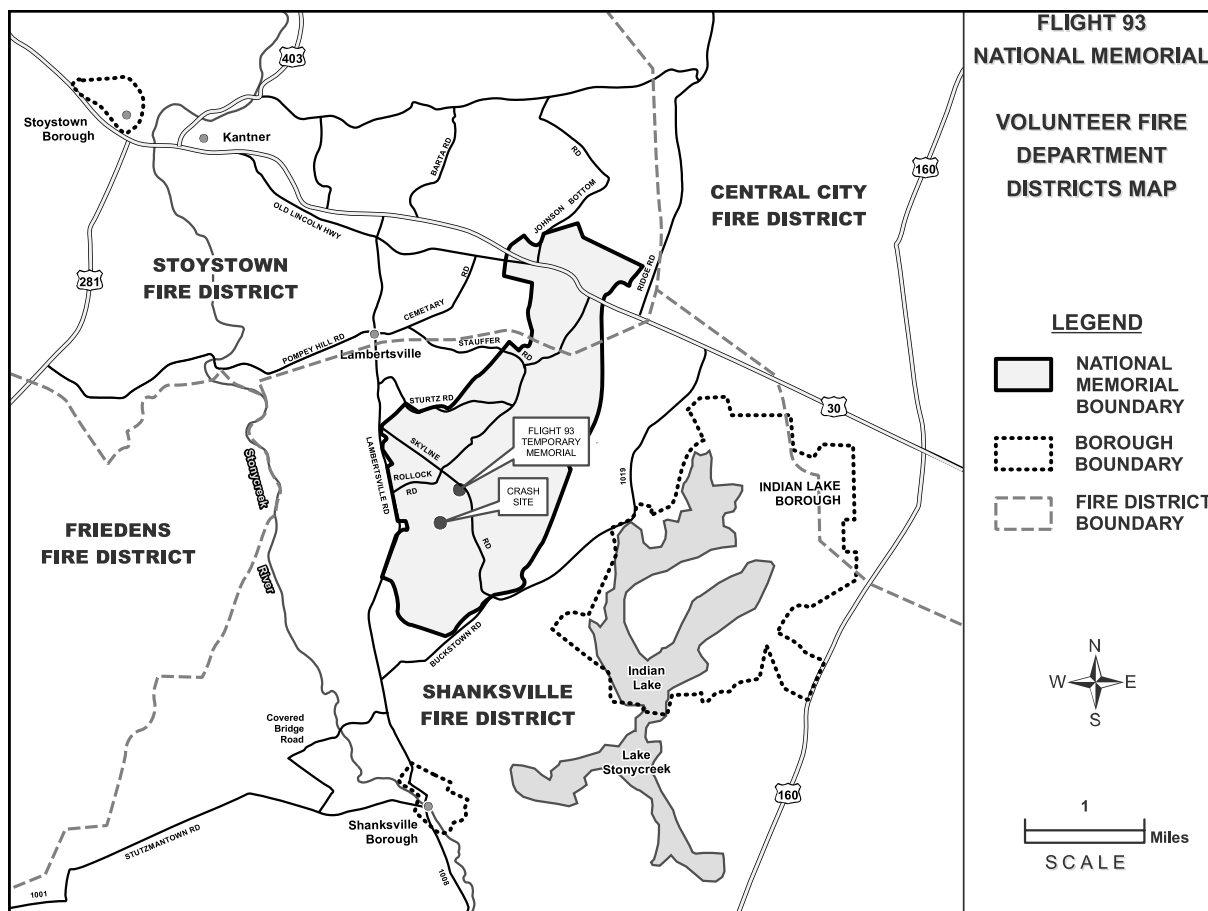
Roadway Accidents. Accident data provided by the PennDOT were reviewed for the section of U.S. Route 30 extending from approximately 3,000 feet west of the proposed memorial entrance to about 2,000 feet to the east of the entrance. A total of nine (9) accidents occurred on this segment of S.R. 0030 during 1999- 2001. All nine accidents involved hitting a fixed object, with no apparent pattern. Compared with statewide averages, this segment of the roadway is about 40 percent below the accident intensity average for rural undivided highways.

During public meetings conducted by the National Park Service, local residents voiced concerns that this portion of U.S. Route 30 is dangerous and that many accidents are unreported. Although this anecdotal information cannot be corroborated, it is clear from the roadway alignments, sight distances, and vehicle-truck traffic mix that the area presents many potential safety issues, especially during inclement weather. In August 2005, a fatal accident occurred adjacent to the memorial along U.S. Route 30 when a car attempted to access the roadway and was struck by an oncoming truck. The Commonwealth of Pennsylvania has provided Somerset County with funding to conduct a study of U.S. Route 30 and the other routes leading to the memorial to identify necessary safety improvements given the introduction of visitor traffic. The specific location of the entrance road and necessary intersection and roadway improvements will be identified in this study.

Emergency Response Services. The Department of Emergency Services, Somerset County Control 9-11, is the local Emergency Management Agency and is located in Somerset Borough. The 9-11 center is staffed 24 hours-a-day, year-round. The 9-11 office has 12 full-time and 5 part-time personnel that serve as dispatchers.

Security at the crash site is currently provided by the Somerset County Sheriff's Deputies. The Pennsylvania State Police provide general police protection at the site and the Shade Township Police Department is responsible for the areas north of US Route 30. Flight 93 National Memorial is primarily served by the Stoystown Volunteer Fire Department from the north and the Shanksville Volunteer Fire Department from the south (Figure III-9). Other local fire departments that serve Stonycreek Township include Central City Volunteer Fire Company, Friedens Volunteer Fire Company and Berlin Volunteer Fire Company.

Figure III-9: Flight 93 National Memorial Volunteer Fire Department Districts



Source: Somerset Co. 9-11 Office. Prepared by The EADS Group, June 2005.

CONTEMPLATED FUTURE ACTIONS

Other plans that are being prepared by Federal, State and local governments are identified in this section. These plans are noted to build a solid foundation for identifying cumulative impacts, or those impacts that result from past, present and reasonably foreseeable future actions. The county has presented the following listing of planning, recreation and open space projects that are expected to occur during this planning period. These plans and projects include, but are not limited to—

- Completion and adoption of the Somerset County Comprehensive Plan Update
- Southern Alleghenies Regional Greenways and Open Space Network Plan
- Flight 93 National Memorial Corridor Planning Study
- Allegheny Ridge Heritage Area
- Lincoln Highway Heritage Corridor
- Route 219 Corridor Improvement
- Shanksville Borough Sewage Plan
- Opening of a major new underground mine on Stutzmantown Road in Somerset Town-

ship, including reopening of railroad siding and Cambria Fuel cleaning plant near Shanksville.

Wind farm proposals, including Gamesa Energy confirmed plans to build 5 to 10 wind turbines north of U.S. Route 30 in the village of Reels Corner, Shade Township by 2006-2007. Reel's Corner is about 2.5 miles east of the memorial. Other proposed wind farms in Somerset County include Keystone Wind in Somerset Township, and Stony Creek in Stony Creek Township.

The Somerset County Airport recently completed a master plan update addressing a proposed 300-foot runway extension, bringing the runway length to 5,000 feet. This extension would allow for larger twin-engine and corporate jets to operate at the county airport. Flight 93 National Memorial is located about 5.5 miles northeast of the airport.

IV

CHAPTER IV Environmental Consequences



Chapter IV – Environmental Consequences

INTRODUCTION

Chapter IV assesses the potential impacts – both positive and negative – of the proposed action and the alternatives described in Chapter II on the natural and human environments. Impacts that could potentially affect the memorial’s resource values, as well as the community’s infrastructure and socioeconomic conditions, were evaluated for each alternative at a level that would facilitate decisionmaking regarding the appropriate management of the memorial. Further, measures to mitigate adverse effects have been proposed for each alternative.

Chapter III describes the affected environment and provides the context in which the resources exist. Resources found within the Flight 93 National Memorial boundary are representative of a disturbed and fragmented open landscape. Within the context that these resources exist, management of the site by the National Park Service under either alternative will improve site conditions. The National Park Service is required to preserve unimpaired the site’s historic, cultural and natural resources, and comply with Federal environmental regulations and National Park Service policies and standards.

Because Flight 93 National Memorial was designated a national park unit by Congress in 2002 through legislation, the analysis contained in this document does not consider the effects of not having a national park on the site. If this area had not been designated a unit of the national park system, the site would have been reclaimed to the standards established in the PBS Coals, Inc. mining reclamation plan, as stipulated by the Pennsylvania Department of Environmental Protection. It is unlikely that the site would have been improved to a comparable level as it would if the National Park Service acquires the land and develops the memorial.

Project-specific issues identified during scoping, agency coordination, public input, and through assessment of legal mandates and resource studies have been evaluated. Each resource category will be evaluated as follows:

- The methodology for assessing these impacts.
- The context in which the resources exist.
- Analysis of each alternative
- A summary of the impacts are presented to identify the potential impairment thresholds

and to compare the effects of the alternatives. Appropriate measures to mitigate potential adverse effects are identified.

The impairment thresholds were defined as follows:

- **Negligible** – No measurable effect
- **Minor** – Measurable effect, but with minimal change to resource conditions
- **Moderate** – Changes to resource conditions but not irreversible or can be sustained through mitigation
- **Major** – Resource conditions are significantly altered even with mitigation. These changes could be positive changes or could modify the existing conditions.

An impact can have both positive and negative effects. For example, any new development can have positive impacts in terms of bringing new money into a community, but it can also induce negative impacts in terms of generating traffic and attracting more people to a community, thus placing greater stresses on infrastructure and local services.

Several impact categories were identified to evaluate the effects of the alternatives on the area’s resources. The effects of either retaining existing conditions or developing visitor facilities, permanent memorial features and ancillary infrastructure are assessed in this chapter. The cumulative effects of the proposed action—the past, present and reasonably foreseeable future actions—are also assessed. These actions have the potential to affect the memorial’s resource values, desired visitor experience, as well as the community’s infrastructure and services. A matrix summarizing the impairment thresholds for each impact category is presented at the end of this chapter.

ENVIRONMENTAL FACTORS AND EVALUATION

Table IV-1 presents the impact categories that must be evaluated by Federal law or National Park Service policy. The categories that are relevant to this project are identified, but these are not the only categories that will be evaluated. The impacts that are common to both alternatives and resource-specific impacts are discussed later in this chapter.

This chapter assesses the potential impacts – both positive and negative – of the alternatives on the natural and human environments.

Table IV-1: Impact Categories Appropriate to Flight 93 National Memorial Review

Impact Category	Relevant to Flight 93 NM
Possible conflicts between the proposed action and land use plans, policies or controls for the area concerned and the extent to which the Memorial will reconcile the conflict	Yes
Energy requirements and conservation potential	Yes
Natural or depletable resource requirements and conservation potential	Yes
Urban quality, historic and cultural resources and design for the built environment	Yes
Socially or economically disadvantaged populations	No
Wetlands and floodplains	Yes
Prime and unique agricultural lands	Yes
Endangered or threatened species and their habitats	Yes
Important scientific, archaeological and other cultural resources, including historic properties listed or eligible for the National Register of Historic Places	Yes
Ecologically critical areas, Wild and Scenic Rivers or other unique natural resources	No; none exist
Public health and safety	Yes
Sacred sites (as defined in E.O. 13007)	No; none exist
Indian Trust resources	No; none exist
Source: Impact categories cited in CEQ §1502-1508 and National Park Service DO-12.	

IMPACTS COMMON TO BOTH ALTERNATIVES

Impacts that are common to both alternatives are briefly discussed in this section. These impacts would most likely occur regardless of the alternative selected.

Possible Conflicts with Local Plans, Policies and Controls

Somerset County Comprehensive Plan Update.

In 2003, the Somerset County Planning Commission released a draft of the Somerset County Comprehensive Plan Update. The update recognized the importance of the Flight 93 National Memorial in having a positive influence on the County's tourism economy, and also recognized the impacts to land use and traffic at the local level.

Under both alternatives, the Flight 93 National Memorial is compatible with the goals of the County's comprehensive plan. As a goal, the County's comprehensive plan update recommends land use controls for commercial development along U.S. Routes 219 and 30. Zoning does exist at the U.S. Route 219 interchange at U.S. Route 30 and along portions of Route 601. Limited zoning also exists in other jurisdictions within the County. As part of the *County Comprehensive Plan Update*, the County acknowledged that Somerset and Stonycreek Townships have the greatest need for land use controls due

to growth potential and the Flight 93 National Memorial. To address these needs, the County proposed an action strategy to focus on Stony creek and/or Somerset Township to implement zoning and land use controls, especially regarding the demands of the Flight 93 National Memorial site.¹

Flight 93 National Memorial Area Corridor Planning Study.

Access to Flight 93 National Memorial will be studied in the proposed corridor planning study, which will be funded through grants from the Commonwealth of Pennsylvania, and supported by the National Park Service and the Pennsylvania Environmental Council. The following local jurisdictions have agreed to participate in the study: Somerset Borough and Jenner, Shade, Somerset and Stonycreek Townships.

Comprehensive Economic Development Strategy Six County Southern Alleghenies Region. Flight 93 National Memorial is not in conflict with the recommendations for regional economic development that are presented in this plan.

Southern Alleghenies Rural Planning Organization Long Range Transportation Plan, FY 2003-2023.

Flight 93 National Memorial is not in conflict with the region's long-range transportation plan or transportation improvement program for the Johnstown non-MPO area.

¹Executive Summary – The Key Initiatives. Somerset County Comprehensive Plan Update. p. E-15.

State Implementation Plan-Air Quality Conformity Analysis Report for the Johnstown Non-MPO Ozone Nonattainment Area. The Johnstown non-MPO area is in attainment for ozone. Two significant highway projects were identified in this report as having potential effects on the region's air quality. Neither is located in Stonycreek Township nor are they related to Flight 93 National Memorial. The development of the memorial would not conflict with the State Implementation Plan nor will development of the memorial adversely affect the regional air quality.

Stonycreek Township Act 537 Sewage Facilities Plan. The sewage facilities plan for the Shanksville sewage treatment system recommends that sewerage from properties along Lambertsville Road be conveyed to Shanksville using a combination of gravity sewers and force main. The Flight 93 National Memorial is located within an area that would be consistent with future plans to serve the Lambertsville Road area. Conveyance of sewage from the Flight 93 National Memorial would be consistent with the Stonycreek Township Act 537.

Pennsylvania Statewide Airport System Plan and Somerset County Airport Layout Plan. The Somerset County Airport is located in Somerset Township, approximately 6 miles southwest of the Flight 93 National Memorial, off SR 281 near the town of Friedens. The airport is currently used for corporate aircraft, recreational flying, flight instruction, law enforcement, aerial photography/surveying/ inspections, agricultural purposes and medical support services.

In February 2003, the Penn DOT Bureau of Aviation (BOA) conditionally approved the Somerset County Airport Layout Plan (ALP), which represents BOA's acceptance of the proposed improvements at the airport. A 300-foot extension to Runway 06/24 has been approved, which would allow for a 5,000-foot runway. If the proposed runway extension is constructed, the Somerset County Airport would be able to accommodate corporate or business aircraft operations. As a result, additional operations, particularly business jets, would occur, as well as increased noise disturbance and visual distractions from overflights to the memorial. Thus, the intended quiet, contemplative setting could be disrupted under both alternatives. Further coordination with the airport management and the FAA is required to adequately assess the potential impacts of this expansion, or more importantly, any future expansions on visitors to the memorial.

Environmental Justice

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, requires Federal agencies to avoid actions that could cause disproportionately high and adverse impacts to minority and low-income populations with respect to human health and environment. There are no minority communities within the areas immediately adjacent to the memorial. Therefore, neither alternative would disproportionately affect minority populations or low-income communities.

Floodplains

There are no designated floodplains within the memorial boundary, as defined in Executive Order 11988, *Floodplain Management*.

Prime and Unique Agricultural Lands

The Farmland Protection Policy Act (P.L. 97-98; 7 U.S.C. 4201-4209) directs Federal agencies to minimize unnecessary conversion of farmland to nonagricultural uses and to assure that their programs are compatible with programs and policies designed to protect farmland. For both alternatives, the previous mining activity significantly altered the soil and landscape of the core areas where memorial features and visitor uses are planned. Farming and grazing practices would not occur within these areas of the memorial. However, for both alternatives, existing agricultural practices could continue within the perimeter or buffer area (approximately 907 acres). Agricultural practices (crop cultivation and grazing) would be compatible with the memorial through protection of viewsheds and the existing rural character of the landscape.

Ecologically Critical Areas

Ecologically critical areas are exceptional natural resources, such as National Natural Landmarks, wild and scenic rivers, wilderness areas or other unique natural resources. No ecologically critical areas or National Natural Landmarks exist within the memorial boundary or within Somerset County.

Sacred Sites and Indian Trust Resources

There are no Indian sacred sites, as defined by Executive Order 13007, or Indian Trust resources within the Commonwealth of Pennsylvania.

RESOURCE-SPECIFIC IMPACT CATEGORIES

In addition to the impact categories shown in Table IV-1, resource-specific impacts will be evaluated for each alternative. These impact



The Laurel Highlands
(Jerry Spangler 2004)

categories were determined through consideration of the memorial's fundamental resource values, public input, agency scoping comments and resource studies conducted for this project. The cumulative impacts of the proposed action are also discussed at the end of this chapter. Impact categories that will be evaluated by alternative are—

- Natural Resources
- Historic and Cultural Resources
- Socioeconomic Impacts
- Land Uses
- Transportation
- Energy Requirements and Conservation Potential
- Visual and Aesthetic Resources
- Public Health and Safety

NATURAL RESOURCES

GEOLOGY, SOILS AND TOPOGRAPHY

Methodology

A site inspection and preliminary geotechnical analysis was conducted by Engineering Mechanics, Inc. in July 2004. Follow-up analysis was conducted of the final designs in February 2005. The site conditions, geology of the area, mining history and foundation considerations were evaluated. Figure III-7 (Chapter III) shows the limits of the deep-mining at the site.

Context

The terrain is predominately rolling hills and valleys dominated by a gentle ridge along its east limit, where maximum elevations range from 2,550 feet to 2,600 feet. Minimum grade along the westerly limit of the tract is about 2,260 feet, and the actual crash site lies about 2,350 feet in elevation.²

The eastern half of the site had been extensively deep-mined, followed by strip-mining above the deep mines. The predominate mining on the western half was strip-mining. When an area is strip-mined, the overburden is removed down to the coal seam(s) being extracted, the coal is retrieved, and the area is backfilled with the overburden from a succeeding strip cut until mining is completed. In general, the ground is reclaimed to the approximate topographic contours that existed before the mining operations occurred. The strip-mined areas are blanketed with generally loose mixtures of soil and rock

overburden that will compact under their own weight over time. Most of the strip-mining occurred at least five years ago and even longer in many areas.

Alternative 1 – No Action

Alternative 1 would not involve extensive construction activities for any major facilities or structures. Only minor roadway and safety improvements would occur if this alternative is selected. As a result, the impact threshold for geotechnical impacts under Alternative 1 would be Negligible.

Alternative 2 – Preferred Design Alternative

Alternative 2 proposes several key development areas: the Tower, the Portal Plaza and visitor center complex; the curving memorial landform around the Bowl; and the Sacred Ground Plaza. Pedestrian trails would extend throughout the site.

The conceptual design proposes a 93-foot-tall concrete tower constructed on a raised platform that is situated on a planted mound which would be located at the memorial entrance. The tower would contain 40 aluminum wind chimes. The Tower will require deeper and more extensive foundation measures than normal for proper support. Based on the small footprint of the Tower, the additional construction costs for the foundation are not expected to be significant.

The main entrance to the Bowl would be through the Portal at the western end of the curving walkway. The Portal would consist of two 30-foot to 40-foot high walls located near the visitor center. In the design concept, these structures would be located in the general area of the existing scrap and recycling operation. The Portal walls would be constructed of concrete and a walkway would lead through the first wall onto the Portal Plaza. Deciduous trees, such as red maples, would be the principal planting. Because of the limited extent of the Portal walls, they are not expected to present difficult construction issues but they would require relatively deep foundations or strip-mined backfill sub-grade stabilization. Prior to construction of the Tower and the visitor center, a geotechnical investigation would be conducted to determine stability.

The Portal Plaza transitions to the visitor center, which is integrated into the curving landform. North of the visitor center, the curving landform continues with an allée of deciduous trees and

²Engineering Mechanics, Inc. Final Geotechnical Report, July 2004. All elevations are referenced to topographic maps provided by PBS Coals, Inc. for the Diamond T Coal Company Lambert & Farkas-Stahl strip mines, Strip Mine Permits (SMPs) No. 56703124 (on the north) and 56693103 (on the south).

walkway that extends around the Bowl for approximately one mile. The landform is expected to require moderate to extensive foundation subgrade excavation and soil replacement or improvement to provide support for the walkway. Tree plantings and 40 memorial groves would require modifying and improving the soil.

Another plaza would be constructed adjacent to the crash site or Sacred Ground. In the design concept, the plaza would be hard surfaced with a raised landing at its northwest edge that would align with the Portal to define the flight path of Flight 93. Offset walls would frame a gate, which would be opened for family visits or special ceremonies. The names of those honored and the date, September 11, 2001, would be inscribed on the western wall. A stone slab or walkway would extend to the Sacred Ground. The impact threshold for Alternative 2 for geotechnical issues is expected to be Minor, although costs associated with this Alternative 2 would be higher to account for further geotechnical investigations prior to construction, footings and stabilization.

Summary of Impacts

No major geotechnical issues are associated with Alternative 1 as there are no new structures proposed under this alternative. Therefore, the impact threshold for Alternative 1 for geotechnical would be Negligible.

Alternative 2 would involve construction of a memorial expression, visitor facility and associated infrastructure. During the final design of this alternative, consultation with a geotechnical engineer would be conducted to determine appropriate options for constructing these structures. The impact threshold for geotechnical under Alternative 2 is expected to be Minor though costs would be higher than for Alternative 1.

VEGETATION AND WILDLIFE

Methodology

Two natural resource surveys were conducted of the Flight 93 National Memorial site in 2004 and 2005 by qualified botanists, wildlife biologists and water quality specialists. The Pennsylvania Natural Heritage Program database was accessed to supplement and support information collected during these surveys. Topographic maps, geologic maps and aerial photographs were reviewed to determine habitats most likely to be onsite. All rare plant species known to occur throughout the county and within 20 km of the site were assessed for possible occurrence.

A spatial representation of the predicted future range expansion for hemlock woolly adelgid was created by estimating spread rates from historical records and using these estimates to predict future spread. The potential for this species was based upon visual detection of life stages by pest management personnel and through review of historical records.

Context

No rare plant species or species of conservation concern were found during the field surveys. However, biologists determined that limited but significant potential exists for certain plant species of conservation concern to occur within the boundary. One such species, the Appalachian blue violet (*Viola appalachiana*), a proposed "Pennsylvania Tentatively Undetermined" species, was recommended for further survey in the area of the Sorber Cemetery. The Appalachian blue violet occurs throughout the Allegheny Mountains and in Somerset County. More information on threatened, endangered and species of special concern is provided in the following section on "Federally and State Protected Species."

Of all the areas within the boundary, the hemlock grove has the greatest potential to support viable populations of rare plants. For more information on these species, refer to the following section on "Federally and State Protected Species." Three bird species listed as State Species of Special Concern were observed at the memorial in 2005. These species were northern harrier (*Circus cyaneus*), a State Candidate-at-Risk Species of Special Concern; Wilson's snipe (*Gallinago delicata*), a State Threatened Species of Special Concern; and a short-eared owl (*Asio flammeus*), a State Endangered Species of Special Concern.

Habitats for northern harriers include both uplands and wetlands, such as marshy meadows and pastures, old fields, dry uplands and riparian woodland. Wilson's snipe habitat ranges from wetlands to well-drained grassy uplands. Open country supporting rodents and small mammals offer suitable habitat and food supply for the short-eared owl. Wild turkey (*Meleagris gallopavo*), also seen on site, was the only species confirmed to be breeding, according to the *Pennsylvania Breeding Bird Atlas*.

The Flight 93 National Memorial site has been severely impacted over time by farming activities and by mining operations. Both of these former activities diminished and fragmented wildlife habitat, severely impacted water quality and

quantity, provided opportunities for the introduction of invasive species and impacted forestland. The site is currently evolving through the reclamation process, which principally involves restoration of the land to grassland and pines.

The PBS Coals reclamation plan included a seed mixture composed of Kentucky fescue #31, clovers, birdsfoot trefoil, crown vetch, orchard grass, timothy, alfalfa and rye grass. Kentucky #31 comprises the bulk of the tall fescue acreage in the United States,³ and much of the grass planted as part of the mining reclamation plan was fescue. The Pennsylvania Game Commission commented during scoping that fescue is non-native, often has endophytes (fungus) and provides little to no value to wildlife. Further, Kentucky fescue #31 is not a preferred grass due to its low value to birds and wildlife.⁴ Tall fescue is a widely adapted, persistent grass that easily establishes, is tolerant of a wide range of management regimes and compares favorably to nutrient levels of many other cool season grasses.

Alternative 1 – No Action

Under Alternative 1, no improvements or enhancements to habitat are planned other than routine maintenance. Revegetation of the site would most likely continue through a successional process. Thus, maintaining existing habitat for a wide range of birds, plants and mammals is proposed for Alternative 1.

Grasslands. Pennsylvania Game Commission commented that native grasses, particularly warm season grasses, such as switch grass (*Panicum virgatum*), timothy or orchard grass, are preferred. The Pennsylvania Department of Conservation and Natural Resources supports use of the following perennial grasses: big and little bluestem, lurid sedge, bottlebrush grass, riverbank wild-rye, Virginia wild-rye, switch grass and Indian grass.⁵

Alternative 1 would provide low-maintenance, high habitat benefits for grassland bird species and would support meaningful populations of these birds, which would likely nest in the area. Very little management of the area would be needed to support these bird populations given the slow rate of woody succession due to poor soils. Management every 3-5 years in terms of

“brush-hogging” would be needed to set back the establishment of woody vegetation. Otherwise, nothing additional needs to be done to the area to retain its value as a conservation area for grassland birds.

The National Park Service natural resource field report stated that the northern area would remain contiguous and undisturbed if the existing Haul Road was used as access from U.S. Route 30 and development was confined to the lower third of the site. This would provide the park with an opportunity to enhance critical habitat for a group of birds on the “conservation concern” lists. Collectively referred to as “obligate grassland birds,” these species require grasslands to breed and reproduce.

Many of these bird species nest in grasslands, including reclaimed surface mine sites. Reclaimed bituminous coal fields are beneficial to grassland birds and play a significant role in their global conservation by providing critical habitat. Widespread surface mining and subsequent reclamation in western Pennsylvania has resulted in an extensive patchwork of reclaimed sites among forests, woodlots and agricultural fields. These fields have a slow rate of ecological plant succession and are ideal for short-eared owls, bobolinks, grasshopper sparrows, Henslow’s sparrows, upland sandpipers, savannah sparrows and vesper sparrows, among others.⁶

Forested Areas. The forest patch situated on the eastern edge of the core area of the memorial exhibits the most intact example of the northern hardwoods forest type within the memorial boundary. The hemlock grove to the south also offers possibility for rare plant species. For both alternatives, recommendations have been made in this section to restore damaged areas and to maintain the health of the hemlock grove. Fencing around the crash site would be maintained, which would provide some protection to the hemlocks from human disturbance and from wildlife browsing.

Hemlocks naturally do not have extensive root systems, and given the site’s high-water table and rocky soils, the trees have problems establishing deep root systems. Individual trees, even in aged stands, are likely to devote resources to shoot

³Ball, Donald M., et al. “The Tall Fescue Endophyte Story.” Extension Forage Crop Agronomists, Auburn University, University of Kentucky & University of Georgia.

⁴Telephone conversation with Barry Zaffuto, Pennsylvania Game Commission, and Eileen Carlton, Environmental Management Collaboration, Ltd., July 2005.

⁵Pennsylvania DCNR website: www.dcnr.state.pa.us/forestry/wildplant/grasses.aspx

⁶National Park Service. May 18, 2005. Flight 93 National Memorial Trip Report.

growth at the expense of root development in areas where competition for light is high. The fire that followed the crash of Flight 93 damaged and destroyed more than 100 trees (Lewandowski, 2004 pers. com). When the buffer was destroyed by fire, the trees that had been protected in the interior of the hemlock stand were exposed to severe weather. Since September 11, 2001, several large hemlock trees have fallen from exposure to high winds and heavy snow. Although over time trees will naturally establish along the edge, it is expected that additional trees will most likely fall until a buffer re-establishes and forms to protect the core again.

To maintain the health of the hemlock grove, the following actions have been recommended⁷:

- Plant a wind-break using local hemlock saplings along the newly created forest edge to protect recently exposed forest trees.
- Ensure adequate soil moisture and monitor conditions of planted trees in June through September.
- Do not use or allow run-off of any salts, e.g. road salt, in the vicinity of hemlock stands, as hemlocks are extremely vulnerable to salt stress.
- Prevent soil compaction by installing boardwalks or platforms in (or immediately adjacent to) the hemlock stand anywhere a substantial amount of pedestrian traffic is expected.
- Maintain hemlock regeneration and monitor deer or other browsers that may prevent hemlock regeneration.
- Leave downed trees and branches on the forest floor to retain moisture and nutrients, prevent invasions by alien plants, and support hemlock regeneration.

The impact threshold to vegetation and wildlife for Alternative 1 would be Minor.

Invasive Species and Pests. The National Park Service natural resource specialists recommended that a survey of invasive plant species be undertaken as soon as possible. Invasive woody species, such as tree of heaven and autumn olive, should be removed and treated. Any seed mixtures used within the park should be monitored to avoid the introduction of problematic invasive or exotic plant species.⁸

A number of non-native birches, including European white birch (*Betula pendula*), an ornamental, non-native species, were observed at the

site. *Betula pendula* and other varieties of birch can be invasive, but if the trees are deemed desirable, a reasonable course of action would be to observe the areas around the trees for several years to determine if this species shows potential to become invasive. If so, appropriate management practices could be implemented before the populations become unmanageable.

Bristly locust (*Robinia hispida*) is not native to Pennsylvania, and black locust (*Robinia pseudoacacia*) is only native in the southeast and southwest corners of the state, and probably not as far north as the memorial (especially at the high elevations of the site). Black locust can be a serious invasive in prairies, so if grassland maintenance is going to be part of the management plan, removal of black locust should be given serious consideration.

Narrow-leaved cattail (*Typha angustifolia*) is often reported as being native to eastern North America, but Stuckey and Salamon (1987) provide evidence that it is an early introduction from Europe. This species is aggressive, and forms monocultures in Pennsylvania wetlands, displacing native species.

The hemlock woolly adelgid (*Adelges tsugae*), a pest that threatens eastern hemlocks, was not discovered within the hemlock grove onsite, though it has been in Somerset County since 2002. Hemlock woolly adelgid is an insect that feeds on the xylem tissue of hemlock trees causing loss of vitality, defoliation and death. This pest is easily identified by the white cottony masses on the twigs and at the base of the needles. The adelgid was not apparent in the hemlock stand during the site visit. Since it is dispersed passively in spatially “patchy” manner by birds, mammals (including people), and wind, it is difficult to predict with any precision when it will attack a particular hemlock stand. The National Park Service’s natural resource report projects that hemlock woolly adelgid will probably occur at the memorial within 3 to 4 years.⁹

At an elevation of ca. 2,500 ft, cold winter temperatures at the crash site could prevent high adelgid populations from infecting the hemlock grove. Low or dramatically fluctuating winter temperatures at the memorial are likely to significantly suppress populations most years, and this will, in turn, significantly slow the rate of hemlock decline. The rate and extent of hemlock



Hemlock Grove (OCLP 2003)

⁷Ibid.

⁸Ibid.

⁹Ibid.



Wildflowers in the Bowl
(Jason Cohn 2004)

decline following adelgid infestation is highly variable and is difficult to predict. Droughts, soil moisture and nutrient conditions (particularly nitrogen), and the presence of other hemlock insect pests, can all significantly affect the rate of hemlock decline (in addition to the effects of winter temperatures). Much of the hemlock stand seems to have good hemlock site conditions (soil moisture), and no evidence of other hemlock pests was found during the site visit.

Other important hemlock pests include elongate hemlock scale (*Fiorinia externa*), hemlock looper (*Lambdina fiscellaria fiscellaria*), spider mite (*Oligonychus ununguis*) and hemlock borer beetle (*Melanophila fulvogutta*). In the absence of other stressors, most adelgid infested hemlock trees at the memorial could reasonably be expected to live seven or eight years or more, without treatment. However, appropriate measures should be used to maintain the health of the hemlock trees as long as possible following infestation. While no method (or combination of methods) for adequately controlling adelgid infestations is available at the present time, research and development of new biocontrol agents and other techniques is continuing and making progress. Given that the Sacred Ground hemlock stand is in good condition and is on a site with generally favorable conditions, best management practices could lead to maintaining this stand successfully over a fairly long-term (several years to many decades).

In addition to hemlock woolly adelgid, Pennsylvania has been experiencing a threat called “maple die-back” or “sugar maple decline” to its sugar maples (*Acer saccharum*). This threat is due in part to soil fertility problems and insect defoliation. This condition does not affect red maples. Red maples, however, are susceptible to fusarium canker, which results in long, narrow lesions on the bark. This problem occurs whenever maples are planted in high densities and when the trees are about 20-40 years old. Red maples are tolerant species of poor soil conditions and sugar maple decline should not be a concern under either alternative.¹⁰

Alternative 2 – Preferred Design Alternative

Alternative 2 considers maturity of the site over a 75-year period. The alternative focuses on an enhanced and extended natural and ornamental landscape, composed of seasonal grasses, bulbs,

wildflowers, and deciduous trees, such as maples, American beech, red twig dogwood, yellow birch and green ash, as well as a variety of ground covers and shrubs. The principal element of this design is a curving landform lined with groves of maple trees.

The design proposes to introduce buffalograss (*Buchloe dactyloides*), a low-growing (8 to 10 inches high), warm season perennial grass, which is durable, fast-growing and drought tolerant, and supported by the Pennsylvania Game Commission. Buffalograss is one of the true native grasses and considered ideal for “native” landscapes. This grass is not adapted to shaded sites or to sites that typically receive heavy traffic. In fact, according to Duble, excessive traffic is one of the pressures that lead to the deterioration of buffalograss. However, its tolerance to drought conditions and extreme temperatures, together with its seed producing characteristics, enable buffalograss to survive in extreme conditions.¹¹

Alternative 2 is based upon a successional landscape of woodlands and fields. Scattered trees and shrubs, including red twig dogwood, fire cherry, witchhazel, red maple, white pine and red oak are proposed for the site, except at the tower, where a designed landscape of evergreens, such as white pines, is proposed. Open fields, combined with existing successional plantings, would enhance wildlife habitat. A successional meadow seed mixture of wildflowers is proposed in the approach to the visitor center.

Under Alternative 2, specific plantings will be selected during the design phase. Native plants that are compatible with local habitat requirements will be given primary consideration due to the site’s conditions. Plant selection will be based upon mixed communities of low pH and/or metal-tolerant species with capabilities for high-volume groundwater consumption during the rain season.

Native grasses are recommended where possible and fescue grasses are not preferred even though they quickly establish and help control erosion. Herbaceous perennial grasses recommended by Pennsylvania Department of Conservation and Recreation include big and little bluestem, lurid sedge, bottlebrush grass, riverbank and Virginia wild rye, switch grass and Indian grass.¹² Depending on the variety, the use

¹⁰Telephone conversation between Tom Hall, Forest Pathologist, Pa Dept. of Forestry, and Eileen Carlton, Environmental Management Collaboration, Ltd., Sept. 28, 2005.

¹¹Duble, Richard L. “Buffalo Grass.” Texas Cooperative Extension. <http://aggie-horticulture.tamu.edu/plantanswers/turf/publications/buffalo.html>

¹²DCNR website: <http://www.dcnr.state.pa.us/forestry/wildplant/grasses>

of any mustard species must be coordinated with the Pennsylvania Department of Conservation and Recreation and with Department of Environmental Protection. Garlic mustard is listed as an invasive species and a serious threat in Pennsylvania. Proposed changes to the existing vegetation and wildlife by management zone under Alternative 2 are described as follows:¹³

Gateway. The area for the tower, a major component of the memorial design, would be regraded and encircled with a ring of evergreens. A mixed woodland buffer between U.S. Route 30 and the park would be planted to partially screen the Tower, to mitigate highway noise and to create continuity with the existing woodlands.

Approach/Return. Areas of the mining landscape, especially areas with higher toxicity levels, would be remediated through a phytostabilization process, which uses plants, such as poplars, sunflowers and mustards to draw out toxins. Other plantings in this zone include red twig (red osier) dogwood, fire cherry and witch hazel, and red maples, white pines and red oaks.

Bowl. The principal component of the memorial design for this management zone is a curving walkway and allée of mixed maples and hardwoods that would formally define the edge of the Bowl. The allée would cross through the wetlands to the crash site. Behind the walkway, 40 groves of sugar and red maples and a ring road would lead to parking near the crash site. Low-maintenance native grasses, such as buffalograss, would be planted under the maples with wildflowers. A ring road, encircling the maple design, would be tree-lined with a mixture of evergreens and deciduous trees that also protect and serve as a backdrop to the maple groves.

Sacred Ground. Native and ornamental species are proposed for the designed landscapes at the crash site. Species such as yellow birches, green ash and red-twig dogwoods are proposed as well as grasses such as Chewings, blue, hard, osprey hard, creeping red, Dawson red fescues that are low-growing, low-maintenance and do not require irrigation. Blue camassia is also suggested as a planting in the crash site, though this species is not native to this region. In addition to the grasses, seasonal bulbs would be planted in the crash site to provide beauty for three seasons. Plantings for the slope leading down to the crash site would include red twig dogwood below the plaza wall and purple love grass on

the slope behind the wall. The hemlock grove would be preserved. A cluster of American beech trees at the walls and benches would provide shade and shelter in this area.

Perimeter/Viewshed. Existing tree coverage along the perimeter would be preserved to maintain views to and from the Sacred Ground and to provide a buffer to minimize disturbance from outside the park. This treatment would facilitate an appreciation of the Laurel Highlands landscape. The northern perimeter would include woodland buffers to preserve a planted context for the park's entrance. The southern viewshed preserves the rural backdrop to the hemlock grove and the crash site.

The feasibility of establishing the maple plantings depends on the level of maturity selected for the tree and the extent to which soils are modified. Tree plantings will take time to establish and mature, and the need for replacement trees, particularly in the first few years, will be considered.

Based on the proposed improvements through the development of the preferred design alternative, the impact threshold for vegetation and wildlife would be Minor. Mitigation proposed for this alternative will provide many significant benefits and enhancements to the site, both aesthetically and in terms of the environment. In addition to the increase in visitors to the area, the principal impact under Alternative 2 would be the conversion of the site from a more natural habitat to a formal landscape design for portions of the site.

Mitigation

The Western Pennsylvania Conservancy recommended several measures to manage the site's natural resources. These measures include: (1) conducting further surveys for rare plant and animal species known to occur near the site, (2) protecting and enhancing the hemlock forest within the crash site, (3) enhancing the ecological viability of forest patches by increasing size and restoring site connectivity, (4) controlling non-native invasive plant species, and (5) maintaining the reclaimed strip mine portion of the core area as habitat for grassland-dependent species, particularly birds.

National Park Service natural resource specialists further recommended that an invasive plant survey be undertaken as soon as possible for either alternative. These specialists also

¹³Paul Murdock Architects, Inc., June 2005. Management Matrix.



Hemlock Grove (NPS 2003)

requested that non-invasive, native plant species be used in plantings whenever possible.¹⁴

The following mitigation measures were recommended to prevent introduction of hemlock woolly adelgid to the hemlock grove:¹⁵

- Prohibit any hemlock material – whether living trees, or wreaths, etc. – that may be infested.
- Do not use bird feeders in or near hemlock stands (e.g. at the cabin); birds are known to transport adelgid.
- Do not go into an uninfested hemlock stand after being in an infested stand especially between March and June when eggs and crawlers are present.
- Maintain awareness and provide information about hemlock woolly adelgid to staff, family members, local community, and visitors; use posters, flyers, available publications (examples from the USDA Forest Service in references below).
- Survey/monitor for hemlock woolly adelgid, other hemlock pests, and hemlock tree health
- Survey annually for adelgid, other hemlock pests [especially elongate hemlock scale (*Fiorinia externa*), and hemlock tree health. These surveys do not need to be exhaustive or scientifically rigorous, but should be standardized and documented.
- If hemlock woolly adelgid or elongate hemlock scale (EHS) is found, start an annual monitoring program. In accord with general Integrated Pest Management (IPM) procedures, monitoring data should be used to inform and guide decisions to apply certain chemical treatments, or not (pest treatment thresholds).

Recommended Management After Hemlock Woolly Adelgid Infestation

- Follow general Integrated Pest Management process.
- Release biocontrol beetles: Currently, three species are available: *Sasajiscymnus tsugae* (from Japan), *Scymnus sinuanodulus* (from China), and *Laricobius nigrinus* (from British Columbia). *S. tsugae* has been available for release for about 7 or 8 years now, and many hundreds of thousands of have been released in about a dozen states to date (including several hundred thousand in Pennsylvania).

S. tsugae continues to be the most readily available biocontrol.

- Use chemical suppression judiciously. A variety of chemical formulations and application methods are available to suppress hemlock woolly adelgid on selected trees or limited areas of forest. Limited vehicle access and the presence of surface water (and perhaps the cabin) constrain the options at this site.
 - (1) “Drenching” trees with horticultural oil or insecticidal soap (both very low toxicity in general) is effective, but should not be done if spray may “drift” into surface waters. Drenching trees (>40 ft. tall) requires access for a tanker truck equipped with high pressure hoses to reach upper crowns. Saplings, however, can be drenched with a back-pack sprayer – if not too close to surface water.
 - (2) Imidacloprid is an effective systemic insecticide that is widely used and can be applied several different ways. An imidacloprid solution can be applied directly as a “soil drench” around the base of individual trees; it’s possible to treat hundreds of trees this way, because it is very quick and easy. The imidacloprid solution can also be injected into the soil; this method is also fairly quick and easy. However, these two methods can not be used near surface or shallow ground water. Where water is an issue, imidacloprid can be injected directly into tree trunks, although this application method damages the tree and is vastly more complicated, time consuming, and expensive.

Summary of Impacts

Both alternatives involve issues concerning habitat fragmentation, increased human disturbance, non-native plant species, degraded water quality, lack of forest regeneration and indirect habitat degradation. However, with Alternative 1, many of these issues occurred before the site was designated a unit of the national park system. Alternative 1 would involve low site maintenance and high habitat benefits for grassland bird species. The impact threshold for vegetation and wildlife under Alternative 1 would be Minor.

Alternative 2 would involve the impacts of supporting increased visitation to the site annually, but would also provide for the distribution these

¹⁴National Park Service. May 18, 2005. *Flight 93 National Memorial Trip Report*.

¹⁵Ibid.

visitors throughout nearly twice the land mass over Alternative 1. This additional land would also allow for more habitat than for Alternative 1. Plantings associated with the design, augmented with the phytostabilization process, would provide overall environmental benefits to the site's vegetation and wildlife, but they would not restore a contiguous habitat or regenerate forest habitat. Alternative 2 may also introduce some exotic species, though final plant selection will be conducted during design. Contiguous forested areas and grasslands should be preserved to improve habitat and support wildlife migration corridors where practicable.

Coordination with the Pennsylvania Game Commission, U.S. Fish and Wildlife Service, and Pennsylvania Department of Conservation and Natural Resources would be needed to determine species and their habitat for preservation and protection.

Plant species of special concern may exist within the hemlock grove and in the vicinity of the Sorber Cemetery. A follow-up plant survey during the growing season is recommended to determine the presence of rare species and species of special concern. Refer to "Federally and State Protected Species" for information on species of concern.

Because the National Park Service is committed to preserving and protecting its resources, the overall effect of Alternative 2 is expected to be Minor.

FEDERALLY AND STATE PROTECTED SPECIES

Methodology

Section 7 of the Endangered Species Act of 1973 (16 U.S.C. 1531-1543, as amended) requires Federal agencies to ensure that "any action authorized, funded or carried out by such agency...is not likely to jeopardize the continued existence of any endangered species of threatened species or result in the destruction or adverse modification of habitat of such species which is determined by the Secretary to be critical, unless such agency has been granted an exemption for such action...". For both alternatives, clearance from the U.S. Fish and Wildlife Service pursuant to Section 7 of the Endangered Species Act is required (refer to **Appendix B** and **Chapter V** for more information on consultation).

A supplemental natural resource survey was conducted in March 2005 by the Western Pennsylvania Conservancy. Fieldwork focused on evaluating habitats to determine the potential for occurrence of rare species. No bat hibernacula were discovered on the site. Based on knowledge of the natural history of the species and evaluation of the available habitats, estimates were made regarding the probable occurrence of each target species at the site. A listing of species can be obtained from the National Park Service office in Somerset, PA.

Context

The following State-listed species of special concern were observed at the memorial in 2005:

- northern harrier (*Circus cyaneus*), a State candidate at-risk species of special concern;
- Wilson's snipe (*Gallinago delicata*), a State-threatened species of special concern; and
- short-eared owl (*Asio flammeus*), a State-endangered species of special concern.

The northern harrier uses both upland and wetland habitats, including marshy meadows; wet, lightly grazed pastures; old fields; freshwater and brackish marshes; dry uplands; and riparian woodland. The Wilson's snipe uses wetlands to well-drained grassy uplands and marshy edges of streams, though it appears to avoid tall, dense vegetation and cattails. Short-eared owls prefer large expanses of grassy, upland habitats similar to the Flight 93 National Memorial site for all or part of its life cycle. Nests are usually located on dry sites and ridges with enough vegetation to conceal incubating females.¹⁶

The hemlock grove, located south of the crash site, has the highest potential to support viable populations of rare plants, such as weak rush (*Juncus debilis*), proposed Pennsylvania Tentatively Undetermined, kidney-leaved twayblade (*Listera smallii*), Pennsylvania Endangered, and heart-leaved twayblade (*Listera cordata*), Pennsylvania Endangered. A field inspection during the growing season is recommended to determine whether these species occur within the boundary.

The Appalachian blue violet (*Viola appalachiana*), a proposed Pennsylvania Tentatively Undetermined species that could occur in the vicinity of the Sorber Cemetery, was also identified for survey. This species is endemic to the Allegheny Mountains, mainly in Somerset County and in adjacent areas of Maryland and

¹⁶Western Pennsylvania Conservancy, April 2005. "Rapid Inventory and Assessment of the Ecological and Biodiversity Resources of the Flight 93 National Memorial in Somerset County, Pennsylvania."

West Virginia. Because the species is considered to be vulnerable to extinction (global conservation rank of G3) and because it responds positively to certain kinds of disturbance, it was identified for further investigation.

Alternative 1 – No Action

Alternative 1 would involve little development and visitor use within the boundary, with the possible exception of the hemlock grove where family members may gather. Follow-up natural resource surveys during the growing season that target the rare plant species noted above should be conducted to determine their occurrence onsite. If these species are found, consultation with the National Park Service's resource specialists should be conducted immediately to develop appropriate measures to protect these plant communities.

Alternative 1 provides good habitat for grassland bird species and other types of birds. However, other than tall fescue grasses, re-establishment of warm season grasses would improve habitat conditions for grassland species, such as the northern harrier, Wilson's snipe and short-eared owls.

All former mine portals and openings have been sealed shut, and no known bat hibernacula exists within eight kilometers of the site. The impact threshold for Alternative 1 would be Negligible for federally and State protected species.

Alternative 2 – Preferred Design Alternative

Alternative 2 would involve significantly more land acquisition than proposed for Alternative 1, and therefore would provide greater habitat protection. The additional land would provide a larger contiguous area for habitat protection and would allow for enhanced improvements, such as planting of trees, shrubs and grasses. The grasses proposed by this alternative include a variety of fescues because they are low-growing, low-maintenance and would not require irrigation. Although fescue is hardy and tolerant of disturbance, it is a non-native species and is not recommended by the Pennsylvania Game Commission because of its low value to wildlife. Warm season grasses, such as switchgrass, buffalograss, timothy and orchard grass, are preferred over fescues.

As with Alternative 1, follow-up natural resource surveys during the growing season that target the rare plant species identified are recommended for Alternative 2. If rare species are found, consultation with the National Park

Service's resource specialists should be immediately conducted to develop appropriate measures to protect these plant communities.

Alternative 2 would also encourage and support more visitation to the site, thus more perturbation to wildlife would occur. Although this alternative would not adversely affect any federally or State protected species or critical habitat, it also would not enhance critical habitat for rare bird species or plants.

In its comments regarding the potential occurrence of the endangered Indiana bat (August 3, 2005), the Fish and Wildlife Service recognized that there were no openings or caves on the property and tree clearing for this project would be minimal. The Fish and Wildlife Service concluded that implementation of the proposed action would not likely affect the Indiana bat. The agency further stated that if any natural caves or abandoned mine Portals are discovered in the future, or if additional forest removal is proposed, further consultation with this office would be required (refer to **Appendix B** for agency comments).

Because no known federally or State protected species or critical habitat has been found within the boundary, the impact threshold for federally or State protected species is Minor for Alternative 2.

Summary of Impacts

Follow-up surveys for rare plant communities are needed in the vicinity of the Sorber Cemetery and in the hemlock grove to determine the presence of these species within the boundary. Based on available information, no known critical habitat exists on the site, even though sightings of State listed bird species were recorded in March 2005.

There are no bat hibernacula within the memorial boundary or within eight kilometers of the site. The impact threshold for federally or State protected species for Alternatives 1 would be Negligible and would be Minor for Alternative 2.

WATER RESOURCES

This section evaluates the potential effects on wetlands and surface waters. Potable water and sewage disposal are addressed under Utilities. Chapter III-Affected Environment describes the wetlands and surface streams that flow through the site.

WETLANDS

Methodology

Wetlands are defined in Executive Order 11990, *Protection of Wetlands*, as those areas that are inundated by surface or groundwater with a frequency sufficient to support a prevalence of vegetation or aquatic life that requires saturated or seasonally saturated soils for growth and reproduction. NPS Director's Order 77-1, *Wetland Protection*, establishes NPS policies, requirements and standards for implementing Executive Order 11990. Based on DO 77-1, if adverse impacts to wetlands occur on parkland, a "Statement of Findings" must be prepared documenting compliance with this DO and with its implementing procedures. NPS policy applies to all wetlands regardless of agency jurisdiction and further requires that avoidance, minimization and compensation for any losses must be demonstrated.

Section 404(b)(1) of the Clean Water Act of 1977, as amended, is the Federal statute upon which wetlands are regulated and under which Federal agencies must comply. In Pennsylvania, Code Title 25, Chapter 105, is the statute through which permitting, wetland mitigation and replacement requirements for wetlands occur. If wetlands are impacted, a Water Obstruction and Encroachment Permit would be required from the Pennsylvania Department of Environmental Protection and coordination with the U.S. Fish and Wildlife Service pursuant to the Fish and Wildlife Coordination Act would be required.

Nationwide Wetlands Inventory maps were reviewed to determine wetlands onsite. These maps were used for planning purposes only and if Alternative 2 is selected, a wetlands delineation and function assessment will be conducted. The goals of the State's wetlands protection programs is to ensure that the many functions and values provided by wetlands related to water quality, wildlife habitat and public safety (flood storage) are preserved. In order to meet that goal, regulatory programs require that wetlands lost as a result of Federal or State permitting actions be replaced by creating new wetlands.

Context

Soils in this area are classified as Gilpin Silt Loam, which have a slow infiltration rate, are well-drained, and have intermediate water-holding capacity. These soil types do not meet the characteristics of hydric soils.¹⁷

Approximately 25 acres of replacement wetlands are located below the core area of the memorial and 1.9 acres of wetlands are listed in the Nationwide Wetlands Inventory. Other wetlands that were not included in the Nationwide Wetlands Inventory maps include about 1.0-1.5 acres that were constructed for the National Resource Conservation Service Lamberts Run AMD Remediation Project.

An estimated 107 artificially constructed sediment, treatment and retention ponds are scattered throughout the site. Around many of these artificial ponds, peripheral wetlands have established, including within the crash site where settling from the crash has occurred. Of these treatment ponds, the Pennsylvania Department of Environmental Resources has indicated that, if necessary, the following ponds could be closed in the future:

- Rox Coal area (SMP 56911302) U.S. Route 30 entrance to site, ponds ES-1 and ES-2 can be closed.
- Diamond T (56703124) U.S. Route 30 south to the draglines, ponds ES-16, ES-17, ES-18, ES-19, ES-20 and ES-21 can be closed.
- Diamond T (56693103) south of the draglines to the crash area and the viewshed, ponds ES-1, ES-AB, ES-CD can be closed.

Alternative 1 – No Action

There would be no impacts to any wetlands under Alternative 1. Therefore, the impact threshold for Alternative 1 would be Negligible. Existing wetlands and treatment ponds would continue to function as they currently do.

Alternative 2 – Preferred Design Alternative

Alternative 2 would retain most of the existing sediment and treatment ponds and would provide additional screening around them. Alternative 2 proposes to utilize the process of phytostabilization to stabilize and remediate areas with higher toxicity. Specific plants, such as poplars, sunflowers and mustards, would be used to extract metals and other toxins from the soil.

One of the principal features of the design, an allée of maple trees, proposes to extend the walkway through a wetland located in the Bowl. The design of the memorial should be implemented to ensure that surface and groundwater flows are not significantly changed from current conditions. Surface water flows toward the 25-acre replacement wetlands area would be



Wetlands in the Bowl
(Jason Cohn 2004)

¹⁷RT Environmental Services. Phase I Environmental Site Assessment. "EDR Report."

maintained and not be disturbed without Department of Environmental Protection approval. Where appropriate, wetlands within the Bowl would be enhanced with additional native wetland plant species, and for all wetlands onsite, buffers around the wetlands would be specified and surface water flows into the wetlands area would not be significantly altered.

Due to land constraints, the design for the memorial expression would impact wetlands, as the allée is proposed to be constructed through wetlands in the Bowl. Construction of the proposed allée and planting of the trees would be conducted to minimize discharges into the wetlands. The use of erosion and sediment control measures to prevent or contain runoff would be employed. Best Management Practices would be employed when operating heavy equipment near wetland areas.

If Alternative 2 is selected, close coordination with the Department of Environmental Protection, the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, the Natural Resources Conservation Service and the U.S. Environmental Protection Agency would be required during the Section 404 permit process. This permit and a mitigation plan would be required if any discharges or fill material occurs to the wetlands. Coordination with the U.S. Fish and Wildlife Service pursuant to the Fish and Wildlife Coordination Act would be required due to the effects on water resources.

The impact threshold for Alternative 2 would be Moderate if the proposed mitigation plan is implemented.

Mitigation

As a form of mitigation, consideration would be given to working closely with these agencies and the local watershed groups to develop replacement wetlands that could possibly capture and treat some of the unregulated AMD located onsite. Such a mitigation plan would require close cooperation from the watershed groups and from the agencies to develop.

Summary of Wetland Impacts

No impacts and no enhancement to wetlands or the site's water resources would occur with Alternative 1. Therefore, the impact threshold would be Negligible based on minimal changes to existing conditions.

Alternative 2 would involve construction of an allée of maples through the wetlands in the Bowl. Permits would be required to fill any

wetlands or to construct the allée through wetlands. If the impacts of extending the allée through the wetlands are mitigated through the creation of additional wetlands, the impact threshold would be Moderate.

Under Alternative 2, the process of phytostabilization, stabilizing the toxicity of the site through specific plantings, would be implemented.

SURFACE WATERS AND WATER QUALITY

Methodology

Coordination with the Pennsylvania Department of Environmental Protection, the Natural Resource Conservation Service and the Somerset County Conservancy was conducted throughout 2004-2005 to obtain data on the quality of streams that flow through Flight 93 National Memorial. Information was also collected from agency websites and from information posted on the Stonycreek-Conemaugh River Improvement Project (SCRIP) website concerning Lamberts Run and the Stonycreek River and Little Conemaugh River Watersheds. Review of publications, including those published by the U.S. Geological Survey on the effects of coal mine discharges on the Stonycreek River and the watershed restoration action strategy on the Stonycreek River was also conducted.

In March 2004, a preliminary natural resource survey was conducted of the site by Schmid & Associates and Cahill Associates. During this survey, SCRIP and the Natural Resource Conservation Service personnel were consulted. Review of early data from laboratory samples that characterized surface water quality during the early 1990s in the vicinity of the Flight 93 National Memorial study area, and data obtained from the Pennsylvania Bureau of Abandoned Mine Reclamation were obtained and reviewed.

In June 2005, follow-up consultation was conducted with the Pennsylvania Department of Environmental Protection, Somerset County Conservancy and the Natural Resource Conservation Service to obtain updated water quality data on Lamberts Run. Data that had been collected between May 1996 and June 2005 at monitoring point A-1 was given to the Natural Resource Conservation Service by the Department of Environmental Protection, and then plotted by the Natural Resource Conservation Service. The baseline and updated data are shown in Chapter III.

Context

Chapter III discusses the watershed context in which Flight 93 National Memorial is located. Flight 93 National Memorial lies in the upper Stonycreek River Watershed. Stonycreek River joins the Little Conemaugh at Johnstown to form the Conemaugh River, which discharges into the Kiskiminetas, which is the largest tributary of the Allegheny River.

Prior to 1945, a former mine, called the Heinemeyer mine, was actively mined on the northern portion of the site. During this time (before 1964), there were no laws or regulations in Pennsylvania requiring treatment of AMD or discharges from mines. Regulation of mine drainage in Pennsylvania became effective under the Clean Streams Act in April 1966, and holds landowners responsible for the pollution coming off their land. Because the Heinemeyer mine was active before mining reclamation laws became effective in Pennsylvania, drainage from this mine is not regulated or controlled.¹⁸ Drainage from this mine flows into Lamberts Run and then into Stonycreek River. Liability for the drainage from the former Heinemeyer mine, which was in operation before mining reclamation laws were enacted, is not assumed by any party.

AMD naturally seeps from underground where the former mines were filled with water. PBS Coals pumps the water out into a pond to lower the mine pool. The seepage is then pumped into a holding pond, treated and then discharged into Lamberts Run, a process that will continue through perpetuity. Originally, the discharge was pumped into Grove Run.¹⁹ Lambert Run, a small headwaters tributary of the Stonycreek River, has suffered from a low pH caused by AMD, which adversely impacts the upper gorge of the Stonycreek River.

In 2001, monitoring results for Lamberts Run showed that the pH ranged between 3.25 and 5.00, and alkalinity was 0 mg/l. In January 2002, the pH returned to 6.0. Most pH values reported during 2003 and 2004 were within the acceptable range.²⁰ In April 2004, a rapid bioassessment of benthic invertebrates was performed at four stations on Lamberts Run for the Southern Alleghenies Conservancy. The overall characterization of Lamberts Run is that of an impaired but recovering stream.

In 2002, the Lamberts Run AMD Remediation Project was completed by the Natural Resource Conservation Service and trout were stocked above Lamberts Falls. This showed the progress in the recovery of this stream. Refer to Chapter III for information describing the changes to this stream based on 2005 data.

In September 2003, a Watershed Restoration Action Strategy for the Stonycreek River and Little Conemaugh River Watersheds (Subbasin 18E) was published with updated data. This action strategy listed the streams within the subbasin that were impaired based on EPA's section 303d and 305b criteria. Lamberts Run, which flows through the Flight 93 National Memorial, is listed as a tributary to Stonycreek River and was shown as impaired with AMD. The drainage area for Lamberts Run is 3.77 square miles, of which 3.07 miles are impaired, based on older 303d/305b lists.²¹

Based on data from the Department of Environmental Protection and the Natural Resource Conservation Service, as well as from the local watershed groups monitoring Lamberts Run, a significant amount of iron occurs in the headwaters of Lamberts Run and nearly none at the mouth. Iron deposited into streams smothers habitat for macroinvertebrates and produces acid. The increased acidity allows previously precipitated aluminum to go back into solution, so there is an increased aluminum level at the mouth of the stream. **Appendix E** presents the water quality data for this area.

In 2005, the Natural Resource Conservation Service, explained that, based on the updated results of the Department of Environmental Protection's water quality monitoring tests, the alkalinity of Lamberts Run started out high (60.8) in the headwaters because of the active treatment of the mine water, but then decreased to (12.9) at the mouth of the stream due to the acid production of the precipitation reaction of the iron. The acidity increased from (11.8) in the headwaters to (30.1) at the mouth, and the pH decreased with the increase in acidity. With treatment, acidity in the raw water is being reduced from 334 mg/l to 0 mg/l in the treated outflow during periods of normal flow volume, producing an average alkalinity of 77 mg/l. The excess alkalinity helps neutralize acidity down-



The Stonycreek below the Glessner Covered Bridge
(Jerry Spangler 2004)

¹⁸Telephone conversation between John Wilk, DEP and Eileen Carlton, Environmental Management Collaboration, Ltd., May 24, 2005.

¹⁹Telephone conversation between Wade Gallaher, PaDEP, and Eileen Carlton, Environmental Management Collaboration, Ltd., Feb. 25, 2004.

²⁰Schmid & Company and Cahill Associates, 2004.

²¹Watershed Restoration Action Strategy (WRAS) State Water Plan Subbasin 18E, Stonycreek River and Little Conemaugh River Watersheds, Somerset and Cambria Counties, updated 9/2003.

stream in Lamberts Run and in the Stonycreek River.

Alternative 1 – No Action

Under both alternatives, the National Park Service will not acquire the subsurface rights to the land and will not assume liability for AMD, its treatment or the cleanup caused by previous mining activities. The pumping and treatment of AMD from the Diamond T mine would continue to be monitored by DEP and operation and maintenance of the treatment ponds would continue to be the responsibility of PBS Coals, Inc., through perpetuity.

Under Alternative 1, there would be no direct impacts to surface waters within the boundary as a result of National Park Service activities or improvements. Minor improvements, such as parking areas, access roads and supporting visitor facilities would be made, but none of these improvements are expected to be located adjacent to or cause runoff into surface streams.

The National Park Service will work with the Department of Environmental Protection, the Department of Conservation and Natural Resources, and the Bureau of Surface Mining, as well as with the local watershed groups, to cooperatively identify solutions to AMD discharging from unregulated sources. National Park Service will also participate in and support efforts to improve regional water quality where possible.

The threshold impact to surface waters for Alternative 1 would be Negligible.

Alternative 2 – Preferred Design Alternative

As discussed in Alternative 1, the Department of Environmental Protection would continue to monitor the water quality of Lamberts Run and PBS Coals, Inc. would be responsible for the treatment of AMD from their former mines on the site through perpetuity.

The proposed design for Alternative 2 would involve extensive grading and construction and would require measures that would prevent and mitigate potential erosion, sedimentation and runoff into surface waters. The Bowl would receive the most intense human disturbance and visitation, facilities, and paved and impervious surfaces. Alternative 2 proposes construction of a paved parking area, plaza and visitor center at the western edge of the Bowl and a second parking area at the eastern terminus of the curving walkway around the Bowl. A hard surface public plaza would be located adjacent to the Sacred Ground and would require mitigation.

Grove Run flows through the hemlock grove south of the crash site. The crash site has begun to subside over time, and the depression supports ponding and hydrophytic vegetation. Due to the hydrology of the site, a wetland will establish over time.

The threshold impact for Alternative 2 to surface waters is expected to be Minor with appropriate mitigation and containment of runoff and sedimentation.

Summary of Impacts

Under both alternatives, the Department of Environmental Protection would continue to monitor the water quality of Lamberts Run and Grove Run, and PBS Coals would continue treating AMD from the Diamond T mine. The National Park Service will work with the agencies and watershed associations to develop plans to address water quality issues in the region.

Alternative 1 would not involve extensive construction of facilities or regrading of the site and, as a result, would result in a negligible impact to surface waters. Alternative 2 proposes development and construction of facilities, roadways, parking areas and regrading of the site. Construction of hard, impervious surfaces will induce runoff and will need to be contained to prevent discharges into Lamberts Run and Grove Run. The overall effect of Alternative 2 is expected to be Minor. Use of phytostabilization under Alternative 2 would improve some areas of higher toxicity within the boundary.

HISTORIC AND CULTURAL RESOURCES

Methodology

The National Environmental Policy Act of 1969, Sections 106 and 110 of the National Historic Preservation Act of 1966 (P.L. 89-665, as amended), and *Protection of Historic Properties* (36 CFR Part 800) require Federal agencies to preserve and protect historic and archeological resources and to take into account the effects of their actions on historic properties.

Because of the events that occurred on September 11, 2001, and the enabling legislation, P.L. 107-223, which designated the site a national memorial and a unit of the national park system, the site was automatically listed in the National Register of Historic Places on November 8, 2002. Flight 93 National Memorial is a historic site that is commemorative in nature. National memorials frequently consist wholly or partly of agency created resources that are historic because they are commemorative.

The boundaries of an historic area are not necessarily coterminous with the boundaries of a park, although until documented the boundaries of an historical area are the authorized park boundaries (*CRM Guideline, Appendix Q*). Non-historic buffer zones are usually excluded. No formal nomination process or study was conducted; therefore, little documentation on the listing is available. Specific resources within the boundary have not yet been evaluated to determine whether they contribute to the significance of the national memorial, based on the National Register criteria.

As part of this process, the National Park Service is required to coordinate with the State Historic Preservation Office (SHPO) early in the planning process (see **Appendix B**), if a proposed action has the potential to affect historic or archeological resources. Consultation with the Pennsylvania Historical and Museum Commission, Bureau for Historic Preservation was initiated on November 28, 2003. In its response, dated December 30, 2003, the SHPO responded that there were no archeological resources or historic structures recorded within the Flight 93 area. However, the SHPO noted that there is a high probability for significant prehistoric archaeological resources to be located adjacent to the wetland area just south of the crash site and on the saddle just east of the reclaimed area.

In March 2005, the National Park Service submitted to the SHPO updated information on an environmental review form. On March 23, 2005, the SHPO responded and recommended that an archeological survey be conducted in areas where mining had not previously occurred and where construction activities and ground disturbance are proposed. Specifically, the Bureau stated that there is a “high probability for significant prehistoric archaeological resources to be located adjacent to the wetland area just south of the crash site and on the saddle just east of the reclaimed area.” No further concerns were expressed.

Section 110 of the National Historic Preservation Act requires that National Park Service identify and nominate all eligible resources under its jurisdiction to the National Register of Historic Places. Conversations with the Pennsylvania Bureau for Historic Preservation and the National Park Service National Register staff regarding the crash site nomination to the National Register were conducted. On March 23, 2005, the Bureau submitted a letter stating that there may be historic buildings and or structures eligible for the National Register of

Historic Places within the project area. However, due to the nature of the proposed action, the Bureau’s opinion was that there will be no effect on these properties.

On April 29, 2005, the National Park Service consulted again with the Bureau for Historic Preservation to advise the office of the discovery of a mid-19th century family cemetery within the Flight 93 National Memorial boundary and to acknowledge the listing of the Flight 93 crash site on the National Register of Historic Places. In August 2005, consultation occurred with the Office of the National Register in Washington, DC, regarding the possibility of future removal of the mining structures on the site and to obtain guidance on the ability of the designs to modify the area within the crash site.

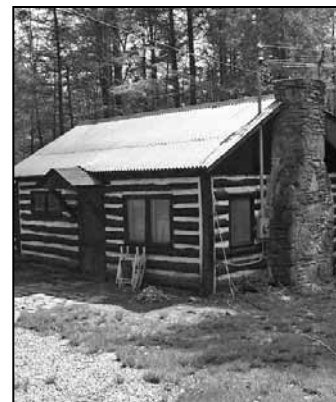
Consultation with the SHPO and the Keeper of the National Register will continue. If the National Park Service determines that any resources within the national memorial boundary are eligible for inclusion in the National Register or contribute to the significance of the national memorial, the agency will provide for the long-term preservation of these resources.

Context

The site acquired its historic significance both from the events that occurred on September 11, 2001, and from the enabling legislation, P.L. 107-223, which designated the site a national memorial and a unit of the national park system and automatically listed it in the National Register of Historic Places. Its designation as an historic site is commemorative in nature. Because the significance of individual features of the site has not been determined, in 2004, the National Park Service prepared a draft *Cultural Landscapes Inventory* (CLI) to document conditions at the site.

The Bureau for Historic Preservation noted that there is a high probability for significant prehistoric archaeological resources to be located adjacent to the wetland area just south of the crash site and on the saddle just east of the reclaimed area. The National Park Service has contracted archeologists from Indiana University of Pennsylvania to provide an overview of the park explaining the mining history and providing a brief overview of any potential resources at the crash site. This study will begin in 2006. No earth disturbing activities or visitor accesses are planned for these areas.

Three seasonal log cabins and one ashlar stone residence that were constructed between 1930



Cabin in the Hemlock Grove
(OCLP 2003)



The mining landscape looking south towards the draglines from U.S. Route 30 (Jason Cohn 2004)

and 1940 exist within the hemlock grove. These structures are described in detail in the *Cultural Landscapes Inventory*. The CLI noted that the log cabins were constructed by a member of a locally prominent family (Lambert) of Stonycreek Township. These seasonal structures (c. 1930-1940s) may have local significance as examples of vernacular architecture for this region of southwest Pennsylvania.²² Because the hemlock grove is the final resting place of the passengers and crew members of Flight 93, the National Park Service plans to acquire these lands and the associated structures in the hemlock grove for either alternative. Due to the inherent sensitive nature of this area, no development or visitor access is planned for this area during the life of this plan.

The site also includes mining structures and an industrial scrap and recycling operation that existed at the site on September 11, 2001. These structures are described in detail in the *Cultural Landscapes Inventory* but their significance has not been determined. Many of the mining buildings on the site are in poor condition and the surrounding ground is contaminated from the former mining operations. Many of these structures have already been removed or are planned to be removed as part of the PBS Coal's reclamation plan. The scrap and recycling facility will be relocated to continue operating. Several mining companies have expressed interest in purchasing and retrofitting the draglines and returning them to operation.

The National Park Service has no immediate plans to acquire these structures under either alternative as the acquisition, clean-up, stabilization, and maintenance costs are prohibitively high for structures that are not central to the mission of the memorial, which is to commemorate the actions of the passengers and crew of Flight 93. These structures are not integral to the designed landscape presented in Alternative 2. However, should the National Park Service determine that these structures are National Register eligible or contribute to the significance of the national memorial, it will provide for their long-term preservation.

In March 2005, a small family cemetery, dating from the mid-19th century (1856 through 1892) was found within the boundary at the north end of the site. This cemetery, located on PBS Coals, Inc. property south of U.S. Route 30 and west of the Camp Allegheny property line in a grove of trees, is locally referred to as the Sorber Cemetery. On April 29, 2005, the National Park

Service advised the SHPO about the discovery of this mid-19th century family cemetery, which is located within the memorial boundary (refer to Chapter V – Consultation, Coordination and Compliance). The cemetery has not been evaluated and any National Register significance determined, but no development is planned for the area under either alternative.

Alternative 1 – No Action

The significance of many of the site's structural resources, such as the mining and industrial buildings, the draglines and the cabins in the hemlock grove have not been fully evaluated for their significance. Continued consultation with the Pennsylvania Bureau for Historic Preservation and the Keeper of the National Register will be conducted to determine the eligibility of the draglines and mining structures for inclusion in the National Register of Historic Places. Should the National Park Service determine that these structures are National Register eligible or contribute to the significance of the national memorial, it will provide for their long-term preservation. Under Alternative 1, the area in which the Sorber cemetery is located has not yet been confirmed for land acquisition due to funding constraints. If this area is not acquired as part of the memorial, the cemetery would receive less protection than it would with Alternative 2.

Alternative 1 would not alter, modify or adversely affect the site's existing resources. Continued consultation with the Pennsylvania Bureau for Historic Preservation and the Keeper of the National Register would be conducted to determine the eligibility of the draglines and mining structures for inclusion in the National Register of Historic Places. Under Alternative 1, the area in which the Sorber cemetery is located has not yet been confirmed for land acquisition due to funding constraints. If this area is not acquired as part of the memorial, the cemetery would receive less protection than it would with Alternative 2.

An archeological assessment of the undisturbed areas of the site is expected to be completed in the spring 2006. Because there would be limited improvements proposed for Alternative 1, no known historic, archeological or cultural resources would be affected.

The construction and installation of any monument, memorial, table, structure, planting or other commemorative installation would be prohibited within the boundary unless approved

²²National Park Service, 2004. Draft Cultural Landscapes Inventory.

by the Superintendent and authorized by the Director of the National Park Service (36 CFR 2.62). The Superintendent will develop evaluation criteria and a process for reviewing any requests submitted for installation of these features with the Partners. This process will be described in the Superintendent's Compendium. Placement of Temporary Memorial tributes by family members and invited guests at the crash site would be permitted. Placement of tributes by visitors would continue to be allowed at the existing Temporary Memorial. These restrictions are intended to ensure that the mission and integrity of the national memorial are not compromised.

The Superintendent may allow recovered remains to be returned to the Sacred Ground, if requested by family members. All other burials would be prohibited. Section 8.6.10.2, "Family Cemeteries," of National Park Service Management Policies and Director's Order #19, *Records Management*, provide park guidance regarding actions related to family cemeteries. Access to the Sorber Cemetery would be maintained for family members and National Park Service personnel only.

The impact threshold for Historic and Cultural resources for Alternative 1 is expected to be Minor.

Alternative 2 – Preferred Design Alternative

As explained in Alternative 1, the significance of many of the site's structural resources, such as the mining and industrial buildings, the draglines and the cabins in the hemlock grove have not been fully evaluated for their significance. Many of the impacts expected under this alternative would be similar to those for Alternative 1. The treatment of the Sacred Ground, the buildings in the hemlock grove, and the mining and industrial structures would be the same.

Continued consultation with the Pennsylvania Bureau for Historic Preservation and the Keeper of the National Register will be conducted to determine the eligibility of and remaining mining or industrial structures for inclusion in the National Register of Historic Places. Should the National Park Service determine that these structures are National Register eligible or contribute to the significance of the national memorial, it will provide for their long-term preservation.

Implementation of Alternative 2 would not adversely affect the Sorber cemetery, and would offer a greater degree of protection for this

resource than would Alternative 1. Access would be permitted to park personnel and to family members of those buried in this cemetery. However, within the Gateway zone, in which the cemetery is located, Alternative 2 proposes to develop a pedestrian trail, which would pass close to the cemetery and would lead to an overlook at the northeast corner of the site.

In December 2003, the SHPO commented that although no archeological sites have been recorded for this area, all areas that have not been disturbed due to mining should be evaluated for archeological potential prior to construction and ground-disturbing activities. The SHPO commented that there is a high probability for significant prehistoric archeological resources to be located adjacent to the wetland area just south of the crash site and on the saddle east of the reclaimed area. The National Park Service proposes to conduct an archeological assessment, which is expected to be completed in the spring 2006.

Based on the existing information from the regulatory agencies, there would be no effect on historic or cultural resources for Alternative 2, and therefore, the impact threshold would be Minor for this alternative.

Summary of Impacts

Under both alternatives, consultation and coordination with the Office of the National Register will continue to determine the significance of the draglines and remaining mining structures on the site. This consultation will culminate in a determination as to whether these resources are significant and are eligible for inclusion in the National Register of Historic Places. An archeological assessment of undisturbed areas will also be conducted of undisturbed areas to determine the possible presence of any prehistoric archeological resources.

Only minor improvements to the site are proposed for Alternative 1. As a result, no adverse impacts to resources at the site are projected to occur. In addition, acquisition of land in the area of the Sorber Cemetery has not yet been confirmed. Therefore, the status of protection of this resource cannot be determined. The design proposed for Alternative 2 includes development of a pedestrian pathway that would pass by the cemetery. Access to the cemetery would be restricted to family members of the deceased and to National Park Service personnel. The impact threshold for Historic and Cultural resources for both Alternatives 1 and 2 would be Minor.



Tribute left at the Temporary Memorial by Shanksville-Stony Creek School students
(NPS 2004)



The Town of Shanksville
(Jerry Spangler 2004)

SOCIOECONOMIC IMPACTS

Methodology

The Somerset County's website, historic and existing U.S. Bureau of Census data, *A Socio-economic Atlas for Flight 93 National Memorial and its Region*, and the draft County Comprehensive Plan were used to extract data concerning the regional population, demographic trends and employment characteristics for the county.

In June 2004, visitation projections were prepared for the memorial by Dr. Bruce E. Lord, economist, from Penn State University. To establish these projections, visitor counts were obtained from The Ambassadors, who record the number of visitors to the Temporary Memorial. Visitor surveys were not conducted to gather information on visitor spending and patterns. To supplement the estimates recorded by The Ambassadors, visitation estimates at two regional National Park Service sites were used to project the pattern of increasing attendance at the memorial.

The economic impact of a new national park on its surrounding region has three main components: 1) construction of the park, 2) annual operations of the park and 3) expenditures of people from outside the area. Construction impacts are typically spread over several years and provide a significant stimulus to the local economy. Park operations are primarily represented by staffing and employment to maintain and operate the facility.

Expenditures by visitors to the area are often the largest component of the economic impacts. The addition of "new money" into a region in the form of Federal expenditures or as tourism dollars creates an economic stimulus upon the economy. The value of the goods and services purchased by this stimulus is identified as direct impacts. In the course of production, manufacturers may use intermediate inputs from other regional sectors as an input into their production process, which create added economic activity and are called indirect impacts.

The assembly of direct and indirect sales within a region supports a certain volume of employment, which, in turn, provides salaries and wages to regional households. The expenditure of employment income on regional products and services generates induced impacts. Within this study, indirect and induced impacts were combined as secondary impacts. Direct and secondary impacts comprised total impacts.

Construction is assumed to begin in mid-decade (2008 or 2009), and extend through 2011. Estimates of construction expenditures were provided by the National Park Service-Denver Service Center from the National Park Service Facility Planning Model. These expenditures were assumed to be spread evenly over the construction phase. It was further assumed that the proportion of construction contracts going toward local businesses would follow the typical pattern for the region.

The 5th and 10th anniversaries of the 9/11 events correspond to 2006 and 2011 and are considered significant milestones. Peak visitation to the memorial is expected to occur during the 10th anniversary of the event. Therefore, visitation to FL 93 National Memorial is currently estimated at 130,000 annual visitors, is projected to peak to 400,000 by 2011, and then is expected to decline and stabilize to approximately 230,000 annual visitors.

The National Park Service provided estimates of wages and employment associated with the operations of the memorial, when completed in 2011. Additional impacts would accrue from the purchases of supplies and services in the local region. It was assumed that these impacts would increase in a linear fashion between 2006 and 2011, and then stabilize thereafter.

Two regional input-output models were built for the Flight 93 National Memorial economic impact analysis. The first encompassed a nine-county region identified in the *Socioeconomic Atlas for Flight 93 National Memorial and its Region* (National Park Service, McKendry et al. 2004). A second model was constructed that focused on Somerset County and determined potential impacts to local government in the immediate region.

Information on the size and nature of visitor spending in the region was extracted from the Money Generation Model (MGM2) developed by the National Park Service and by Stynes and Propst at Michigan State University (Stynes et al. 2000). Previous studies of other park units in the region were also used to determine the proportion of visitors who were non-residents of the region, the estimated length of stay, and what proportion of their visit might be attributable to visiting the memorial (Strauss et al. 2002). Because the memorial commemorates events that resonate on a national scale, the proportion of non-resident visitors may be higher than observed elsewhere in the region.

The economic impacts of the Flight 93 National Memorial were generated through the Impact Analysis for Planning (IMPLAN) system, which is a computerized database and modeling system that establishes the regional input-output characteristics of economic activity (Olson and Lindall 1996). The version of IMPLAN used in this study is based on 2002 economic data. The impacts were further processed with the Community Impact Model of Penn State University (CIM-PSU), which was used to determine the economic impacts at the township, school board and County levels (Shields et al. 1999).

Gains in revenues and increased demands for services were identified. Payments in Lieu of Taxes were presented separately, as these payments are a function of Federal ownership and are not related to the development of a memorial. Finally, an analysis of the wage rates in impacted industries was compared with regional averages.

Impacts are reported in terms of total sales value, employment (annual equivalent of full and part time jobs), and value added. Within IMPLAN, value-added represents the portion of the total sales directed to employee income, taxes, rent, and profit.²³ It should be qualified

that technically the addition of total sales from any two sectors could involve a double count where one sector's output becomes another sector's input. Value-added excludes the cost of intermediate inputs, and as such, is a better measure of the net economic gain to the region. Tables IV-2 to IV-5 found at the end of this section provide data on the projected economic impacts as a result of both alternatives. Appendix G presents a series of tabular data showing the projected economic impacts on the services and industries within the nine-county region.

Context

Chapter III-Affected Environment describes the social, demographic and economic environment of a nine-county region in southwestern Pennsylvania. The nine counties considered in the context of the Flight 93 region are Bedford, Blair, Cambria, Fayette, Indiana, Somerset and Westmoreland Counties, Pennsylvania; and Allegany and Garrett Counties, Maryland.

Alternative 1 – No Action

Alternative 1 involves continuation of current management practices at the memorial. The site would be promoted as a national memorial with limited facilities. Because a memorial feature

²³Value-added is perhaps the best measure of impact as it represents the total accumulation of benefits to residents of the region. The sum of the value added by each industry in a region is the Gross Regional Product and is the best measure of the size of the region's economy.

Table IV-2: Alternative 1 – Estimated Economic Impact of No Action on the Nine-County Region, 2005-2020

Year	2005-2013	2014	2015	2016	2017	2018	2019	2020	Total
Number of Visitors	802,697	87,065	87,065	87,065	87,065	87,065	87,065	87,065	1,412,153
Visitation Impacts									
Sales	\$ 44,919	\$ 4,872	\$ 4,872	\$ 4,872	\$ 4,872	\$ 4,872	\$ 4,872	\$ 4,872	\$ 79,024
Employment	817	89	89	89	89	89	89	89	1,438
Value-Added	\$ 29,195	\$ 3,167	\$ 3,167	\$ 3,167	\$ 3,167	\$ 3,167	\$ 3,167	\$ 3,167	\$ 51,361
Construction Impacts									
Sales	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Employment	0	0	0	0	0	0	0	0	0
Value-Added	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Operations Impacts									
Sales	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Employment	0	0	0	0	0	0	0	0	0
Value-Added	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Total Impacts									
Sales	\$ 44,919	\$ 4,872	\$ 4,872	\$ 4,872	\$ 4,872	\$ 4,872	\$ 4,872	\$ 4,872	\$ 79,024
Employment	817	89	89	89	89	89	89	89	1,438
Value-Added	\$ 29,195	\$ 3,167	\$ 3,167	\$ 3,167	\$ 3,167	\$ 3,167	\$ 3,167	\$ 3,167	\$ 51,361

Nine-county region: Bedford, Blair, Cambria, Fayette, Indiana, Somerset and Westmoreland Counties, PA, and Allegany and Garrett Counties, MD.

Source: Bruce E. Lord, Ph.D., Final Economic Impacts, Flight 93 National Memorial, May 27, 2005.

and visitor facilities would not be constructed under Alternative 1, significantly lower economic benefits/impacts would be expected.

Under Alternative 1, visitation is expected to decline to 87,000 annual visitors. Total regional sales resulting from associated tourism would dip below \$5 million a year. The value-added contribution to the region's gross revenue product (GRP) would be just over \$3 million. This economic activity is expected to support an estimated 89 jobs in the nine-county region that did not exist prior to the 9/11 events. Total regional impacts for the 16-year planning period would fall from \$331 million in total sales to only \$79 million. Similarly, value-added is expected to decline from \$212 million to \$51 million. The impact threshold for Alternative 1 for economic impacts would be Major, due to low economic benefits.

Alternative 2 – Preferred Design Alternative

Construction Impacts. Based on National Park Service estimates, an estimated \$51 million²⁴ would be needed for the construction of the memorial feature, a visitor center and associated infrastructure. The design and construction phases of developing the memorial and infrastructure are projected to take six years (2006-2011) and result in an additional \$39 million in sales by business and industry throughout the nine-county region. The total sales impact is expected to be \$90 million. The value-added contribution to the region's economy would be more than \$46 million, of which about \$30 million would be wages and salaries supporting more than 1,134 jobs²⁵.

The principal impacts would occur in the construction industry, where \$52 million in sales would support an estimated 666 jobs in the region. Retail trade (114 jobs), professional/scientific/technical services (62 jobs), and health and social services (58 jobs) would all experience job gains. Another significant impact is expected to occur in government and other non-classified industries. Although the employment impact was only three jobs, a high level of value-added benefits is expected to result from the gains in equity to homeowners who are employed in businesses affected by construction.

Operation Impacts. The primary impacts of the operation of the fully built memorial would stem principally from jobs that the memorial itself supports, as well as from operational monies spent in the region. The National Park Service estimates that the memorial could be staffed by as many as 14 people generating a payroll of \$800,000, including benefits. An additional \$200,000 in supplies and services would be required to operate the memorial. The expenditures by National Park Service employees, as well as supplies and services purchased in the region, would result in an annual direct impact of \$741,000 in sales by regional businesses. Secondary impacts of \$231,000 per year will bring the resulting annual regional sales impact to \$972,000 per year. When the wages and benefits of the National Park Service employees are included, the total annual value-added to the region will amount to \$1.2 million. Of this total, \$1 million will be in the form of wages and salaries supporting an estimated additional 22 jobs in the region.

The economic impacts of operating the memorial is expected to have the greatest impact on the retail trade industry, supporting just over two jobs and capturing over \$82,000 of value-added annually. The next most significant impact would occur in health and social services, with an estimated 1.4 annual jobs and a \$57,000 value-added contribution to the region's economy. Further gains to the region's economy again are expected to occur in the government and non-classified industries, as those employed directly in support of the memorial's operations register their gains in home equity.

Visitation Impacts. Visitation to the Flight 93 National Memorial is expected to increase throughout the construction phase and peak on the 10th anniversary of the 9/11 events. Thereafter, it is anticipated that visitation will stabilize at about 230,000 per year. The distribution of visitors by origin and type of trip was modeled after other National Park Service sites in the region.²⁶

Expenditure levels were taken from the MGM2 model,²⁷ which includes National Park Service estimates for groups visiting historic sites of this

²⁴Gross construction for the memorial feature was estimated by National Park Service at about \$29.38 million, construction of the visitor center was estimated at \$9.2 million and associated infrastructure was estimated at \$12.87 million for the planning budget used in the competition. Those figures have since been revised.

²⁵Care must be taken to bear in mind that these are the total impacts and, in particular, the employment impacts would occur over the entire six-year design and construction period, and would not all occur in any one year. The average employment impact would be an estimated 189 jobs a year over the construction period.

²⁶Because of the national significance of the 9/11 events and the continued heightened awareness due to the ongoing war in Iraq, these estimates may be conservative.

size. Once the system stabilizes, \$9.6 million in direct sales to visitors, plus and additional \$4.3 million in multiplier effects, are expected to result in a total of \$13.6 million in additional sales by regional businesses and industries each year. The annual value-added contribution to the Gross Regional Product (GRP) was over \$8 million. Half of this GRP (\$4.2 million) are expected to occur as wages and benefits supporting an estimated 234 annual jobs in the region.²⁸

Most of the visitor impacts are expected to occur in accommodation and food services sectors (150 jobs, \$4.6 million of value-added). The retail trade sectors would gain an additional estimated 38 jobs and contribute over \$1.2 million of value-added to the region's economy. These impacts were largely supported by the direct spending of visitors to the region. However, an examination of the secondary sales impacts illustrates that the total effects of the tourism spending would have broad economic impacts across the nine-county region, touching all sectors.

As mentioned in Chapter III, Socioeconomic Characteristics, Somerset County assesses a 3-percent hotel tax that generates from \$500,000 to \$700,000 per year.²⁹ It can be expected that as the memorial is developed and visitation increases to about 230,000 visitors per year revenue generated from this tax will also increase, thus producing positive economic benefits to the county and the region.

Businesses serving tourists, such as lodging, restaurants and bars, will experience many of the benefits from tourism. In addition, opportunities will also be created for the establishment of new enterprises in the region.

Most of these changes are likely to occur around the Somerset interchange where this type of development currently exists. However, depending upon the final selected access route to the memorial, additional economic development could occur. The most logical place for such development would be along U.S. Route 30, near the proposed park entrance. The type of development that may occur could resemble small "mom and pop" stores, such as the Duppstadt Country Store, offering food, drink and some souvenirs. However, since Stonycreek

Township has no zoning ordinances in effect, the exact nature of such development can only be speculated.

Local Government Impacts

Local government impacts were calculated for key components of county, township, and school district in the region surrounding the memorial. These impacts are based upon annual operations and visitation once the site is developed and operating, and will most likely be higher during construction.

Somerset County. After 2012, the Somerset County government is expected to gain an additional estimated \$154,955 of revenue annually from memorial-related activity, while benefiting from an additional estimated \$140,960 in increased expenditures for services (Table IV-4).

Real property taxes are expected to grow by \$51,177 annually; other miscellaneous county revenues are expected to grow by \$52,519 per year. Miscellaneous expenditures are expected to rise \$38,421 annually. Expenditures for human services, including mental health, children, and veterans affairs, would also increase. In total, the county government should experience a modest net gain of \$13,995 per year. Total sales impacts during the 15-year planning period for Somerset County were estimated at \$273 million, with a value-added of \$176 million. During the steady operations phase, annual sales impacts were estimated at \$11.5 million, with a value-added of \$8.3 million after 2012. An estimated 235 jobs were projected to occur during this period.

Municipal. Municipalities in the region, especially Stonycreek Township, are expected to realize a \$209,375-increase in expenditures once the memorial is fully developed by 2011 (Table IV-5). The projected \$184,959-increase in revenues would offset most of these increases, but would leave the township with a \$24,959-shortfall attributed to memorial visitation and operations.

The largest itemized increase in expenditures would be \$54,564 for road maintenance, followed by \$18,487 in administrative costs. Expenditures for police protection are expected to increase by \$14,238.³⁰



Country store at intersection of Buckstown Road and U.S. Route 30 (Flight 93 National Memorial Area: Design and Development Concepts 2004)

²⁷National Park Service Money Generation Model (MGM).

²⁸Bruce E. Lord, Ph.D. Feb. 17, 2005. Final Flight 93 NM Visitation Estimates.

²⁹Bruce E. Lord, Ph.D. Economist. Email, Oct. 28, 2005.

³⁰These impacts are spread among municipal governments throughout the region. Stonycreek Township, in particular, does not have a police force. However, the Flight 93 National Memorial extends into Shade Township, which has a local police force. These estimated costs will be shared by other municipalities and by the Pennsylvania State Police, which has primary responsibility for policing rural townships that do not have their own police force.

In terms of revenue, an additional estimated \$24,633 from property taxes and \$132,301 from miscellaneous sources, such as fees and permitting, are expected to occur.

Although the Pennsylvania State Police provides protection to Stonycreek Township and the fire response service is provided by local volunteer fire companies, municipalities usually fund their volunteer companies through appropriations, such as a special fire tax, fire hydrant rental fees or a combination of all of these funding sources. Volunteer fire companies still require funds for equipment purchases and maintenance, station maintenance, workers compensation, liability insurance and other operating expenses.

National Park Service law enforcement staff have police authority on park land and would manage problems that might occur within the memorial boundary. The majority of the State Police responsibilities would most likely occur from accident investigations associated with increased traffic generated by visitors to the memorial.

Starting in 2001 after completion of the memorial, the Shanksville-Stonycreek School District is projected to realize \$478,018 annually in increased expenditures, while gaining an additional \$444,676 in revenues. These increased revenues will offset all but \$33,341 of the increased expenses. The largest increase in expenditures is projected for instruction (\$270,162). Revenue gains are expected to occur primarily from property taxes (\$125,240) and from State aid (\$275,101).

Regional Impacts. Development of a permanent memorial and a visitor center will increase economic activity within the region. This activity will place increased demands upon local government for services such as road maintenance and fire and police protection. At the same time, the increased economic activity will result in additional revenues accruing to Somerset County, Stonycreek Township, and the Shanksville-Stonycreek School District. Overall, County government should see a modest net increase in revenues, while municipal government and school districts will incur a slight loss due to the memorial's operations and visitations.

Over the 15-year planning horizon, memorial operations are expected to gradually grow until they reach \$698,000 in sales by 2011 and have a \$1.2 million value-added impact on the economy. By this time, 22 people would be employed in the region as a result of the memorial's operations. The total impact for the planning period would be an estimated \$8.7

million in sales and \$15.2 million in regional value-added.

During the first eight years of the project, total regional sales impacts from visitation are estimated at \$129 million, followed by \$13 million in annual sales thereafter. Total sales impacts from visitor spending for the entire period are expected to equal \$232 million. Value-added would follow a similar pattern totaling \$84 million in the first eight years and then stabilizing to a steady \$8.4 million per year for a total of \$151 million during the planning period. Employment impacts are expected to reach more than 2,300 jobs during the first eight years for an average of 293 per year and then decline to 234 jobs per year thereafter. The total tourism impacts over the 16-year planning period are expected to amount to \$232 million in regional sales and \$151 million in value-added.

Overall, total regional sales impacts are expected to amount to \$222 million over the first 8 years of the project and then stabilize to \$23.6 million per year from 2013 onward. Value-added followed a similar pattern, totaling \$135 million during the build and growth phase, and then reach a steady state of \$10 million annually in the later years of the project. Employment is expected to total 3,580 jobs during the first years (an average of 447 jobs per year) and then fall to 256 positions annually through 2013 onward. The total regional sales impact of the memorial over the 16-year planning horizon is expected to reach \$331 million. A \$212 million value-added gain would be realized in the region during this same period.

Township. Alternative 2 would bring increased demands upon local government services, such as road maintenance and fire and police services. At the same time, increased economic activity would result in additional revenues accruing to Somerset County, Stonycreek, Somerset, Jenner, Shade and Quemahoming Townships, as well as and the Shanksville-Stonycreek School District. Overall, the County government should see a modest net increase in revenues, while municipal government and school districts will incur a slight loss due to the memorial's operations and visitations. These impacts do not include improvements in infrastructure that will be required to serve visitors, the largest of which is likely to be for the construction and improvement of roads to the memorial.

Payments in Lieu of Taxes. Whenever loss of taxable land occurs due to significant Federal property ownership, the government compensates local governments for the loss of the tax base under the Payment in Lieu of Taxes Program. Payments under this program are fixed

by Congress, and a maximum per capita payment is also set by legislation. Payments in Lieu of Taxes for the land acquired by National Park Service for the memorial would be modest, and are expected to equal a maximum \$1.65 per acre. Therefore, if National Park Service acquires an estimated 1,355 acres for the core portion of the memorial, an additional \$2,236 (\$1.65 x 1,355 acres) could be provided to County government from Payments in Lieu of Taxes to compensate for loss of the tax base on this land.

Summary of Impacts

Alternative 1 is projected to support an estimated 89 new jobs in the nine-county region that had not existed prior to September 11, 2001. This compares with more than 2,300 jobs, averaging 293 jobs per year during the first eight years for Alternative 2 after a permanent memorial is constructed. The economic benefits of Alternative 1 would be minor, whereas the economic difference between Alternative 1 and Alternative 2 would be \$252 million in total sales within the nine-county region over the 15-year planning period.

The projected sales revenue for the nine-county region is expected to amount to \$79 million for Alternative 1, compared with \$331 million for Alternative 2. Similarly, the value-added compo-

nent for Alternative 1 would be slightly more than \$51 million, compared with a \$212 million value-added gain in the region over this same period if a permanent memorial is constructed.

The long-term economic impacts of the memorial will principally accrue to lower paying industries in the region. This situation is normal for tourism-based development. While some higher paying jobs are also a component on the memorial's impact, in the long-term, the memorial by itself would not provide substantial economic development for the county. However, if visiting the memorial is successfully promoted and packaged with other tourist sites in the region, additional economic benefits could be realized. A possible side effect of the memorial is to increase the profile of Somerset County and thereby attract the attention of potential employers who may be looking for a place to relocate or establish businesses.

The impact threshold for Alternative 1 would be Major because of the anticipated low economic benefits that would result from this alternative. Conversely, with full development of a memorial and associated infrastructure, Alternative 2 would result in a Moderate economic impact, as the economic benefits to the community are expected to increase.

Table IV-3: Estimated Total Impacts of Flight 93 National Memorial Design and Construction on the Nine-County Region, 2006-2011

Industry	Direct Sales	Secondary Sales	Total Sales	Value-Added	Wages	Employment
Ag, Forestry, Fish & Hunting	\$0	\$267,995	\$267,995	\$109,099	\$28,261	4
Mining	\$0	\$184,093	\$184,093	\$104,591	\$30,935	1
Utilities	\$0	\$904,109	\$904,109	\$575,744	\$171,069	2
Construction	\$51,450,000	\$319,004	\$51,769,004	\$23,001,504	\$17,970,446	666
Manufacturing	\$0	\$4,265,695	\$4,265,695	\$1,385,520	\$958,769	25
Wholesale Trade	\$0	\$2,101,074	\$2,101,074	\$1,521,170	\$773,242	19
Transportation & Warehousing	\$0	\$2,193,062	\$2,193,062	\$1,139,728	\$755,413	21
Retail trade	\$0	\$5,862,744	\$5,862,744	\$4,401,560	\$2,207,573	114
Information	\$0	\$1,285,807	\$1,285,807	\$690,614	\$296,889	8
Finance & insurance	\$0	\$2,371,304	\$2,371,304	\$1,323,433	\$606,463	17
Real estate & rental	\$0	\$1,566,475	\$1,566,475	\$944,044	\$157,389	12
Professional/scientific/technical Services	\$0	\$4,386,291	\$4,386,291	\$3,172,245	\$2,066,115	62
Management of companies	\$0	\$502,879	\$502,879	\$347,850	\$237,544	3
Administrative & waste services	\$0	\$1,158,338	\$1,158,338	\$632,067	\$467,822	26
Educational services	\$0	\$257,701	\$257,701	\$134,058	\$120,823	6
Health & social services	\$0	\$3,815,325	\$3,815,325	\$2,228,897	\$1,766,145	58
Arts- entertainment & recreation	\$0	\$330,161	\$330,161	\$161,311	\$96,733	8
Accommodation & food services	\$0	\$1,590,463	\$1,590,463	\$692,034	\$509,526	44
Other services	\$0	\$1,912,246	\$1,912,246	\$903,365	\$624,974	34
Government & non-NAICs	\$0	\$3,543,533	\$3,543,533	\$2,760,904	\$106,434	3
Institutions	\$0	\$0	\$0	\$0	\$0	0
Total	\$51,450,000	\$38,818,298	\$90,268,298	\$46,229,737	\$29,952,566	1,134

Source: Bruce E. Lord, Ph.D., Final Economic Impacts, Flight 93 National Memorial, May 27, 2005.

Table IV-4: Potential Long-Term Changes in Somerset County Expenditures and Revenues, Flight 93 National Memorial

County Government Expenditures	Baseline	Direct, Indirect and Induced Effects	Percent of Total
Elderly human services	\$316,666	\$2,267	0.7%
Other human services	\$6,142,057	\$35,034	0.6%
Corrections	\$3,585,711	\$20,938	0.6%
Judicial	\$3,320,632	\$18,974	0.6%
Administration	\$4,388,885	\$25,325	0.6%
Other	\$6,031,740	\$38,421	0.6%
Total County government expenditures	\$23,785,691	\$140,960	0.6%
County Government Revenues	Baseline	Direct, Indirect and Induced Effects	Percent of Total
Real property tax	\$8,809,515	\$51,177	0.6%
State aid	\$8,174,595	\$46,177	0.6%
Federal aid	\$199,206	\$2,608	1.3%
National Park Service Payments in Lieu of Taxes		\$2,475	
Other	\$8,769,039	\$52,519	0.6%
Total County government revenues	\$25,952,355	\$154,955	0.6%

Source: Bruce E. Lord, Ph.D., Final Economic Impacts, Flight 93 National Memorial, May 27, 2005.

Table IV-5: Potential Long-Term Changes in Municipal Government Expenditures and Revenues with the Flight 93 National Memorial

Municipal Government Expenditures ¹	Baseline	Direct, Indirect and Induced Effects	Percent of Total
Government administration	\$3,247,616	\$18,487	0.6%
Police ²	\$2,391,267	\$14,238	0.6%
Fire	\$621,428	\$3,612	0.6%
Road maintenance	\$9,571,419	\$54,564	0.6%
Waste and sewer	\$590,476	\$3,661	0.6%
Water	\$1,805,554	\$10,329	0.6%
Other	\$18,227,760	\$104,483	0.6%
Total municipal government expenditures	\$36,455,519	\$209,375	0.6%
Municipal Government Revenues	Baseline	Direct, Indirect and Induced Effects	Percent of Total
Property tax	\$4,121,424	\$24,633	0.6%
Earned income tax	\$3,976,187	\$22,180	0.6%
All other taxes	\$1,106,348	\$5,844	0.5%
All other revenue	\$23,068,231	\$132,301	0.6%
Total municipal government revenues	\$32,272,189	\$184,959	0.6%

¹Includes municipalities within the region.

²These impacts are spread among municipal governments throughout the region. Stonycreek Township in particular does not have a police force and these estimated costs will be shared by other municipalities in the county and by the Pennsylvania State Police, which has primary responsibility for policing rural townships which do not have their own police force. Includes school districts within the region.

Source: Bruce E. Lord, Ph.D., Final Economic Impacts, Flight 93 National Memorial, May 27, 2005.

POTABLE WATER SUPPLY AND SEWAGE CONTAINMENT

Methodology

In April 2005, The EADS Group, Inc. conducted a potable water supply and sewerage feasibility study for the Flight 93 National Memorial. The following four water supply options evaluated were—

1. Develop a Deep Well Onsite
2. Connect to Indian Lake Borough's Water System (Public Supply)
3. Connect to the Shanksville School Well (Private Supply)
4. Connect to Camp Allegheny's Water System (Private Supply)

The three options assessed for sewage containment were—

1. Onsite Sewage Disposal
2. Convey to Shanksville Borough's Sewage Treatment Plant (Public System)
3. Convey to Camp Allegheny's Sewage Treatment Plant (Private System)

The National Park Service provided projected visitation estimates and information concerning the most likely locations for a new visitor center within the boundary. An estimated 5 gallons of water per visitor per day was assumed. The local climate and an assumption that memorial visitation would be most pronounced over 274 days (nine months) were considered. Based on an annual estimated visitation of 230,000 visitors per year using 5 gallons per day over 274 days, the average daily water demand was projected at 4,200 gallons per day. At least a 3-day water supply was recommended for domestic water storage, which amounted to 12,600 gallons, which was rounded up to 15,000 gallons.³¹

Other factors affecting water demand included an automatic sprinkler system, an outside hydrant hose stream flow for a new visitor center and possible use of water from a pond onsite for fire trucks. A fire flow of 1,500 gallons per minute (gpm) for a 2-hour duration was estimated, resulting in the need to store 180,000 gallons of water for fire protection. The fire flow requirement of 1,500 gpm was based on the Fire Suppression Rating Schedule. The factors used to determine the Needed Fire Flow included the construction type and area of the building, the occupancy combustibility class, and the influence of exposed and communicating buildings

around the subject building. When a final memorial design is selected and all facilities are defined, the Needed Fire Flow will be revisited to determine actual needs.

Casselberry and Associates identified six (6) locations suitable for exploratory drilling for a production well (**Appendix F**). A yield capacity of at least 10 gpm (gallons per minute) or more was projected to adequately serve the needs of the memorial. Water quality from these test wells is expected to be excellent, requiring no treatment other than required treatment to meet DEP requirements.³² To determine the locations of test well sites, several aerial photographs were analyzed for fracture traces. Based upon fracture-trace mapping, three potential test well sites in the headwaters of both Lamberts Run and Grove Run were identified. Appendix F shows the locations for these test wells.

From the domestic water demand calculations, the daily sewage flow and the design daily demand year were both projected at 4,200 gpd. In sizing facilities for hydraulic loading, a peak daily flow rate of at least 250 percent of the average daily flow was calculated, and the peak daily flow rate recommended for design was 10,500 gpd.³³

Context

Potable Water Supply. The only existing potable water supply within the memorial boundary is located at the Diamond T shower house. The current yield and water quality of the existing well indicated that it is unlikely that this well could be developed to accommodate projected demand.

Although connection to the Indian Lake Borough's water system was determined feasible, Indian Lake Borough has opposed any new or additional discharge of treated sewage effluent to the lake due to the impacts that it would have to Indian Lake. Further, the Borough has indicated that it is not interested in selling water to the park. The western system, the system closest to the memorial, is reserved for the growing Indian Lake community and is not for sale. The eastern system, which serves the east side of Indian Lake Borough, does not have capacity to accommodate the future demand for the memorial. Further, the operator reported that the iron and manganese levels in the raw water exceeded DEP's requirements and would require treatment.

³¹The EADS Group, Inc. and Casselberry and Associates. May 2005. Final Flight 93 National Memorial Water and Sewerage Study. pp. 2-3.

³²Ibid., p. 6.

³³Ibid.



Village of Lambertsville
(Jerry Spangler 2004)

Although connection to the Shanksville School well is feasible, the school's water needs would take precedence and could not be interrupted or adversely affected. The Shanksville School well is a private supply source, and modifications to the well pump controls would be required so that water could be pumped to the memorial without pumping to the school. This option would require waterlines to be routed through Shanksville Borough into Stonycreek Township to the memorial. Selection of this option would also enable the service of water to residents and businesses located along the waterline.

Connection to Camp Allegheny's water treatment system would be feasible, although the quantity and quality of this water supply could change radically because the wells at the camp draw from the mine pool water down in the coal measures. However, conveyance of sewage from the memorial to Camp Allegheny would also require the camp update its NPDES permit and expand its discharge limits, which would require approval by DEP.

During the mid 1990's to 2000, a persistent drought, coupled with mining operations, occurred that caused these wells to decline to less than 5 gpm. The decline in the capacity of these wells may also have been related to subsidence fracturing and de-watering activities associated with a large deep mine complex that underlies the entire Flight 93 National Memorial site. Therefore, both the quality and yield of these wells could be subject to fluctuations driven by management of the mine pool water. Camp Allegheny is also a private supplier, which means that the current owners and policies could change at any time. This water source would not offer the park a long-term reliable supply.

Sewage Disposal. Currently, sewage containment from visitors to the Flight 93 National Memorial is conducted through the use of portable toilets. The memorial has two areas within the core lands where sewage disposal systems had formerly operated. These systems are listed below and were determined unsuitable:

- Diamond T Mine Shop and Warehouse – utilized a “gravel pit” that was not permitted and is not suitable for the memorial's use.
- Diamond T Mines “C” and “D”– utilized a sewage treatment plant, which is currently not operating. This plant is estimated to have a 2,500 gpd capacity and is not considered suitable for the memorial's use.

The Rollock scrap and recycling operation utilizes a sewage holding tank, which has to be periodically dewatered and the liquid hauled to a sewage treatment plant. This system is also not suitable for the memorial.

If an on-lot sewage system is constructed, the average daily design flow would accommodate 4,200 gpd, and the on-lot system would be designed to treat 16,800 gpd (400 percent of this average daily flow). A 17,000-gallon septic tank and a 17,000-gallon dosing tank would be selected.

Conveyance of sewage to the new Shanksville Borough Sewer System and Sewage Treatment Plant, which is expected to be constructed and operational in the fall of 2005, would involve installation of a 6,900-foot gravity sewer line that would extend toward Lambertsville Road on the west side of the memorial. At Lambertsville Road, the force main would continue south about 6,300 feet along the right-of-way to Lambertsville Road.

Conveyance of sewage to Shanksville Borough is feasible and would be consistent with the Stonycreek Township Act 537 Sewage Facilities Plan. If this option is selected, residents and businesses located within this area along Lambertsville Road would also benefit from the extended sewage service, although residents would be required to pay for their connection. The Shanksville sewage facility is estimated to have a design flow capacity of 50,000 gpd. In total, 112 properties, including the Shanksville School, would be connected to the system, equaling 131 EDUs (equivalent dwelling units).

Using 2000 Census data and conforming to the Shanksville Borough's DEP-approved Act 537 Sewage Facilities Plan, the corresponding average daily sewage flow to the plant would be as follows:

- Shanksville Borough Customers:
102 EDU's x 2.55 persons/EDU
x 100 GPD/person = 26,010 GPD
- Stonycreek Township Customers:
29 EDU's x 2.71 persons/EDU
x 100 GPD/person = 7,859 GPD
- Total existing sewage flow = 26,010 + 7,859
= 33,869 GPD

Based on these projections, reserve capacity in the Shanksville Borough Sewage System = 50,000-33,869 = 16,131 gpd, or about 60 EDUs.

Alternative 1 – No Action

Water Supply. Under Alternative 1, the park would not develop a potable water source, such as a deep well onsite nor would the park connect to an offsite water supply. The vault toilets proposed for visitors would contain chemical cleanser for hand washing.

During scoping in 2003, the Bureau of Abandoned Mine Reclamation, PA DEP, Cambria office, offered the National Park Service an opportunity to partner in a program to extend public drinking water services. This program provides drinking water to residents whose drinking water had been adversely affected by mining activities.

Sewage Disposal. Alternative 1 would involve continued use of vault toilets at the Temporary Memorial parking area. Costs would involve continued maintenance of existing toilet facilities.

The impact threshold for Alternative 1 would be Negligible.

Alternative 2 – Preferred Design Alternative

Water Supply. Four options for potable water sources were considered for Alternative 2: 1) a deep well onsite, 2) connection to Indian Lake Borough's public supply, 3) connection to the Shanksville School well private supply, and 4) connection to Camp Allegheny's private supply. The costs for these possible water supplies are shown in Table IV-6.

Table IV-6: Alternative Potable Water Supplies, Flight 93 National Memorial

Potable Water Source Option	Estimated Construction Cost	Estimated Annual Operation & Maintenance Cost
Deep Well Onsite	\$941,000	\$11,000
Indian Lake Borough	\$1,343,000	\$11,600
Shanksville School Well	\$1,603,000	\$14,200
Camp Allegheny	\$1,058,000	\$8,500

Source: The EADS Group, April 2005.

Sewage Disposal. Alternative 2 considers three sanitary sewage service options. These options and their costs are outlined in Table IV-7.

Table IV-7: Alternative Sanitary Sewage Service Options, Flight 93 National Memorial

Sewage Service Option	Estimated Construction Cost	Estimated Annual Operation & Maintenance Cost
Onsite Sewage Disposal	\$811,000	\$10,000
Convey to Shanksville Borough's Treatment Plant	\$1,123,000	\$10,500
Convey to Camp Allegheny	\$1,074,000	\$10,700

Source: The EADS Group, April 2005.

Use of gravity sewers and a force main to convey sewage from the memorial to the Shanksville Sewage Treatment Plant was considered. To implement this option, a gravity sewer would be installed beginning at the proposed visitor center, parallel to the existing driveway leading west toward Lambertsville Road. At a point about 500 feet from Lambertsville Road, a low point in the line would require a pumping station to pump the flow to Lambertsville Road. The force main continue south within the right-of-way of Lambertsville Road about 6,300 feet, as it descends down to a low point in the profile at Grove Run. It would then climb uphill to a location where it can transition back to gravity flow. At this point, a gravity sewer of about 6,900 feet in length would reach the Shanksville Sewage Treatment Plant. The final 2,000 feet would extend outside the PennDOT right-of-way.

Conveyance of sewage from the memorial to Shanksville would conform to the Stonycreek Township Act 537 Sewage Facilities Plan. This plan recommends that public sewer service from the Lambertsville area be conveyed using a combination of gravity sewers and force main to the Shanksville Borough sewage treatment plant. The Flight 93 National Memorial is located within this area and is consistent with the Act 537 plan to include Lambertsville within the service area.

If this option for conveying sewage from the memorial is selected, about 30 properties along Lambertsville Road would be required to connect to the new sewer system, per the Stonycreek Township Mandatory Connection Ordinance. Each property owner connecting to a proposed line would be responsible for the cost

of constructing a new sewer lateral from their structure to their property line. Based on 2005 estimates, this cost would be approximately \$500 per connection. Although there would be an economic impact caused by the connection fee, the long-term environmental benefits to the community and the region's water resources would be significantly improved. The municipality would be responsible for providing a wye connection on the new sanitary sewer or force main, and extending a lateral to each property served. Properties connecting along the force main would also be required to install a sewage grinder pump. If the Stonycreek Township Act 537 Sewage Facilities Plan recommendation to extend public sewer to Lambertsville is implemented, these same 30 properties would be required to connect to the new system even if the memorial is not developed.

Based on estimates calculated by The EADS Group, the memorial's design flow was estimated to be 4,200 gpd, which equals 16 EDUs. Combined with the 30 private EDUs, a total of 46 EDUs would be conveyed into the Shanksville System. The feasibility study determined that the Shanksville sewage plant would have at least 60 EDUs of available capacity and would be able to accommodate the memorial's sewage disposal needs, as well as the private properties along Lambertsville Road. If there are lengthy delays in connecting the memorial to the Shanksville Borough sewage system and growth resulting in more than 14 new EDUs occurs in the township, expansion of the Shanksville Sewage Treatment Plant would be needed.

Future expansion of the Shanksville Borough Sewage Treatment Plant is included in both the Shanksville Borough's and Stonycreek Township's Act 537 Sewage Facilities Plans. Key components of the Shanksville Borough Sewage System, such as interceptor sewers and force mains, are being constructed to accommodate future public sewer service expansion into Stonycreek Township. The estimated cost for the proposed sewage system is \$1,123,000, with an annual operation and maintenance cost of \$10,500.

A final decision selecting the option for sewage disposal would be made during design development. The impact threshold for potable water supply and a sewage containment system for Alternative 1 would be Minor. Depending on the option selected, the impact threshold for Alternative 2 for water and sewage service would be Minor.

Summary of Impacts

The same options for a potable water supply and a sanitary sewage system were considered for both alternatives based on a feasibility study conducted by The EADS Group. Alternative 1 does not propose to develop a potable water supply or an onsite sewage disposal system, or connect to a public sewage line. Alternative 1 would involve use of vault toilets. The impact threshold is expected to be Negligible for water and sewerage for Alternative 1.

Given the projected visitation to the memorial for Alternative 2 (230,000 annual visitors) and the full development of the site, construction of the Shanksville Borough's sewage system could be extended to the memorial along Lambertsville Road. The national memorial lies within the Shanksville sewage area. If selected, this option would result in a Minor impact threshold, as extension of the Shanksville Borough's sewage lines along Lambertsville Road would require that 30 additional homes relinquish their existing septic systems and connect to the public sewer service. However, if Stonycreek Township implemented its Act 537 Sewage Facilities Plan recommendation to extend public sewer to Lambertsville, these same 30 properties would be required to connect to the new system even if the memorial was not developed. The ability for these homes to connect to a public sewer service may cause a short-term economic impact to the residents, but would create long-term environmental benefits.

Property values could also be expected to increase as the availability of public sewer and water services usually generates additional development in rural areas. A final determination on the selection of the preferred options for potable water supply and sewage disposal at Flight 93 National Memorial will be made during design development.

LAND USES

Methodology

The area surrounding the memorial was investigated numerous times during the planning phase to determine existing land uses and to understand areas where potential changes could occur and affect the intended visitor experience at the memorial. Coordination with the Somerset County Planning Commission was conducted and reference to the draft Somerset County Comprehensive Plan and county ordinances was made throughout the process.

Context

Somerset County has adopted limited resolutions to 1) regulate and restrict the height of structures in the vicinity of the Somerset County Airport (Ordinance No. 3, adopted in 1992), 2) to regulate the types of buildings and development around the Somerset interchange with Route 219, and 3) guide the growth in the county through the Subdivision and Land Development Ordinance of 1998, as amended. The subdivision ordinance also guides the location of wind farms and cell towers in the county. No land use controls exist in Stonycreek or Shade townships.

A coal strip mine, owned by Berwind Corporation and currently under reclamation, is located on the north side of U.S. Route 30, across from the proposed memorial entrance and within the memorial boundary. To the west of the proposed entrance is Costagna's restaurant. In 2003, a communications cell tower was installed on the north side of U.S. Route 30 directly across from the memorial. To the west along U.S. Route 30 toward Stoystown, a salvage yard, a restaurant and an adult bookstore are located within several miles of the memorial.

Camp Allegheny, a United Methodist church camp, lies east of the memorial adjacent to the boundary and just south of U.S. Route 30. The Duppsstadt Country Store is located on the southeast corner of the intersection of Buckstown Road and U.S. Route 30. Heading south along Buckstown Road, Buckstown Canoe and Kayak is located on the west side about 0.5 miles from Skyline Road. Other small businesses and home-based operations are also located along this road. The perimeter viewshed contains residences, wood lots, and small farms. The Lambert farm stretches across a hillside, southeast of the memorial, creating a picturesque backdrop to the view of the landscape from most points inside the memorial.

Skyline Road extends east-west through the southern portion of the site between Buckstown Road on the east and Lambertsville Road on the west, and currently serves as the direct entrance route to the memorial. Several residences and wooded areas lie immediately south of the memorial. Most of the property located to the west of the memorial boundary is residential with open fields. Highland Tank & Manufacturing Co., Inc. is situated to the west of the intersection of Lambertsville Road and U.S. Route 30.

In 2004-2005, a privately owned game preserve opened for hunting wild boar and deer. This preserve, open year-round, lies about 600-800

feet from the crash site and is adjacent to the hemlock grove. There are two pens, one 62 acres and the other 18 acres.

Alternative 1 – No Action

Alternative 1 would involve the continued approach to the memorial from the west using U.S. Route 30 to Lambertsville Road. Highland Tank & Manufacturing Co., Inc., located on the south side of the intersection of Lambertsville Road and U.S. Route 30, presents turning and sight distance safety issues for buses and for other vehicles. The buildings and vegetation on the southwest and southeast corners obstruct drivers' views to the east and west when attempting to exit onto U.S. Route 30. Lambertsville Road is narrow at this intersection and presents difficulty when turning south from U.S. Route 30. Residences are situated along both sides of Lambertsville Road and are very close to the edge of the road pavement and are adversely affected by buses and vehicular traffic, including motorcycles, as well as noise and exhaust fumes. Necessary roadway improvements to create a safe environment for visitors and residents could severely impact businesses and residences along Lambertsville Road.

In 2004, Somerset County and five local jurisdictions agreed to conduct the Flight 93 National Memorial Area Corridor Planning Study. Land uses along access routes to the memorial will be studied to determine land use compatibility with the desires of residents, business owners, and county plans. Results of this study will aid in ensuring that future land uses are compatible and retained and incompatible development is discouraged.

The proliferation of wind farms in Somerset County presents a concern to the visual and aesthetic values of the memorial. A new wind farm has been proposed for Reels Corner in Shade Township, north of U.S. Route 30, though it has not yet been approved. Several other wind farms in Stonycreek Township have been approved (Chapter III). The wind turbines, some more than 380 feet high, would most likely present visual intrusions from the memorial.

Although high-quality fencing was constructed around the perimeter of the game preserve adjacent to the southwest side of the memorial, wild boars are known to escape fenced areas and become major problems. The Pennsylvania Game Commission believes the fence was installed underground to eliminate the potential for animals to escape. Periodic patrol of the fence to monitor for evidence of digging is



Rural Somerset County
(Jerry Spangler 2004)

advised. Boars, in particular, present threats not only to the memorial's resources, but if they escape from the farm, they could present threats to the safety of park employees and visitors.³⁴

Shooting of high-powered hunting rifles in the game preserve near areas accessed by family members and park employees is also a safety concern. Impacts to the intended visitor experience at the memorial can be expected to occur. The park should work with the preserve landowner to ensure that a sound and safety zone is established for visitor protection.

Although a perimeter viewshed buffer zone is proposed for Alternative 1, the impact threshold for adjacent land uses would be Major. Areas along US Route 30 within the boundary would experience heavy development pressures. These lands are not proposed for acquisition. Without a memorial feature or fully developed park, the public is less likely to support land use planning for the areas surrounding or leading to the memorial. Furthermore, if roadway improvements are necessary, the residences and businesses along Lambertsville and Buckstown roads could be significantly impacted.

Alternative 2 – Preferred Design Alternative

Alternative 2 would create a new entrance directly from U.S. Route 30 and close entrances from Lambertsville and Buckstown Roads. This new entrance would remove visitor traffic from local roads and dramatically improve conditions for local residents. This new entrance would also create development pressures near the park entrance on U.S. Route 30. However, the memorial boundary includes lands across from the entrance as well as visible from the entrance to help limit incompatible development in this area.

In 2004, Somerset County and five local jurisdictions agreed to conduct the Flight 93 National Memorial Area Corridor Planning Study. Land uses along access routes to the memorial will be studied to determine land use compatibility with the desires of residents, business owners, and county plans. Results of this study will aid in ensuring that future land uses are compatible and retained and incompatible development is discouraged.

Two principal areas of visitor concentration are proposed for Alternative 2: the tower, a 93-foot tower, which would be located at the entrance of U.S. Route 30, and the memorial features within the Bowl. Depending on approval and

location of new wind farms in the county, the setting for the tower may be compromised if wind turbines are permitted near the entrance to the memorial. The county's Subdivision and Land Development regulations are used to guide the appropriate location of wind farms within the County. Visual intrusions to the memorial, as well as sounds emitted from the wind turbines, are concerns that could adversely affect intended visitor experience.

As mentioned in Alternative 1, the private game hunting preserve is only about 600-800 feet from the crash site and adjacent to the hemlock grove. Visitor areas would be located about 1,200-1,500 feet from the edge of the game preserve property. Family members and authorized personnel would be even closer at the crash site. Not only would noise from rifle fire be a disturbance to visitors in this area, but human safety is a principal concern. The potential for boars to escape, as well as errant bullets, could present possible threats to the safety of park and employees and visitors.

The Somerset County Airport lies about 5.5 miles southwest of the Flight 93 National Memorial off Route 281 in Friedens. In 1992, the County adopted an airport zoning ordinance to regulate and restrict the height of structures and objects in the vicinity of the airport. Specific height restrictions were established in zones around the airport to prevent obstructions to the airspace and to protect approaches to the airport. The airport layout plan identifies the future airport elevation at 2,275 feet. The estimated elevation for the tower is 2,430 feet agl, and given a height of 93 feet for the tower, the total height for the tower is estimated at 2,513 feet. Based on a 34:1 approach to the runway, and the distance between the memorial and the runway, aircraft should be approximately 3,207 feet above the memorial.

Consultation with the Pennsylvania Bureau of Aviation was conducted in August 2005 to determine if the 93-foot tower would present an airspace issue with the Somerset County Airport and to determine if obstruction lighting of the tower would be required. The Bureau of Aviation ran estimated elevations and locations of the tower through the FAR 77 Obstruction Analysis model and determined that the tower did not penetrate required airspace for either the Somerset County Airport or the Indian Lake Airport and that it would not be necessary to install obstructions lighting on the tower.³⁵

³⁴John Karish, National Park Service. May 18, 2005. "Flight 93 NM Trip Report."

³⁵Email from Robert Betz to Mike Kolesar, PennDOT Bureau of Aviation, Aug. 30, 2005.

The impact threshold for adjacent land uses for Alternative 2 would be Moderate. The perimeter viewshed would buffer adjacent land uses and the entrance from U.S. Route 30 would improve conditions for area residents, but the increased visitation would create increased development demands.

Summary of Impacts

The land use of the memorial would be converted from reclaimed mining to parkland within the core portion of the memorial for both alternatives. Adjacent land uses, such as farms and single-family residences, would be retained and incompatible land uses surrounding the memorial would be discouraged. The National Park Service would continue to work cooperatively with landowners, the county and the township to preserve land uses that maintain the rural character of the area. The traffic impacts on the local communities are discussed in greater detail in the following section. The impact threshold for adjacent land uses for Alternative 1 would be Major and the impact threshold for Alternative 2 would be Moderate.

TRANSPORTATION

Methodology

In 2004-2005, a transportation and traffic study of the Flight 93 National Memorial area was conducted by Trans Associates to evaluate the following: 1) four access routes from the Pennsylvania Turnpike; 2) the potential impacts of local road closures; 3) the feasibility of an in-park shuttle service; and 4) State accident data within the vicinity of the memorial. Data were collected regarding the existing roadway network surrounding the memorial to determine the conditions of the area roadways and existing traffic.

Field reconnaissance was conducted of the major approach routes from the Pennsylvania Turnpike (Interstate 70/76) to the proposed entrance to the memorial from U.S. Route 30. These approaches included U.S. Route 30 via State Route 281; U.S. Route 219 to U.S. Route 30 via State Route 601; U.S. Route 219 to U.S. Route 30 via State Route 281; and U.S. Route 30 east of the memorial from the Bedford area. Information was collected on horizontal and vertical geometry, posted speed limits, number of lanes, obstructions and school zones. For the routes evaluated, the access points to/from major traffic generators, such as major employment centers, shopping centers, mining companies, trucking companies, schools and any other

locations that significantly influence traffic flow, were also identified. Routes used by emergency services were also identified.

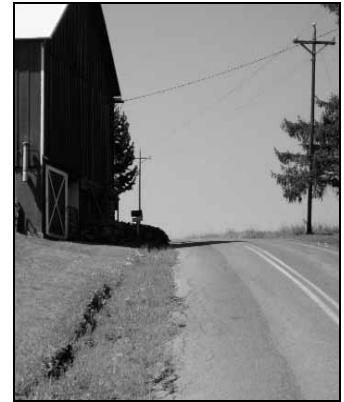
Automatic traffic recorder (ATR) counts, which collect data on traffic volumes and heavy vehicle percentages, were installed on U.S. Route 219 between State Route 601 and U.S. Route 30 for seven days (five weekdays, one Saturday and one Sunday) in April 2005. These ATR counts were conducted for a typical (non-holiday, no unusual events, and no unusual weather conditions) period. Existing traffic conditions, including average daily traffic (ADT) volumes and percentages of trucks, were determined.

A travel time study was conducted from the Pennsylvania Turnpike (Interstate 70/76) to the proposed Memorial entrance on U.S. Route 30 for each of the approach routes in both directions during off-peak periods on a typical weekday.

The potential impacts of one or more roadway closures in the vicinity of the national memorial on local traffic, emergency services, as well as on residential and commercial access and uses, were evaluated. Potential road closures include Skyline Road (T613), Stauffer Road (T708) and Sturtz Road (T615). If constructed at the termination points, cul-de-sacs would be designed, based on local requirements, to accommodate emergency vehicles, school buses and other service trucks. The number of affected residences and businesses has been determined for each route. Based on the potential roadway terminations, a discussion on the loss of the local liquid fuel tax is presented later in this section.

An internal park shuttle was evaluated, but was determined to be infeasible for the site due to the high operating costs and the need to either assess a fare or a significant operating subsidy. Under Alternative 2 – Preferred Design Alternative, a shuttle system was also determined to be infeasible except for large events. Total capital cost for bus acquisition would be about \$2.1 million, and annual operating costs would be approximately \$286,600.

In addition to vehicular transportation and circulation patterns, the potential impacts to the memorial from overflights were also addressed. Coordination was conducted with PennDOT's Bureau of Aviation concerning proposed improvements to the Somerset County Airport, located about 6 miles southwest of the memorial. Section 4(f) of the Department of Transportation Act of 1966 (49 U.S.C. 303) was



Buckstown Road approaching Skyline Road (NPS 2005)



Village of Lambertsville (NPS 2005)

considered. This act states that Department of Transportation projects shall not directly or indirectly affect publicly owned land from a public park of national, state or local significance, or any land from an historic site of national, state or local significance unless a) there is no feasible and prudent alternative to its use, and b) all possible planning to minimize harm is made part of the project.” These effects include increased noise, visual and aesthetic impacts, and impacts affecting the intended use of the park. Planning for the airport began prior to the events of 9/11.

Coordination with BOA was also conducted concerning potential impacts from the tower to the surrounding airspace. BOA conducted computer modeling of the Tower and the Part 77 airspace surfaces around Somerset County Airport and Indian Lake Airport. The tower would not adversely affect the airspace and would not require obstruction lighting.³⁶

Context

Flight 93 National Memorial is located in Stonycreek Township, about 10 miles northeast of Somerset Borough and 2 miles north of Shanksville Borough. An interchange (Exit 110) off Interstate 70/76 (the Pennsylvania Turnpike) is located in Somerset Borough, approximately 18 miles west of the memorial. U.S. Route 30 extends through the northernmost portion of the site.

In addition to the Temporary Memorial, the existing visitor area consists of a viewing area with a small shelter, a 40-foot chain-link fence where visitors can leave and view tributes, and two parking lots (one adjacent to the memorial and one west of Skyline Road). A third parking area for large events is located farther east on Skyline Road. Currently, the Temporary Memorial is accessed from Skyline Road, which extends between Lambertsville Road and Buckstown Road, both of which are signed approach routes to the memorial.

Four approach routes from the Pennsylvania Turnpike (Interstate 70/76) to a potential entrance to the memorial from U.S. Route 30 were evaluated. Although visitors may use other local routes to access the memorial, these major routes are expected to receive most of the visitor traffic. Approach Routes A-C connect with the Pennsylvania Turnpike at Exit 110 (Somerset); Approach Route D connects with the Turnpike at Exit 146 in Bedford.

- Approach Route A: Pennsylvania Turnpike (Exit 110) to Proposed Site Entrance via State Route 281/U.S. Route 30
- Approach Route B: Pennsylvania Turnpike (Exit 110) to Proposed Site Entrance via State Route 601/U.S. Route 219/U.S. Route 30
- Approach Route C: Pennsylvania Turnpike (Exit 110) to Proposed Site Entrance via State Route 281/U.S. Route 219/U.S. Route 30
- Approach Route D: Pennsylvania Turnpike (Exit 146) to Proposed Site Entrance via U.S. Route 30 East of Site

Approach Route A directs visitors through a school zone and three traffic signals. Alignments and sight distances are generally good. However, drivers must pass over a railroad crossing and through a narrow underpass. The average time to and from the memorial ranges from approximately 17 to 18 minutes.

Approach Route B directs visitors to use S.R. 601, which is one of the most congested arterials in the county and lacks proper facilities to handle the increase in turns in many areas. Numerous traffic signals, access points, and businesses make this route undesirable, including a 22-24 minute travel time to and from the memorial.

Approach Route C involves use of similar roadways used for Approach Route B, although drivers would use S.R. 281 to access U.S. Route 219. Travel time to and from the memorial is estimated at 21-22.6 minutes. For this portion of State Route 281, drivers must also use Pleasant Avenue (S.R. 4055) between the Pennsylvania Turnpike (Interstate 70/76) and S.R. 281. Pleasant Avenue is wide, has a center turn lane and has a posted speed limit of 25 miles per hour. A railroad crossing occurs on S.R. 0281 at Pleasant Avenue and a narrow underpass of the Pennsylvania Turnpike is also located in this area. A single traffic light is installed at the intersection of S.R. 4055 and S.R. 281. Approach C would involve the longest driving distance and travel times, but it would be the safest and have the least negative impacts on local residents.

Approach Route D provides access to the memorial from the east along U.S. Route 30 beginning at the Bedford interchange. The route is used by many logging and mining trucks and has steep hills and some poor sight distances. Travel time to and from the memorial is about 34 minutes from Exit 146 off the turnpike.

³⁶Telecon with Mike Kolesar, PennDOT BOA, and Eileen Carlton, emc, Aug. 30, 2005.

The selection of an approach route to the memorial will be the responsibility of PennDOT, Somerset County, and local officials.

In 2003, an estimated 130,000 people visited the memorial and visitation projections show that a peak of about 400,000 annual visitors is expected to occur by 2011. This peak is expected to decline and then stabilize to an estimated 230,000 visitors annually through the planning period. Assuming that the increase in visitors follows the same daily and seasonal variations as the existing data indicate, the number of daily visitors could reach a maximum of 1,500 on weekdays and a maximum of 2,600 on weekends during the summer.

Assumptions were made that some visitors will follow routes other than the signed or designated route, and most vehicles will have more than one occupant. The daily two-way traffic volumes on the designated route can be expected to increase by 1,000 to 2,000 vehicles on peak weekdays, and by 4,000 to 5,000 on peak weekend days. Peak volumes will not occur every day or throughout the year, but can be anticipated during the peak visitation period(s).

Temporary signs directing visitors to the memorial have been installed on adjacent roadways by Stonycreek Township and Somerset County. Permanent National Park Service signs will be installed once the memorial development is underway and will be located in partnership with PennDOT, Somerset County and local officials.

Local officials and PennDOT will determine the most appropriate route for visitor to the memorial. Alternative C is likely to be the safest and have the least negative impact on local residents.

Airports. The Somerset County Airport has plans to extend its runway to 5,000 feet, which would enable corporate aircraft, such as turboprops and business jets, to use the airport. The extended runway would make the facility more attractive to businesses desiring to locate their businesses to the County. However, the greatest potential disturbance to the memorial under both alternatives would be from news and police helicopters, and sight-seeing aircraft.

In addition to the Somerset County Airport, other nearby airports include the Indian Lake Airport, a privately owned, public general aviation airport with a 4,490-foot runway, located about 4 miles southeast of the memorial. This facility is currently closed. Seven Springs Airport, located in Seven Springs, about 25 miles west of

the memorial near the border of Fayette and Somerset Counties, is a privately owned airport, open from April through the end of November. Two other airports within about an hour driving time from the memorial are Arnold Palmer Regional Airport in Latrobe and the Johnstown-Cambria County Airport in Johnstown.

Alternative 1 – No Action

Roadways. Current PennDOT travel brochure, National Park Service site brochure and online driving directions encourage visitors to follow Approach Route A from the Somerset interchange (Exit 110) of the Pennsylvania Turnpike to the memorial. Average travel time to the memorial along this route is 17.3 minutes, and average travel time back from the memorial to the turnpike is 18.1 minutes. Both times are based on a one-way driving distance of 14.2 miles.

The greatest transportation impacts occur along Lambertsville and Buckstown roads. Visitors would continue to use these narrow, local roadways to access the site. These routes were never designed to accommodate high visitation levels as well as bus traffic associated with visitors to the memorial. In some instances, homes are located at the pavement edge. Long-term use of these roadways would require improvements to these roads including widening the travel lanes, replacing bridges, improving vertical alignments, and expanding the intersection of Lambertsville Road and U.S. Route 30. These improvements could result in the need to condemn properties that are adjacent to the roadway. Somerset County and PennDOT are initiating a study of roadway improvements necessary throughout the travel corridor.

Under Alternative 1, residences along Lambertsville and Buckstown Road would continue to be significantly impacted by visitor traffic and possibly by necessary roadway improvements. Disturbance from helicopters and sightseeing aircraft could occur. Under Alternative 1, the impact threshold is expected to be Major for transportation.

Alternative 2 – Preferred Design Alternative

Roadways. PennDOT, Somerset County, and local officials will determine which route to the memorial is most appropriate. The major differences between the alternatives relates to the entrance to the memorial and internal circulation.

In Alternative 2, visitors would enter and exit at a new entrance at U.S. Route 30. This entrance would remove visitors from Lambertsville and Buckstown roads and significantly improve

conditions for residents living along these routes. This entrance is proposed in the general location of the current Haul Road but the specific location would be determined through design development and traffic engineering with PennDOT to ensure safe access for visitors and traffic along U.S. Route 30. Somerset County and PennDOT are initiating a study of roadway improvements necessary throughout the travel corridor.

An assessment of the impacts due to the possible termination or closure of one or more of the roadway segments within the memorial boundary on local traffic and emergency services, as well as residential and commercial accesses, was conducted. Under Alternative 2, the entrance to the memorial would be accessed from U.S. Route 30, most likely near the existing Haul Road. Road closures have been considered for Skyline Road (T-613), Stauffer Road (T-708) and Sturtz Road (T-615) as a measure to mitigate traffic impacts on local roads and neighborhoods. Before any road closures occur, coordination and consultation with PennDOT, local townships, and area residents would be required.

Skyline Road (T-613) would be terminated at its intersection with Lambertsville Road. A cul-de-sac would be constructed farther to the east, just to the west of the homes located on the eastern end of Skyline Road at the intersection with Buckstown Road. Skyline Road had been closed to traffic for many years during strip mining operations. Cul-de-sacs would also be constructed for Sturtz Road (T-615) west of Stauffer Road (T-708) and for Stauffer Road (T-708) west of the Haul Road.

Six residences exist along the eastern end of Skyline Road. The creation of a cul-de-sac on Skyline Road would require that these residents take Buckstown Road to U.S. Route 30 or Buckstown Road to Lambertsville Road to access Somerset Borough, the turnpike or locations west of the memorial. A typical trip from one of these residences to the intersection of Lambertsville Road and U.S. Route 30 currently takes approximately 6.5 minutes to travel the 3.3 miles along Skyline Road through the National Memorial. If the roadway is terminated and a cul-de-sac is constructed, it would take approximately 9 minutes to travel the 5.2 miles to reach the same location by following Buckstown Road to Lambertsville Road and 10.5 minutes to travel 6.5 miles minutes by following Buckstown Road to U.S. Route 30. The site proposed for a cul-de-sac is currently used as a school bus turnaround.

No homes are located on the western end of Skyline Road.

Six residences are located along Sturtz Road and four along Stauffer Road. Constructing a cul-de-sac along Sturtz Road would restrict access to Stauffer Road, which is an unpaved road in this area. Its primary use was to provide access for workers at the mining operations. Now that mining operations have ceased, traffic on this road is minimal. Through-access on both of these roads is seasonal. Stonycreek Township often stops plowing snow during the winter just about the location of the proposed cul-de-sacs and school buses use these same locations as turnarounds. If these roads are terminated, impacts to residents living on Sturtz Road and Stauffer Road would be minimal.

The proposed cul-de-sacs would be designed in accordance with the American Association of State Highway and Transportation Officials (AASHTO's) and the Pennsylvania Department of Transportation's design criteria. Specific design criteria for these cul-de-sacs, such as size, materials, locations, etc., will be addressed during the design phase, if road closures are selected. The purpose of the cul-de-sacs would be to minimize traffic impacts on local residents while maintaining access to existing properties.

Liquid Fuels Tax. Terminating or closing portions of roadways would result in the loss of revenue to Stonycreek Township from the Liquid Fuels Tax. These are funds reimbursed by PennDOT to assist local municipalities with the cost of maintaining local roadways. Based upon data provided by PennDOT's Bureau of Municipal Services, Stonycreek Township is reimbursed at a rate of \$1,906 per mile, and \$11.00 per capita. The proposed cul-de-sacs could close as much as 6,600 feet of Skyline Road, 7500 feet of Stauffer Road, and 600 feet of Sturtz Road, totaling an estimated 14,100 feet, or 2.67 miles of roadway. This would result in an estimated loss of \$5,306.48 in Liquid Fuels Tax revenues to Stonycreek Township annually, based on 2005 rates.

Emergency Response Services. Based on consultation with Somerset County 9-1-1 and local emergency response personnel, the proposed road terminations would not adversely affect local emergency service routes. Emergency response personnel from the Shanksville and Stoystown Boroughs and the village of Friedens were contacted concerning any potential impacts that could occur to local emergency responders and their response times. The residences along

Skyline Road are serviced by the Shanksville Volunteer Fire Company, and the residences along Sturtz and Stauffer Roads are serviced by the Stoystown Volunteer Fire Company. The potential roadway closures would not affect emergency access along these roadways. Proposed cul-de-sacs would be designed with sufficient radii to accommodate emergency response vehicles, as well as passenger vehicles.

Based on conversations with the Somerset 9-1-1 office, access to the memorial via U.S. Route 30 is essential, and the most desirable route for vehicles traveling to the memorial. Regarding potential road closures for Skyline Road, Stauffer Road and/or Sturtz Road, the Somerset 9-1-1 office stated that the memorial would be the only property whose emergency access could be affected. The County 9-1-1 office also advised that emergency response to the memorial would be provided by the Stoystown Volunteer Fire Company from the north and by the Shanksville Volunteer Fire Company from the south. Figure III-16, Chapter III, shows the two emergency service response areas for the memorial.

Both the Stoystown and the Shanksville Volunteer Fire Companies expressed concerns regarding maintenance of access routes to the memorial from U.S. Route 30 and from Skyline Road. As Skyline Road is proposed for closure, a security gate that could be activated by emergency services personnel was recommended. As Shanksville and Stoystown Volunteer Fire Companies provide dual coverage to this area, this access would be available to these emergency responders and any other appropriate response personnel. The Shanksville Volunteer Fire Company said that in case of wildfires or other emergencies, access to the memorial from Buckstown Road would be beneficial. The Shanksville Volunteer Fire Company uses a pond within the boundary to fill trucks with water, and has requested that access to this water supply be maintained.

The Shanksville Volunteer Fire Company also noted that during mining operations, several vehicle accidents had occurred on U.S. Route 30 near the entrance to the Haul Road. These collisions seemed to occur when slower trucks would exit the site and vehicles traveling faster along U.S. Route 30 collided with them. Development of the memorial will include redesigning the intersection of the entrance road and U.S. Route 30.

Airports. Under both alternatives, the visitor experience at the memorial could be impacted

by additional overflights to the memorial as the airport extends its primary runway and operations increase. Disturbance from helicopters and sightseeing aircraft could also occur.

Under Alternative 2, the impact threshold for transportation is expected to be Moderate. Although many new visitors would be introduced to the area, safe and efficient access would be provided and the local communities would no longer experience the traffic and unsafe conditions associated with visitors using Lambertsville and Buckstown roads to access the site.

Summary of Impacts

Four approach routes were evaluated to the memorial: three from the turnpike exit (Exit 110) and one from the Bedford area to the east. This analysis was conducted to identify major constraints or issues. Approach Route A is currently used to access the memorial from the turnpike.

Of the approach routes from Exit 110 in Somerset, Approach Route B is expected to generate the least impacts to local communities and would offer the best sight distances and grades. However, S.R. 0601 runs through extensive strip commercial development and is heavily congested at times. Portions of U.S. Route 30 have moderately steep grades.

Approach Route C, which uses State Route 281 (S.R. 0281), is estimated to offer a faster time and a safer route than S.R. 0601. This route utilizes roads that are also described in Approach Routes A and B with minor exceptions.

Approach Route D, which accesses the memorial from the east using U.S. Route 30 from Bedford offers a shorter travel time than Alternatives A and B. However, parts of the geometry of U.S. Route 30 between Bedford and Somerset are poor and could present safety hazards to visitors unfamiliar with the roadway, especially for tour buses and recreational vehicles.

The final determination of an appropriate route to the memorial will be determined by Somerset County, PennDOT, and other local officials.

The impact threshold for transportation for Alternative 1 is projected to be Major as visitors would continue to travel along Lambertsville and Buckstown Roads to the site. Local residents would continue to be affected by visitor traffic. Costly road improvements would likely be necessary to safely accommodate visitor and resident traffic. Furthermore, such improve-



Village of Lambertsville (NPS 2005)

ments could dramatically alter the appearance of these communities and possibly require the condemnation of some homes. Alternative 1 would also require Stonycreek Township to upgrade and maintain Skyline Road to accommodate visitor and public traffic. These improvements are estimated to cost \$2.1 million.

The impact threshold for transportation for Alternative 2 is projected to be Moderate. Although visitor projections are higher for Alternative 2, the National Park Service would go to great lengths to minimize impacts on the local communities and create safer roadway conditions. A new entrance would be developed directly off U.S. Route 30 and the small roads leading into the site would be terminated. These actions would contain all visitor traffic within the site and remove it from the neighboring communities.

ENERGY REQUIREMENTS AND CONSERVATION POTENTIAL

Methodology

During its NEPA analysis, a Federal agency is required to consider the environmental effects of a project's energy requirements and conservation potential (40 CFR 1502.16(e)). A broad-scale analysis that relates to changes in demand for energy supplies supporting stationary facilities and increased fuel consumption by vehicles has been conducted. The data presented in this analysis are speculative and not quantifiable, but are presented to give a general idea of increased energy use.

Context

Flight 93 National Memorial attracts thousands of visitors every year. Chapter III shows the current and projected visitation estimates for the memorial. The potential impact that these visitors would have on local fuel suppliers can only be estimated. Use of energy, such as electricity for lighting and fuel for heating, is also discussed.

Flight 93 National Memorial is located in distance and time from the following major metropolitan areas:

- From Pittsburgh: 75 miles/2 hours
- From Harrisburg: 125 miles/ 2.5 hours
- From Philadelphia: 250 miles/4.5 hours
- From Washington, D.C.: 185 miles/3.5 hours
- From New York City: 300 miles/5.5 hours

Alternative 1 – No Action

Alternative 1 projects that visitation to the memorial could be expected to decline from about 139,000 annual visitors to approximately 87,000 annual visitors over time.

Under Alternative 1, there would be no visitor facilities to light, heat or cool and no lighting to enhance a memorial. The degree of energy usage is expected to be minimal. Currently, a small temporary shelter is available to the Ambassadors and visitors as a respite from inclement weather conditions.

Construction activity associated with Alternative 1 would be minimal, with the focus on safety and limited facility improvements. As a result, the impact threshold for energy requirements for Alternative 1 would be Negligible.

Alternative 2 – Preferred Design Alternative

Energy requirements for Alternative 2 assume that a peak of 400,000 visitors to the memorial would occur by 2011, followed by a slight decline in visitation and then a steady estimate of 230,000 visitors annually thereafter. In addition to a memorial feature, ancillary facilities, such as a visitor center, would require energy to operate and maintain. The visitor center is intended to serve as the interpretive and education hub of the park and would be open year-round.

In addition to heating, cooling and electricity needs for operational purposes, the design concept for the memorial may include extensive lighting and evening illumination. For example, the visitor center is expected to present a lantern-like image. Night-time illumination of the tower, recessed lighting of the allée of maples, illumination of the pathway through the allée and pole-mounted downlights through the maple groves are also proposed. The Flight Path would be illuminated with recessed in-grade linear lines of light that are perpendicular to the path flow to foster orientation. Several smaller memorial features such as plaques may be lighted. In addition to the visitor facilities, energy supplies would also be required for maintenance needs, such as mowing and snow removal.

Implementation of this alternative would require close coordination with the PennDOT Bureau of Aviation. Due to the proximity of the memorial to the Somerset County Airport, PennDOT has requested restrictions on vertical light beams aimed up at night.

Implementation of Alternative 2 is expected to attract nearly three times the number of visitors

annually to the site than is projected for Alternative 1, thus inducing higher regional fuel consumption. The impact threshold for Alternative 2 would be Minor due to increased lighting, heating and cooling, maintenance and energy usage. Energy requirements could be reduced through the incorporation of green and energy saving techniques in the design of the visitor center and other features of the site.

Summary of Impacts

Energy consumption, both in terms of projected vehicular fuel usage, as well as energy for lighting, heating, cooling and maintenance usage would be Negligible for Alternative 1.

The type of heating/cooling system that would be installed in the facilities at the memorial is unknown and cannot be quantified. Green building and energy conservation measures could be incorporated into the design development phase. Although, by comparison, Alternative 2 will require greater supplies of energy resources than Alternative 1, the overall demands would not be significant. The impact threshold for Alternative 2 would be Minor.

VISUAL AND AESTHETIC RESOURCES

Methodology

A visual analysis was conducted between March and October 2004 by The Office of Merlyn Paulson, Inc. Viewshed maps were generated by applying a three-dimensional surface, represented by a uniform lattice of elevations spread over the earth, and a map containing the location of a view point. The viewshed was calculated based upon the location and height of the view point, or observer, in relation to all elevations in the lattice, or targets.

Using a combined topographic surface and landscape surface, the ARC/INFO visibility algorithm (ESRI, 2004) generated a view transect from the view point to each lattice cell within the study area. The process accounted for the combined elevation of each intervening cell along the transect to determine if any of the elevations were tall enough to block the line of site between the viewpoint cell and the target cell. In order to establish points of reference for a visual analysis, the following steps were conducted:

- 1) critical view points, specified by the National Park Service, were located on maps and digitized in GIS;

- 2) a generalized digital terrain model was developed in GIS to determine the broadest possible view extents of the study area; and
- 3) data collected were ground-proofed using photography and GPS during site visits.

The topographic surface was constructed by merging very precise (2-foot contour interval) LIDAR contours in the project area with the surrounding, significantly coarser (10-meter horizontal grid cell resolution) USGS Digital Elevation Models (DEMs). The DEMs constituted the periphery of the project area out to the far edges of the study area. Manual adjustments (cell by cell) were performed to correct discontinuities between adjacent 10-meter DEMs and the inaccuracies at interfaces between the LIDAR and DEM data.

Based upon USGS Digital Orthophoto³⁷ Quarter Quadrangles (DOQQs), the locations and heights of existing trees were digitized and assigned height attributes in a polygon format. In order to replicate the complete three-dimensional landscape surface, the tree cover polygon surface was converted to lattice cells for overlay/integration with lattice cells in the topographic surface.

Based upon field estimations and onsite photography, landscape surface heights and extents were adjusted (cell by cell) near view points. Onsite photography of “leaf-off” conditions was conducted in March 2004. Onsite photography of “leaf-on” conditions was conducted in October 2004. Horizontal and vertical ground surveying was not conducted as part of this study.

The database of view points in ARC/INFO was modified by adding an observer height item in INFO and applicable height in each view point record under each item. The observer height at each view point was approximately 6 feet agl. Viewshed maps were prepared for the “leaf-on” condition, utilizing ARC/INFO’s visibility algorithm to document the actual visible extents of the visual region from each view point. Visible extents would likely increase during “leaf-off” conditions, when it becomes possible to see through and beyond bare tree branches.

Appendix I illustrates the visible extent of each visual region. The views shown in Appendix K include topography and tree pattern, as well as views from the FBI Headquarters/Welding Shop



View south from draglines to the Temporary Memorial and the crash site (Jason Cohn 2004)

³⁷ An orthophoto is a digital image of an aerial photograph in which displacements caused by the camera and terrain have been removed. It combines the image characteristics of a photograph with the geometric and measurement qualities of a map.

Complex, the dragline and the dragline knoll, the Temporary Memorial, and the intersection with U.S. Route 30. Onsite, eye-level photography of the view from each view point is valuable for verifying accuracy of viewshed maps.

Two site visits were conducted (March 18-19, 2004 and October 21-23, 2004) for the purpose of taking eye-level photographs from the ground and using a hand-held GPS unit for verifying the accuracy of the viewshed data. The composite visibility map illustrates the cumulative views of all six view points (Figure IV-1). Green colors on the map represent magnitudes of visibility. The darker colors illustrate areas that can be seen from multiple view points. The lightest shade of green on the map shows areas seen from only one of the six view points. Analyses of environmental consequences were based upon detailed 3D drawings and/or simulations of alternative futures. Impact values show the degree of change in the landscape, where negative values represent degradation and positive values indicate enhancement. Thus, both positive and negative aesthetic impacts (enhancement as well as degradation) are analyzed and documented. In cases where the proposed development indicates neither an enhancement nor a degradation to aesthetic resources, a value of neutral was assigned.

Context

The project area is located on the Central City and Stoystown USGS 7.5' quadrangles. The regional landscape is widely known for its pastoral patterns of hills and valleys of fields, farms, and villages surrounded by mesophytic groves of tall, broadleaf hardwoods and softwoods. The reclaimed coal mine landscape and two draglines situated at the ridgeline are among the predominant landscape features of the site. The character of the mined areas, associated mine-related buildings, and recycling operation is industrial, while the character of remaining portions of the project area is natural.

The site's topography is comprised of flat lowlands in the bowl area surrounding the crash site and along the Stauffer Road near U.S. Route 30, flat to moderately sloping (10-15 percent) landforms at the edges of the bowl and north of Stauffer Road, and moderately sloping to steeply sloping (15-25 percent) landforms in the eastern portions and edges of the mined area. Some road-related embankments along Stauffer Road are sloped at approximately 3:1 and afford roadway viewers substantial vistas over the landscape. The site's water features include

mine-related treatment and sediment ponds. They are typically geometric in shape and industrial in character.

The hemlock grove adjacent to the crash site presents a mature landscape. Small areas of wet soils and very small pockets of standing water occupy portions of the reclaimed crash site and are beginning to exhibit the rich species composition and character of a wetland. The characteristic vegetation of the uplands and mine edges consists of mixed northern hardwoods and softwoods in the forested areas. Native and non-native shrubs occupy the edges of fields and roadways. Rectangular patterns of grasses and rows of immature pines characterize inclined portions of mined areas. Farm fields contribute substantially to the region's agricultural character, which are layered with organic patterns of hay and grain crops.

Alternative 1 – No Action

Alternative 1 would involve only minor changes to the landscape and built environment to accommodate visitor safety and minor improvements. The impact threshold for visual impacts is expected to be Negligible.

Alternative 2 – Preferred Design Alternative

A 93-foot tall tower, which would be located in the Gateway zone near the entrance to the park south of U.S. Route 30, is proposed under Alternative 2. Figure IV-2 shows the surrounding areas that can be viewed from the Tower. In addition to the Tower, a visitor center and plaza would be located near the western edge of the Bowl. A walkway and memorial tree groves would extend around the Bowl to a plaza at the Sacred Ground.

The Tower would be constructed of concrete and in the design concept, is proposed to be covered with white glass mosaic tiles, creating a reflective, ephemeral quality. At night, the Tower is proposed to be lighted and the exterior illuminated as a beacon. The intent of the Tower is to provide a landmark for the memorial. Its monolithic form would present a major contrast against the open, rural landscape, and its visual effect would be powerful.

The large portal walls at the western edge of the Bowl would present a powerful statement and contrast to the rural landscape. By creating a designed memorial landscape and introducing features such as the tower, the portal and the visitor center, the impact threshold for Alternative 2 would be Moderate.

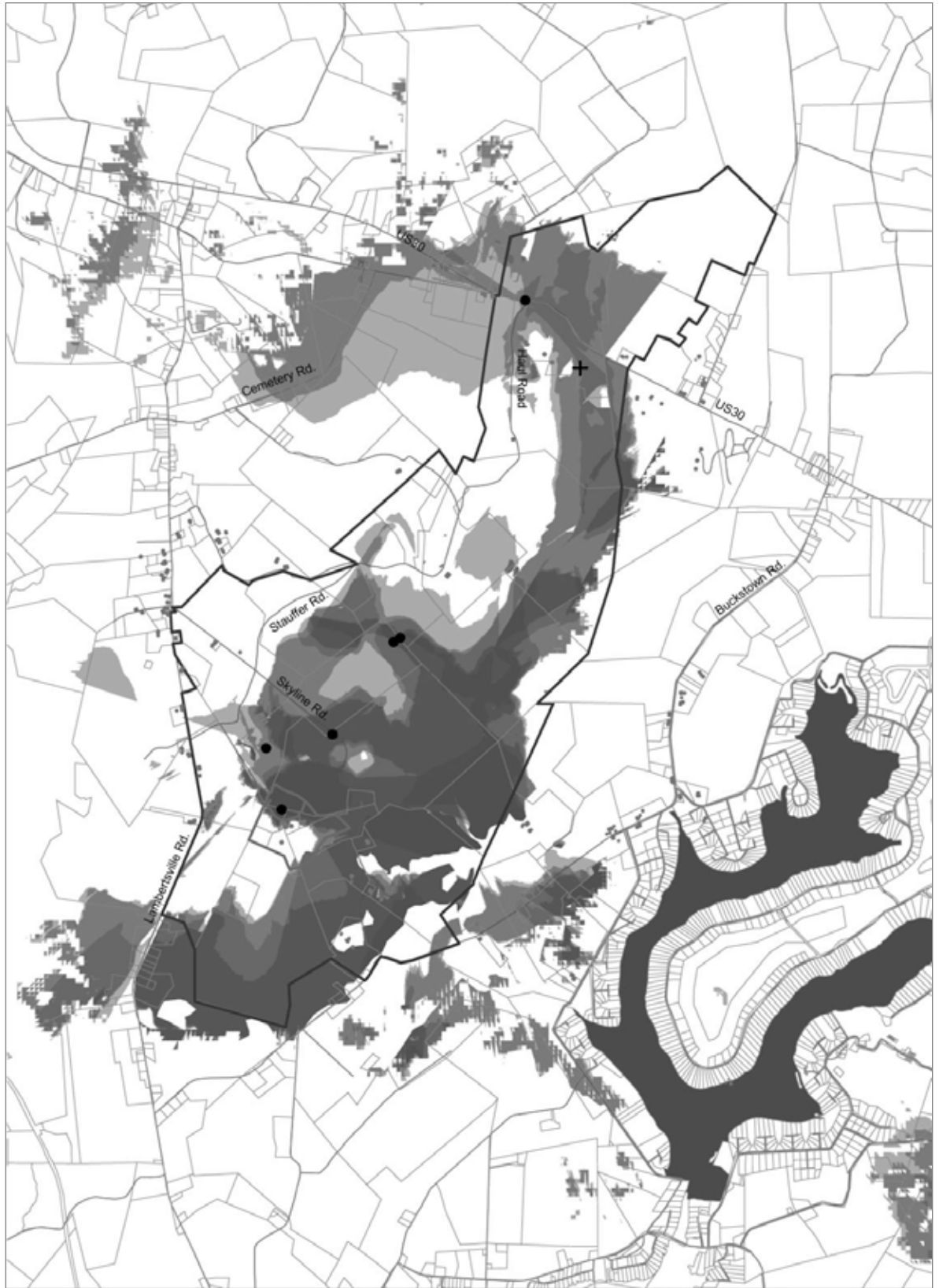
Figure IV-1: Composite View from Six Vantage Points, Flight 93 National Memorial

Flight 93 National Memorial
Somerset, PA

National Park Service
U.S. Department of the Interior

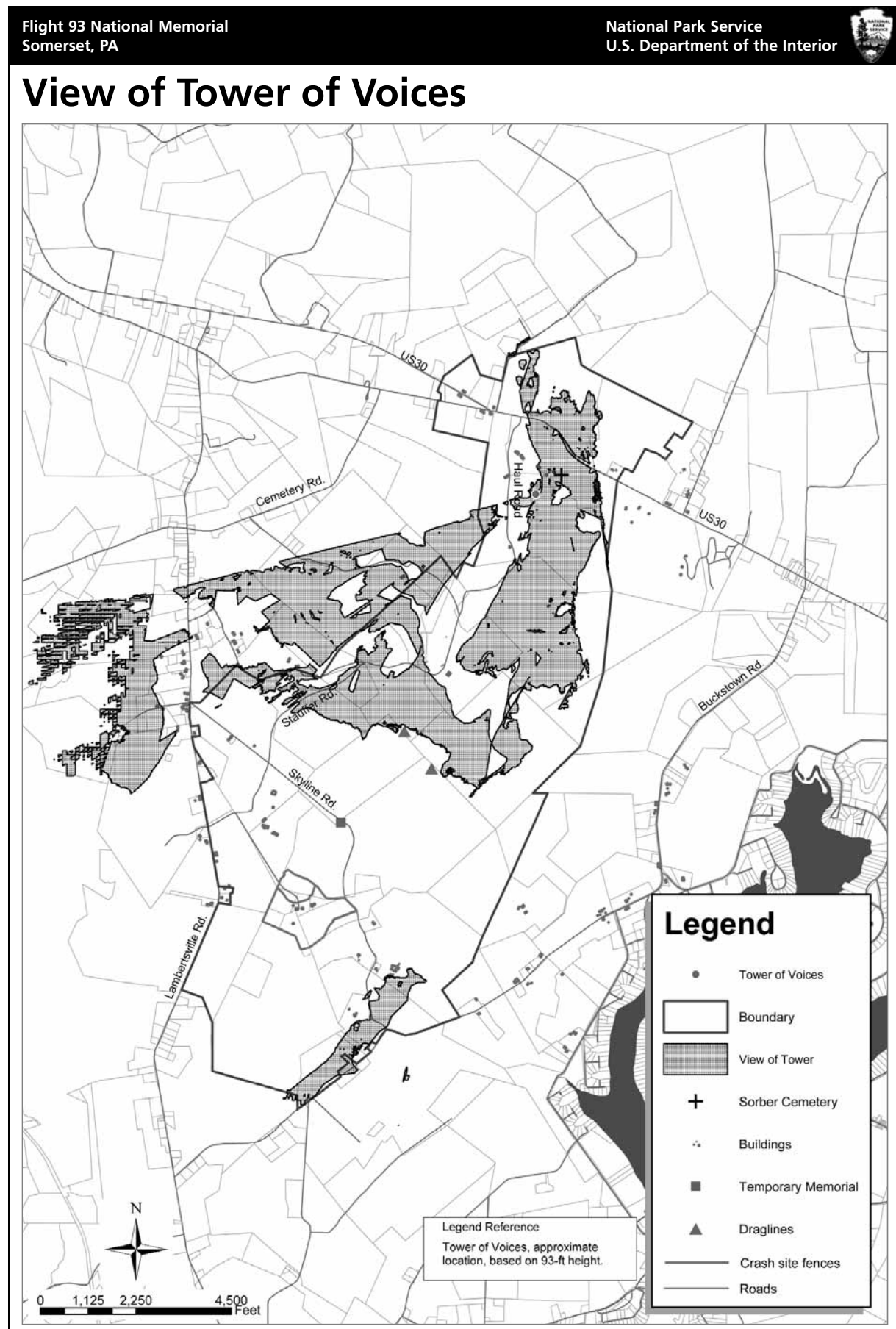


Composite Map from All Six Vantage Points



Source: The Office of Merlyn Paulson, Inc., 2005

Figure IV-2: View of Tower, Flight 93 National Memorial



Source: The Office of Merlyn Paulson, Inc., 2005

Summary of Impacts

Alternative 1 proposes to maintain the open, rural landscape as it currently exists. The impact threshold for Alternative 1 would be Negligible.

Alternative 2 creates a designed landscape. It introduces significant design elements such as a 93-foot tower, a visitor facility, viewing platform and plaza, a tree-lined curving walkway along the Bowl, and a plaza near the Sacred Ground. While a significant change from the existing landscape, the design enhances the topography and character of the site and the impact to the built environment for Alternative 2 would be Moderate.

PUBLIC HEALTH AND SAFETY

Methodology

In April 2004, RT Environmental Services conducted a site-specific Phase I environmental site investigation of 1,355 acres within the boundary of Flight 93 National Memorial. A review of aerial photographs, a database search, a site inspection, soil sampling, and interviews with representatives from National Park Service, State and local agencies and PBS Coals, Inc. were conducted. The purpose of this assessment was to identify any environmental constraints to development and public access. The Phase I assessment was conducted in accordance with the ASTM Environmental Assessment Standard E 1527-00.

A deed search of the core area resulted in the review of approximately 30 parcels. Many of the deeds obtained showed that the rights to coal underlying the properties belonged to PBS Coals, Inc. Some deed searches were incomplete. Because land purchase negotiations are underway, information on the condition of the properties is considered proprietary pursuant to The Privacy Act of 1974 (5 U.S.C. 552a).

As part of the Phase I environmental assessment, historical aerial photographs, (1952, 1967, and 1990), were reviewed at the Somerset County Planning Commission to identify possible environmental concerns at the site or on adjacent properties. RT Environmental Services coordinated with Environmental Data Resources, Inc. (EDR) concerning Sanborn Fire Insurance Map coverage for the subject property and surrounding areas. No historic map coverage was available for the subject property.

The FEMA flood insurance rate map (1999) was reviewed to determine the flood zone for the site, and the subject property was found to lie outside the 500 year floodplain.

Radon potential information for the subject property was also reviewed. The EDR Report lists four (4) statistical summaries concerning radon potential in the core area. Each listing indicates that more than 50 percent of the sites tested had average radon levels less than 4.0 pCi/L. Since the planned use of the subject property is not residential, radon does not appear to be a concern at this time.

A computerized search of relevant Federal and State databases for the entire property was conducted. Three radius map reports with geocheck were obtained in order to gain information pertaining to subsurface conditions across the property. These radius map reports with geocheck were produced to identify subsurface conditions, and not surrounding sites of potential concern.

Context

Based on a review of data collected, health and safety issues were identified within the memorial boundary and are described in Chapter III-Affected Environment.³⁸ Of the 10 soil samples collected within the boundary, three samples confirmed the presence of arsenic. One (SS-8) sample showed the arsenic level was 14 ppm, which exceeds the residential Statewide Health Standard (rSHS) of 12 ppm. SS-6 showed arsenic at a concentration of 10 ppm and SS-7 revealed concentrations of 12 ppm, which is equal to the rSHS. Appendix I-1 shows the locations of these soil samples.

Other issues, some of which have been corrected as part of site reclamation since the investigations were conducted, include the presences of transformers, staining, buckets of leaking lubricating oil, aboveground and underground storage tanks, production wells located near the blue shower building in the Diamond-T B and C mine area and the Diamond-T shop area, numerous 55-gallon drums, and a burn pit in proximity to the truck wash garage in the Diamond-T area. The type of materials burned in this area was not identified. Some surface staining was observed inside the bucket shop/welding shop which has a dirt floor. This staining is most likely a result of equipment use and maintenance.

³⁸RT Environmental Services, May 2004. Phase I Environmental Site Assessment, Flight 93 Memorial Site. Shanksville, Somerset County, Pennsylvania.

Although localized excavation can be conducted, sediment and treatment ponds should not be disturbed unless approval by Department of Environmental Protection is received. No new detention basins should be created on the surface. If any major earthwork is planned, care should be taken to ensure that it will not significantly change general overburden conditions and groundwater flow. The Department of Environmental Protection has indicated that many of the treatment ponds onsite will need to remain for perpetual treatment.

All contaminants, unnecessary buildings, drums and tanks, and the Rollock recycling operation would be removed and remediated before any land is acquired by the National Park Service for either alternative. The National Park Service would not purchase subsurface rights where acid mine drainage exists. In accordance with State and Federal laws, liability for treatment of AMD would remain with PBS Coals. National Park Service would work with the Department of Environmental Protection, other agencies and local watershed groups to identify and pursue solutions to AMD and would support efforts to improve regional water quality.

In April 2004, the Department of Environmental Protection updated its Clean Fill Policy guidance for areas with substantially contaminated soils. This guidance takes a revised approach for determining “clean fill” and “regulated fill,” based on numerical limits derived from the *Act 2 Land Recycling Statewide Health Standards* (SWHS). “Clean fill” is defined as material that has not been mixed and meets unregulated fill concentration limits. Regulated fill includes material impacted by a spill or chemical release. This fill this cannot exceed non-residential SWHS limits.

The 2004 Clean Fill Policy requires due diligence at most sites to check historical and other information to determine if soils at a site might be contaminated from—

- tank and other spills
- historic use of herbicides/pesticides historic coal burning in the area historic use of leaded gasoline.

A general permit from the Department of Environmental Protection would be required before fill material could be moved, and restrictions on which sites the materials could be placed would be made. The origin of the fill material is required to be documented and included in the Policy Document. If waste is illegally moved or

received, landowners could be subjected to penalties, including criminal penalties, by the Department of Environmental Protection.

Alternative 1 – No Action

Alternative 1 would involve only minor construction activities and some potential ground disturbance which would result from site improvements. Under this alternative, only 657 acres would be acquired in fee, which would mean that the remaining area may not be remediated to the same level as the area acquired by the Federal government standards. Ground disturbance or movement of soils would be minimal and no discharges would occur. It is not anticipated that materials would need to be moved offsite or redeposited onsite. Prior to any excavation of more than 125 yards, appropriate due diligence and site testing would be conducted, as required by State law.

Testing is recommended prior to ground disturbance to determine whether or not excavated materials meet the Department of the Environmental Protection’s Clean Fill Policy Criteria. No materials would be moved offsite or redeposited onsite unless soil contaminants meet State levels.

The impact threshold for hazardous materials for Alternative 1 would be Minor mainly because visitors would be restricted to the temporary memorial. The National Park Service would acquire only about half the land (657 acres) in fee under this alternative and the remaining area may not be remediated as thoroughly as it would with Federal acquisition.

Alternative 2 – Preferred Design Alternative

Alternative 2 would involve more land acquisition (1,355 in fee) and more extensive ground disturbance than for Alternative 1. Testing, as recommended in Alternative 1, would be required prior to ground disturbance.

Earth removal, tree plantings and construction activities are proposed for Alternative 2. No underground facilities are proposed. Any occupied structures should be installed with a reverse radon-type gas collection and elimination system. Rather than evacuate air from the vented space, final design of any occupied structures should include mechanisms to pump air into the porous drainage material subgrade beneath the structure.

Pedestrian trails and areas where visitors are expected to gather should be tested and paved or covered if necessary. Paved surfaces are

recommended more than wood chips along trails where visitors will walk. The visitor facility and the maple allée are proposed within the area where arsenic was detected in soils. Health concerns for maintenance staff include inhalation of dust and direct contact with contaminated soils. When possible, areas that are not paved should be dampened to keep dust at a minimum.

Prior to any ground disturbance, soils testing should be required to determine the area and extent of contamination, and to determine whether excavated materials meet the Department of Environmental Protection's Clean Fill Policy Criteria. No materials should be moved offsite or redeposited onsite unless contaminant levels meet State requirements. A general permit from the Department of Environmental Protection would be required before fill material could be moved and the origin of the fill material would be documented and included in the required Policy Document.

Design of any proposed structures would include drainage away from buildings. Pedestrian paths would be paved and sewerage pipes would be installed using high-density polyethylene pipeline in areas with high contaminant levels. As stated in Alternative 1, relocation and cleanup of the Rollock recycling operation would occur prior to National Park Service acquisition. The impact threshold for hazardous materials for Alternative 2 would be Moderate because of the level of contamination suspected to occur throughout the site and because visitors would have access to a larger portion of the site than they would with Alternative 1.

A Phase II Environmental Site Assessment has been recommended to determine the actual extent of contamination on this site. Although this impact threshold was ranked Moderate for Alternative II, it is recognized that with Federal acquisition, the level of remediation for contaminants would be higher for Alternative 2 than it would be for Alternative 1.

Mitigation

The following recommendations have been made concerning hazardous material and their potential effects on human health and safety:

- Movement of earth and construction must adhere to the requirements of the 2004 Clean Fill Policy.
- Transformers should be tested to determine the presence of PCBs and then properly removed.
- The water quality in the wells on site should be tested to confirm potability.

- A Phase II Geoprobe investigation should be conducted to determine whether the historical operation and/or the presence of USTs have impacted soils at the subject property. USTs must be properly closed and removed in accordance with DEP requirements. A copy of the closure report for the USTs previously closed should be obtained.
- An Access Agreement or a Pre-Purchase Consent Decree or a similar document should be established between the Seller, the Buyer, and the Department of Environmental Protection to clearly define responsibilities among all parties.
- Appropriate geotechnical investigations should be conducted prior to or as part of the design for any structures planned at the site.

Summary of Impacts

For both alternatives, movement of earth and construction activities must be conducted in accordance with Pennsylvania's Clean Fill Policy. Most sites will require testing before the soil is determined to be contaminated. Alternative 1 would involve minimal ground disturbance and construction. Some of the land not acquired by National Park Service may not receive the same level of remediation as the Federal standards for clean up require.

Alternative 2 would involve more land acquisition, and without a Phase II environmental site assessment to determine the extent of contamination, it is uncertain what that contaminant level may be. It is certain, however, that contaminants occur throughout the site.

A Phase II site assessment is recommended for either alternative to determine the extent of contamination throughout the site and necessary remediation, and to determine the presence of underground storage tanks (USTs). This assessment would include soil sampling to determine the extent of impact to soils. Pre-planning and further due diligence and testing prior to initiating any excavation with a quantity of more than 125 yards.

Prior to land acquisition, the National Park Service would conduct further contaminants surveys. Based on the Department of the Interior policy, property can be acquired if no evidence of hazardous substances or other environmental liability is found. If evidence of hazardous substances is found, the Federal government would incur little or no additional cost. The impact threshold for Alternative 1 would be Minor and the impact threshold for Alternative 2 would be Moderate with cleanup and remediation.

Cumulative impacts are the effects on the environment that result from the incremental impact of the proposed action when added to other past, present, and reasonably foreseeable future actions

CUMULATIVE IMPACTS

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

The crash of Flight 93 threw this once quiet community into the national and international spotlight and introduced a steady flow of visitors to the site. Although many positive changes have occurred in terms of community support, other effects, such as infrastructure improvements and the influx of visitors to the region and site have stressed local services, roadways, and sometimes, local patience. Most of these adverse effects have been borne by the local residents, particularly those adjacent to the memorial, and local governments have had to bear the costs. An estimated 87,000 visitors per year have been projected to visit the memorial under Alternative 1, compared Alternative 2, which projects a peak of 400,000 visitors by the year 2011 and an average of 230,000 visitors per year thereafter.

The cumulative effect of incompatible land uses in the vicinity of the memorial would disrupt the intended visitor experience and significantly change the local character of the area. With the exception of limited land use controls around the U.S. Route 219 interchange and in some municipalities, Stonycreek and Shade Townships do not utilize zoning as a tool to guide development or control incompatible land uses. A corridor planning study is being conducted by the County for the area along U.S. Route 30. Without some planning and regulatory control, pressures for development along the corridors to the memorial are likely to grow. In addition, unplanned proliferation of wind farms or any visually intrusive structures will impact the scenic quality of the area.

The influx of tourists has caused changes in the peaceful, rural ambience of the region. Over time, the influx of new people into the area may affect the lifestyles and attitudes of county residents and place increased demands on local services and infrastructure. From a positive side, the increase in consumer demand related to tourism in general has brought new money and new jobs into the area, mainly in the service sector.

Other development within the county presenting long-range cumulative effects includes the proliferation of wind farms. These wind farms are concentrated along ridges throughout the Laurel Highlands region. These wind farms produce electric power, but cumulatively, also endanger bird and bat populations and change the visual characteristics of the hillsides and the quiet of the area.

For decades, southwestern Pennsylvania has withstood the cumulative stresses of mineral extraction, logging, farming and resort tourism. As byproducts of these economic generators, the environment has long suffered from sustained abuses. The land on which the Flight 93 National Memorial is located was once forestland, then farmland. Prior to 1964, Pennsylvania did not require treatment of AMD from mines, but in 1966, mine drainage came under regulation when the Clean Streams Act was passed. The old Heinemeyer mine, a former bituminous coal mine that operated on site prior to 1945, has emitted AMD for years into Lamberts Run. Because this discharge began before the Surface Mining Reclamation Act and the Clean Streams Act, it is not subject to regulations and no one is liable for the discharge. Cumulatively, this drainage has been discharging without treatment into Lamberts Run for years.

The Wells Creek Watershed Association has expressed concerns not only about the health of the local streams suffering from AMD, but the unsightly appearance as seen by visitors to the memorial. Treatment and remediation using anoxic limestone is not an option because of the high iron content of the water. Vertical flow reactors may be a possibility, but the treatment ponds would need to be enormous in size. A recommendation presented by the watershed association is to possibly consider re-mining the Heinemeyer Mine.³⁹

Mining at the memorial has disturbed naturally occurring arsenic in the soil. Numerous containers and tanks are scattered or buried throughout the site and require remediation. Cleanup of this site to meet public health standards will be conducted prior to National Park Service acquiring the land.

Changes in property values are another cumulative effect. Although the Federal Government may compensate the township for a loss in its tax base through payment in lieu of taxes, this loss of revenue could impact the townships

³⁹Daily American, July 16, 2005. "AMD Threatens Lamberts Run," Vicki Rock.

budget and be offset by the improvements that are necessary to roads and services. However, studies show that real property values have a tendency of rising near parks, open spaces and greenways, particularly in instances where the property is located near or adjacent to open spaces.⁴⁰

When the proposed runway extension at the Somerset County Airport is constructed, the extension will allow for larger business aircraft to use the airport. The most significant concern facing the park regarding aviation is overflights of helicopters, business jets, and sight seeing ventures. These aircraft create noise disturbance and interfere with the intended visitor experience at the memorial.

If the memorial is connected to the public sewer system, development is likely to occur along Lambertville Road. This development will likely take the form of single-family homes fronting on Lambertville Road if this route is no longer the entrance to the memorial. In many cases, sewage is not treated in some areas and is

dumped in its raw form into streams or into the ground without treatment. Public sewerage will enhance the community health and environmental quality through proper treatment. The incremental costs to the residents will also be a cumulative effect, as over time these public service costs rise.

SUMMARY OF ENVIRONMENTAL CONSEQUENCES

The National Park Service is required to comply with Federal environmental standards as well as the agency's own environmental policies. As steward of the Flight 93 National Memorial, the National Park Service would implement environmental improvements and site enhancements that otherwise would not occur under non-Federal land management. As a result of this analysis, Alternative 2 – Preferred Design Alternative – is the agency's preferred alternative and the environmentally preferred alternative. Table IV-8 compares the relative magnitude of the impacts by alternative.

Table IV-8: Summary of Environmental Consequences by Alternatives, Flight 93 National Memorial

Impact Category	Alternative 1 – No Action Alternative	Alternative 2 – Preferred Design Alternative*
Natural Resources:		
Geology, Soils & Topography	Negligible	Minor
Vegetation & Wildlife	Minor	Minor
Federally & State Protected Species	Negligible	Minor
Water Resources:		
Wetlands	Negligible	Moderate
Surface Waters & Water Quality	Negligible	Minor
Historic and Cultural Resources	Minor	Minor
Socioeconomic Impacts:	Major	Moderate
Potable Water Supplies and Sewage Containment	Negligible	Minor
Land Uses	Major	Moderate
Transportation	Major	Moderate
Energy Requirements and Conservation Potential	Negligible	Minor
Visual and Aesthetic Resources	Negligible	Moderate
Public Health & Safety	Minor	Moderate
*Represents the Agency's Preferred Alternative and the Environmentally Preferred Alternative. Note: Negligible=No or minor effect; Minor=Measurable but with minimal effect to resources; Moderate=Changes to resource conditions but not irreversible or can be mitigated; and Major=Resource conditions are changed irreversibly even with mitigation. Source: Compiled by National Park Service, 2006.		

⁴⁰National Park Service, Rivers, Trails and Conservation Assistance.

V

CHAPTER V – Consultation, Coordination and Compliance



Chapter V – Consultation, Coordination and Compliance

The future of the Flight 93 National Memorial is being shaped with extensive input from the public, nonprofit organizations, local community groups, businesses and industries, and Federal and State resource and regulatory agencies. During the preparation of the Flight 93 National Memorial General Management Plan/Environmental Impact Statement (EIS), consultation and coordination regularly occurred with Federal, State and local agencies, township supervisors, borough managers, county officials, resource specialists and community members. The planning process was open and public involvement occurred at the local, national, and international levels.

The National Park Service joined with its Partners—the Families of Flight 93, the Flight 93 Advisory Commission, and the Flight 93 Memorial Task Force—to solicit ideas for creating a fitting memorial to the passengers and crew of Flight 93 who gave their lives on September 11, 2001.

SCOPING

Scoping – an early process for soliciting input and identifying issues of concern – was initiated on December 10, 2003, when the National Park Service published a formal “Notice of Intent to Prepare a General Management Plan and EIS for the Flight 93 National Memorial” in the *Federal Register*. This notice announced the agency’s intent to prepare a management plan for the new national park unit and an EIS pursuant to the National Environmental Policy Act of 1969. The National Park Service conducted its first agency scoping meeting on December 15, 2003, at its office in Somerset, Pennsylvania. A total of 28 representatives from a broad range of Federal, State and local agencies attended, as well as representatives from the Partners. A second agency scoping meeting was conducted one year later on December 9, 2004 at the same location, and 33 representatives participated, including the National Park Service staff and project consultants.

Table I-2 (Chapter I-Purpose and Need) lists the scoping meetings, Advisory Commission and Task Force meetings that were open to the public and public workshops and meetings that were conducted through the design exhibition and public comment period in September 2005. The issues and comments that were identified and received during scoping are also summarized in Chapter I.

Copies of all public and internal meeting minutes are on file with the National Park Service Flight 93 National Memorial office in Somerset, Pennsylvania.

COMPLIANCE STATUS

Appendix A provides a listing of the Federal and State laws and regulations, Executive Orders and departmental policies germane to this project. Compliance with the most significant of these Federal and pertinent State requirements is summarized in the following sections.

National Environmental Policy Act of 1969 (42 U.S.C. 4321-4347)

The National Environmental Policy Act (42 U.S.C. 4321-4347) (NEPA) is our basic national charter for protection of the environment. It establishes policy, sets goals and provides the means for implementing its policies. NEPA requires Federal agencies to consider a reasonable range of alternatives to the proposed Federal action and document impacts resulting from these proposed actions that could potentially affect the quality of the human and human environments. NEPA further requires public input to the decisionmaking process and disclosure of the information related to the potential environmental consequences of the proposed action and the alternatives. The draft General Management Plan/EIS will be available for public review and comment for a period of 45 days. Comments received during this period will be considered and addressed where appropriate in the final document. A Record of Decision will be published 30 days following the publication of the final General Management Plan/EIS and will document the final decision for developing the Flight 93 National Memorial.

Council on Environmental Quality Regulations (40 CFR 1500-1508)

The CEQ regulations implement the provisions of section 102(2) of NEPA and provide specific guidance to Federal agencies in preparing an EIS. Pursuant to §1506.5(c) of these regulations, the consultants who contributed to the development of the EIS submitted written disclosures statements to the National Park Service, stating that they have no financial or other interests in the decision or the outcome of the project. All disclosures statements are on file with the National Park Service Flight 93 National Memorial office in Somerset, PA.

Flight 93 National Memorial Act (P.L. 107-226; 116 Stat. 1345)

This Act authorizes the National Park Service to establish a national memorial to commemorate the passengers and crew of Flight 93 who, on September 11, 2001, courageously gave their lives thereby thwarting a planned attack on our Nation's Capital. The Act mandates that the Flight 93 Advisory Commission is required to—

1. submit by September 24, 2005, a report to the Secretary of the Interior and Congress containing recommendations on the planning, design, construction and long-term management of a permanent memorial at the crash site.
2. advise the Secretary on the boundaries of the memorial site.
3. advise the Secretary in the development of a management plan for the memorial site.
4. consult and coordinate closely with the Flight 93 Task Force, the Commonwealth of Pennsylvania, and other interested parties, as appropriate, to support and not supplant the efforts of the Flight 93 Task Force on and before the date of the enactment of this Act to commemorate Flight 93.
5. provide significant opportunities for public participation in the planning and design of the memorial.

The National Park Service and its Partners recommended a boundary for the Flight 93 National Memorial to the Secretary of the Interior through enactment of Resolution 0401, dated July 30, 2004. The Secretary approved this recommendation on January 14, 2005. An international design competition for the memorial attracted 1,011 design submittals from across the country and from around the world. All entries in the competition were exhibited in Somerset, Pennsylvania and were photographed and posted on the project website. Visitors to the exhibition and the website could provide their comments on the designs from January 15 to February 26, 2005. An independent jury, comprised of nine design professionals, family members, and national leaders evaluated all the Stage I entries, reviewed the public comments and recommended five design concepts that best embodied the spirit of the Mission Statement. In Stage II, these five finalists refined their Stage I designs to fully explain their concept. The final designs were exhibited in Somerset, Pennsylvania and on the project website from July 1 through September 25, 2005. These five final designs represented the preliminary alternatives to be considered for this General Management Plan/EIS. The public was again given

the opportunity to comment on the final designs at the exhibition and through the project website. During the first week of August 2005, a separate jury reviewed all public comments received to date and evaluated the designs. The Stage II Jury was comprised of 15 members including family members, design and art professionals, and community and national leaders. The jury's selected design was supported by all the Partners, adopted by the Commission and publicly announced on September 7, 2005. The selected design represents the Preferred Design Alternative and the agency's preferred alternative.

National Park Service Organic Act of 1916 (16 U.S.C. 1-4, et seq)

The National Park Service Organic Act mandates that the National Park Service conserve park resources and values and provide for their enjoyment in ways that leave them unimpaired for future generations.

National Parks and Recreation Act of 1978 (16 U.S.C. 7(b))

This Act requires the National Park Service to conduct comprehensive general management planning for all its park units.

National Historic Preservation Act of 1966, as amended (16 U.S.C. 470)

Pursuant to Section 106 of the National Historic Preservation Act (16 U.S.C. 470) and its promulgating regulations (36 CFR 800), consultation with the State Historic Preservation Office (SHPO) concerning potential effects to historic properties and cultural resources is required. Consultation with the Pennsylvania Historical and Museum Commission, Bureau for Historic Preservation was initiated on November 28, 2003. In its response, dated December 30, 2003, the SHPO responded that there were no archeological resources or historic structures recorded within the Flight 93 area. However, the SHPO noted that there is a high probability for significant prehistoric archaeological resources to be located adjacent to the wetland area just south of the crash site and on the saddle just east of the reclaimed area. If earth disturbing construction activities are planned for these areas, an archaeological survey was recommended during the planning phase. The National Park Service has contracted archeologists from Indiana University of Pennsylvania to provide an overview of the park explaining the mining history and providing a brief overview of any potential resources at the crash site. This study is scheduled to begin in 2006.

In March 2005, the National Park Service re-initiated consultation with the Bureau for Historic Preservation and submitted updated information on an environmental review form. On March 23, 2005, the Bureau responded. The Bureau also recommended that an archeological survey be conducted in areas where mining had not previously occurred and where construction activities and ground disturbance are proposed (see **Appendix B**). Specifically, the Bureau stated that there is a “high probability for significant prehistoric archaeological resources to be located adjacent to the wetland area just south of the crash site and on the saddle just east of the reclaimed area.” No further concerns were expressed.

Section 110 of the National Historic Preservation Act requires that National Park Service identify and nominate all eligible resources under its jurisdiction to the National Register of Historic Places. Conversations with the Pennsylvania Bureau for Historic Preservation and the National Park Service National Register staff regarding the crash site nomination to the National Register were conducted. On March 23, 2005, the SHPO submitted a letter stating that there may be historic buildings and or structures eligible for the National Register of Historic Places within the project area. However, due to the nature of the proposed action, the SHPO’s opinion was that there will be no effect on these properties (**Appendix B-Agency Correspondence**).

On April 29, 2005, the National Park Service consulted again with the SHPO to advise the office of the discovery of a mid-19th century family cemetery within the Flight 93 National Memorial boundary and to acknowledge the listing of the Flight 93 crash site on the National Register of Historic Places on November 8, 2002. Recognition that three log cabins constructed during the 1930s are located south of the crash site within the boundary. These cabins are discussed in the National Park Service draft *Cultural Landscapes Inventory*, and are potentially eligible for inclusion in the National Register.

In August 2005, National Park Service coordinated with the Office of the National Register in Washington, DC, regarding the possibility of future removal of the mining structures on the site and to obtain guidance on the ability of the designs to modify the area within the crash site. The existing buildings and the mining draglines are not central to the preferred alternative and would not be affected by the selection or

implementation of either alternative. It is anticipated that the draglines would not be acquired and that the existing mining structures would be removed once acquired because of the high cost of acquiring, remediating and stabilizing these structures. The National Park Service will prepare national register documentation to determine the national significance of these structures and will comply with all relevant policies and guidelines before undertaking any actions that would impact these structures.

Endangered Species Act of 1973 (87 Stat. 884; 16 U.S.C. 1531 et seq.)

Section 7 of the Endangered Species Act requires all Federal agencies to consult with the U.S. Fish and Wildlife Service prior to implementing any Federal action to ensure that the action does not jeopardize the continued existence of protected species or their critical habitat.

On November 28, 2003, Section 7 consultation was initiated with the U.S. Fish and Wildlife Service’s (USFWS) Pennsylvania Field Office in State College, Pennsylvania. On December 22, 2003, this office responded by saying that “Except for occasional transient species, no federally listed or proposed threatened or endangered species under our jurisdiction are known to occur within the project impact area.” Therefore, no further consultation under this Act was required.

On March 4, 2005, the National Park Service reinitiated consultation with the USFWS, requesting any supplemental comments or new information. During this response, the USFWS commented that the project area is within the range of the federally listed, endangered Indiana bat (*Myotis sodalist*), and concern regarding bat hibernaculum on site was expressed.

Mr. John Weir, land manager for PBS Coals, Inc., explained that the mines within the Flight 93 National Memorial boundary were immediately closed upon cessation of mining activities and all portals and openings were sealed. These mines were not abandoned for any prolonged period of time. In addition, Mr. Weir and others who worked in the mine explained that bats were never seen in the mine most likely due to the noise and the lights that occurred during mining activities. Bats would not hibernate under these conditions. Further, bats are more likely to occur in abandoned limestone mines rather than in coal mines and no caves exist within the boundary.

The Western Pennsylvania Conservancy conducted a natural resource survey of the site and stated that they were not aware of any known occupied summer habitats for the Indiana bat within Somerset County or Pennsylvania's Allegheny Mountains. Information available from the field studies of this project, site maps and interviews did not reveal winter habitat, or particularly suitable summer habitat within the Flight 93 National Memorial boundary. This includes no knowledge of open portal deep mines in the area that might serve as a winter hibernacula. However, based on PA Natural Heritage Program data, provided by the PA Game Commission, there are two known hibernacula within Somerset County roughly 8 kilometers to 25 kilometers from the site.

On April 29, 2005, National Park Service requested input from the Pennsylvania Game Commission regarding the potential presence of Indiana bats on the Flight 93 National Memorial site. On May 25, the Commission responded with a review of the proposed project. The Commission's determination was that except of occasional transient individuals, the proposed project is not located within an area that include habitat of an endangered or threatened species of bird or mammal recognized by the Pennsylvania Game Commission. Furthermore, the Commission does not anticipate any long term adverse impacts to any critical or unique habitats as a direct result of this project.¹

On August 3, 2005, FWS provided comments indicating that based on a preliminary review of the project, they concluded that development of Flight 93 National Memorial would have no adverse effect on the Indiana bat or any other federally listed species. FWS further stated that if additional tree clearing is proposed or if any natural caves or abandoned mine portals are discovered, further consultation with this agency would be required. Based on a preliminary review of the project, FWS concurred that the proposed project would likely not affect the Indiana bat.²

Fish and Wildlife Coordination Act

The National Park Service must coordinate with the U.S. Fish and Wildlife Service concerning the potential impacts to water resources through implementation of Alternative 2. This alternative proposes to extend the design through artificially constructed wetlands in the Bowl. The Fish and

Wildlife Coordination Act of 1934 (16 U.S.C. 661-666c; 48 Stat. 401), as amended, requires Federal agencies to coordinate with USFWS whenever water resources may be affected. This Act authorizes Federal water resource agencies to acquire lands specifically for fish and wildlife in connection with water resource projects. If wetlands are impacted by this project under either alternative, coordination with the U.S. Fish and Wildlife Service would be reinitiated under this Act.

Executive Order 13112-Invasive Species

Executive Order 13112 prevents the introduction of invasive species and provide for their control and to minimize the economic, ecological, and human health impacts that invasive species can cause. The National Park Service is aware and concerned about the potential infestation of the hemlock woolly adelgid that is reportedly spreading through the state. Plans will be implemented to address this species and other invasives known to occur on site and within the area.

National Park Service Policies

The Flight 93 National Memorial General Management Plan/EIS has been prepared in accordance with the National Environmental Policy Act of 1969 and its implementing regulations. The format and the process prescribed in the National Park Service Management Policies, 2001 were followed in the preparation of this document. Other major National Park Service policies that were referenced during the preparation of this General Management Plan/EIS included—

- Director's Order 12-*Conservation Planning, Environmental Impact Analyses and Decision-making* and National Park Service Environmental Handbook;
- Director's Order 53-*Special Park Uses*
- Director's Order 25-*Land Protection*
- Director's Order 28-*Cultural Resource Management*
- NPS 77-1-*Wetland Protection*

A listing of other applicable NPS policies that were used in the preparation of this document can be found in Appendix A.

¹Pennsylvania Game Commission letter to Joanne Hanley, Flight 93 National Memorial, dated May 25, 2005.

²U.S. Fish and Wildlife Service, Aug. 3, 2005. Letter from David Densmore, Supervisor, U.S. Fish and Wildlife Service, to Joanne Hanley, National Park Service.



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Chapter VI – Preparers, Contributors and Reviewers

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References

- Ball, Donald M., Garry Lacefield and Carl S. Hoveland. "The Tall Fescue Endophyte Story." Extension Forage Crop Agronomists, Auburn University, University of Kentucky & University of Georgia. Funding provided by the Oregon Tall Fescue Commission, Salem, OR http://www.cafwvu.edu/~forage/fescue_endophyte/story.htm
- Bastian, Scott F., D.V.M. ©2002. *Somerset County Naturally, A Guide to Enjoying the Wildlife of Somerset County, Pennsylvania*. First printing. (ISBN 0-9720594-0-7). Published by Thomson-Shore, Inc., Dexter, Michigan.
- Black, Barbara. October 20, 2005. "Flight 93 National Memorial Historic Significance Statement Draglines." National Park Service.
- Casselberry & Associates. April 25, 2005. Letter Report, "Flight 93 National Memorial Groundwater Resource Analysis, Stony Creek Township, Somerset County, PA."
- The EADS Group, Inc. April 2005. *Flight 93 National Memorial Water and Sewage Service Feasibility Study*.
- Engineering Mechanics, Inc. July 8, 2004. *Flight 93 National Memorial Geotechnical Report*.
- Environmental Resources Management. 3 September 2002. *Final Closure Report Flight 93, Shanksville, Pennsylvania*. Prepared for United Airlines.
- Fenneman, Nevin M. 1938. *Physiography of the Eastern United States*, McGraw-Hill, New York.
- Flight 93 National Memorial—An International Design Competition. Competition Guidelines*. 2004.
- Flight 93 National Memorial International Design Competition Stage I Jury Compliance Review Report*. 07/05.
- Flight 93 National Memorial International Design Competition Stage II Jury Report*, 09/05.
- Flight 93 National Memorial Compendium of Technical Working Papers in Support of the General Management Plan/Environmental Impact State*, February 22, 2005. Prepared for the National Park Service and submitted by Heritage Partners, Inc. and Environmental Management Collaboration, Ltd.
- LaPlaca, Jaclyn. *Somerset County Pride Beyond the Mountains*. (ISBN 0-7385-2452-2). ©2003. Published by Arcadia Publishing.
- Lord, Bruce E., Ph.D. Penn State University. June 14, 2004. *Flight 93 National Memorial Visitation Estimates*.
- Lord, Bruce E., Ph.D. Penn State University. May 27, 2005. *Flight 93 National Memorial Economic Impacts*.
- Mack, Pete. Land Department. PBS Coals, Inc. Personal communications and interviews.
- Merlyn Paulson, Inc. February 2005. *Flight 93 National Memorial Visual Model and Methods*. Final. Document No. FL93-NPS-022005.
- National Commission on Terrorist Attacks Upon the United States. *The 9/11 Commission Report—Final Report*. Authorized First Edition (ISBN 0-393-32671-3). Published by W.W. Norton & Company.
- National Research Council of the National Academies, Committee for Water Quality Improvement for the Pittsburgh Region. 2005. *Regional Cooperation for Water Quality Improvement in Southwestern Pennsylvania*. Published by the National Academies Press.
- Pennsylvania Department of Environmental Protection. Excerpts from PBS Coals, Inc. Diamond T Mining Operations and Reclamation Plan. 1982 (est.). Data provided by Tim Kanie, PaDEP.
- Pennsylvania Department of Transportation, Bureau of Aviation. Dec. 2002. *Pennsylvania Statewide Airport System Plan*.
- S. Patz & Associates, Inc. July 2002. *Comprehensive Economic Development Strategy Six County Southern Alleghenies Region*. Prepared for Southern Alleghenies Planning & Development Commission.
- RT Environmental Services, Inc. May 5, 2004. *Phase I Environmental Site Assessment Flight 93 Memorial Site, Shanksville, Somerset County, Pennsylvania*. RT Project #70682-01.
- Schmid & Company. July 2004. "Natural Resource Survey, Flight 93 National Memorial." Preliminary Study.
- Somerset County Airport. Airport Layout Plan.
- Somerset County Chamber of Commerce Membership Directory & Community Profile*, 2005.
- Somerset County Planning Commission. September 1984. *Preliminary Report Somerset County Historic Resource Survey*.
- Somerset County Planning Commission. July 31, 2003. *Somerset County Comprehensive Plan Update*. Draft.
- Southern Alleghenies Planning and Development Commission. 2002. *Southern Alleghenies Rural Planning Organization Long Range Transportation Plan FY 2003-2023*. Appendix D, "Air Quality Conformity Analysis Report for the Johnstown Non-MPO Ozone Nonattainment Area," Vol. I, Executive Summary. PennDOT.

Stonycreek-Conemaugh River Improvement Project (SCRIP). “Lamberts Run, Headwater Stream Improved by Small Project.” <http://www.scrip.pa-conservation.org/stlambrrt.htm>.

Stonycreek-Conemaugh River Improvement Project (SCRIP). Sept. 2003. *Watershed Restoration Action Strategy (WRAS) State Water Plan Subbasin 18E Stonycreek River and Little Conemaugh River Watersheds, Somerset and Cambria Counties*.

Sturtz, Richard W., Harry W. Gibson and John J. Brett. *Reflections of Stonycreek, 1776-1976*, edited by Yvonne Brett.

Sucevic, Piccolomini & Kuchar Engineering. June 13, 2003. *Congested Corridor Improvement Program (CCIP) Corridor Improvement Study for S.R. 6601 Corridor*. Prepared for Pennsylvania Department of Transportation Engineering District 9-0 and submitted by the Somerset Borough and Somerset Township, PA.

TransAssociates, Inc. February 2005. *Flight 93 National Memorial Traffic Impact Study Phase I Assessment*.

Trout Unlimited. May 2005. *Restoring the Wealth of the Mountains, Cleaning Up Appalachia's Abandoned Mines*.

U.S. Congress. Public Law 107-226, *Flight 93 National Memorial Act*, enacted September 24, 2002.

U.S. Department of Agriculture, Forest Service. 1995. *Landscape Aesthetics: A Handbook for Scenery Management*, Agriculture Handbook Number 701. This handbook supercedes AH-462, National Forest Landscape Management, Volume 2, Chapter 1, *The Visual Management System*, issued April 1974.

U.S. Department of Agriculture, Natural Resources Conservation Service. 2001 and 2005 water quality graphic data for Lamberts Run.

U.S. Department of Environmental Protection. 2003. “Boundary Designations for 8-hour Ozone Standard - EPA Region 3.”

U.S. Department of the Interior, Bureau of Land Management. 1984. Visual Resource Management System, Bureau of Land Management Handbook 8400.

U.S. Department of the Interior, National Park Service, Flight 93 National Memorial. Newsletters, September 2003, June 2004, May 2005.

U.S. Department of the Interior, National Park Service. May 18, 2005. *Flight 93 National Memorial Trip Report*, Philadelphia Support Office.

U.S. Department of the Interior, National Park Service. Director's Order 12-Environmental Handbook and *Conservation Planning, Environmental Impact Analyses and Decisionmaking*.

U.S. Department of the Interior, National Park Service. Director's Order 25-*Land Protection*.

U.S. Department of the Interior, National Park Service. Director's Order 28-*Cultural Resource Management*.

U.S. Department of the Interior, National Park Service. Director's Order 53-*Special Park Uses*.

U.S. Department of the Interior, National Park Service. Director's Order 77-1-*Wetland Protection*.

U.S. Department of the Interior, National Park Service. *Flight 93 National Memorial Landscape Pre-Memorial Existing Conditions, Cultural Landscapes Inventory*. 2004.

U.S. Department of the Interior, National Park Service. *Flight 93 National Memorial Park Brochure*, 2002.

U.S. Department of the Interior, National Park Service. Management Policies. Chp.2, “Park System Planning.”

U.S. Department of the Interior, National Park Service. *Park Planning Program Standards*, Draft.

Watershed Restoration Action Strategy (WRAS) State Water Plan Subbasin 18E, Stonycreek River and Little Conemaugh River Watersheds, Somerset and Cambria Counties. Updated 9/2003.

Weir, John. Land Department. PBS Coals, Inc. Email containing seed mixture for Lamberts Run AMD site, dated March 28, 2005.

Weir, John. Land Department. PBS Coals, Inc. Personal communications and interviews.

Western Pennsylvania Conservancy. April 2005. *Rapid Inventory and Assessment of the Ecological and Biodiversity Resources of the Flight 93 National Memorial in Somerset County, Pennsylvania*.

Williams, Donald R. et al. 1996. *Effects of Coal-Mine Discharges on the Quality of the Stonycreek River and its Tributaries, Somerset and Cambria Counties, Pennsylvania*. Water Resources Investigations Report 96-4133. U.S. Geological Survey and the Somerset Conservation District. Lemoyne, PA.

Wireless Development Group, LLC. 2001. Memorandum of Lease between Wireless Development Group, LLC and PBS Coals, Inc.

A*ppendices*



APPENDIX A

Flight 93 National Memorial Applicable Federal and State Laws, Regulations and Policies

Appendix Table A: Applicable Federal and Commonwealth of Pennsylvania Laws and Regulations, and National Park Service Policies, Flight 93 GMP/EIS, 2005

Mandates	Reference	Purpose	Compliance Required
Flight 93 National Memorial Act	P.L. 107-226 (116 Stat. 1345)	Authorizes a national memorial to commemorate the passengers and crew of Flight 93 who, on September 11, 2001, courageously gave their lives thereby thwarting a planned attack on our Nation's Capital, and for other purposes.	National Park Service
National Park Service Organic Act of 1916	16 U.S.C. 1-4, et seq.	Promotes and regulates the use of national parks, monuments, and reservations, by such means and measures as to conserve the scenery and the natural and historic objects and the wildlife therein and provides for the enjoyment of the land in such manner as will leave them unimpaired for the enjoyment of future generations.	National Park Service
National Parks and Recreation Act of 1978	16 U.S.C. 1a-7(b)	Requires the National Park Service to conduct comprehensive general management planning on park units.	National Park Service
Government Performance and Results Act of 1993	P.L. 103-62; 31 U.S.C. 1101	Requires Federal agencies to develop a strategic planning and performance management system establishing goals and reporting results.	Federal agencies
National Parks Omnibus Management Act of 1998	P.L. 105-391; 112 Stat. 3497; 36 CFR 51	Public accommodations, facilities, and services in NPS units shall be limited to those accommodations, facilities and services necessary for public use and enjoyment, and consistent with the preservation and conservation of the resources and values of the unit.	National Park Service
General Authorities Act of 1970, as amended in 1978	(16 U.S.C. 1a-1)	Affirmed that all national park areas, including historic sites, while acknowledged to be "distinct in character," were "united through their interrelated purposes and resources into one national park system, as cumulative expressions of a single national heritage."	National Park Service
National Environmental Policy Act of 1969 (NEPA)	P.L. 91-190, as amended by P.L. 94-52 and P.L. 94-52; 42 U.S.C. 4321-4347	Establishes national policy for protection of the human environment and ensures that decisionmakers taken environmental factors into account. Requires all Federal agencies to analyze alternatives and document impacts resulting from proposed actions that could potentially affect the natural and human environment.	Federal agencies
Council on Environmental Quality Regulations, as amended	40 CFR 1500-1508	Implements NEPA and provides guidance to Federal agencies in the preparation of environmental documents identified under NEPA.	Federal agencies
Administrative Procedures Act of 1979, as amended	5 U.S.C. 551, et seq.	Outlines the forms of administrative proceedings (hearings, adjudication, etc.) and prescribes procedural and substantive limitations thereon. Provides for judicial review of Federal decisionmaking actions.	Federal agencies
National Trust Act of 1949	16 U.S.C. 468c-e	Facilitates public participation in the preservation of sites, buildings, and objects of national significance or interest.	Federal agencies
Historic Sites Act of 1935	16 U.S.C. 461-467; 36 CFR 65	Establishes a national policy to preserve historic sites and objects of national significance for public use.	Federal agencies
National Historic Preservation Act of 1966, as amended; Sec. 106 and Sec. 110	16 U.S.C. 470; 36 CFR 60, 63, 65, 78-79, 800	Protects and preserves districts, sites, and structures and architectural, archaeological, and cultural resources. Sec. 106 requires consultation with the State Historic Preservation Office. Sec. 110 requires that NPS identify and nominate all eligible resources under its jurisdiction to the National Register of Historic Places.	Federal agencies

Appendix Table A: Applicable Federal and Commonwealth of Pennsylvania Laws and Regulations, and National Park Service Policies, Flight 93 GMP/EIS, 2005 *(Continued)*

Mandates	Reference	Purpose	Compliance Required
The Architectural Barriers Act of 1968; the Rehabilitation Act of 1973; and Americans with Disabilities Act of 1990	42 U.S.C. 4157, et seq.; 29 U.S.C. 701, et seq.; 42 U.S.C. 12101, P.L. 101-336, 104 Stat. 327	Requires public buildings constructed, altered, leased, or financed with Federal funds to be accessible to persons with disabilities. Ensures that all facilities and programs are accessible to visitors with disabilities.	All agencies
Clean Water Act (CWA) of 1977, as amended, Sec. 401, Sec. 402, & Sec. 404(b)(1) U.S. Army Corps of Engineers Regulatory Guidance Letter and National Wetlands Mitigation Action Plan, dated 12/24/02	33 U.S.C. 1251, et seq.	Sec. 401 regulates water quality requirements specified under the CWA. Section 402 requires a National Pollutant Discharge Elimination System (NPDES) permit for discharges into waters of the U.S. Sec. 404 requires a permit before dredging or filling wetlands can occur. Clarifies the Bush Administration's policies on wetland loss and mitigation	All agencies
Fish and Wildlife Coordination Act of 1934, as amended	16 U.S.C. 661-666c; 48 Stat. 401	Requires Federal agencies to coordinate with the FWS when any project involves impoundment, diversion, channel deepening or other modification of a stream or water body.	All agencies
Federal Water Pollution Control Act of 1972, as amended	33 U.S.C. 1251-1376, et seq.	Establishes criteria and performance standards for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters through prevention, reduction, and elimination of pollution.	All agencies
Clean Air Act (CAA) Amendments of 1990, as amended; Sec. 118	42 U.S.C. 7401, et seq. 42 U.S.C. 7609	Establishes standards to protect and improve air quality. Requires project conformity with State Implementation Plan concerning air quality. Sec. 118 requires Federal land managers to protect air quality on Federal land.	All agencies
Endangered Species Act of 1973, as amended	16 U.S.C. 1531-1543	Establishes a policy to protect and restore federally listed threatened and endangered species of flora and fauna.	All agencies
Resource Conservation and Recovery Act, as amended	42 U.S.C. s/s 6901 et seq. (1976)	Authorizes USEPA to control hazardous waste, including the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous wastes. Addresses environmental problems resulting from underground storage tanks. Focuses on active and future facilities, not abandoned or historical sites.	Federal, State and local governments; private industry
Surface Mining Control and Reclamation Act of 1977, as amended	P.L. 95-87	Provides funding for— (1) reclamation and restoration of land and water resources adversely affected by past coal mining, including but not limited to reclamation and restoration of abandoned surface mine areas, abandoned coal processing areas, and abandoned coal refuse disposal areas; (2) sealing and filling abandoned deep mine entries and voids; (3) planting of land adversely affected by past coal mining to prevent erosion and sedimentation; prevention, abatement, treatment, and control of water pollution created by coal mine drainage including restoration of stream beds, and construction and operation of water treatment plants; (4) prevention, abatement, and control of burning Section 522(e) prohibits or restricts surface coal mining operations on certain lands, including, among other areas, units of the National Park System, Federal lands in national forests, and buffer zones for public parks, public roads, occupied dwellings, and cemeteries.	

Appendix Table A: Applicable Federal and Commonwealth of Pennsylvania Laws and Regulations, and National Park Service Policies, Flight 93 GMP/EIS, 2005 *(Continued)*

Mandates	Reference	Purpose	Compliance Required
Federal Communications Commission Procedures Implementing the National Environmental Policy Act of 1969	47 CFR 1.1301-1.1319	47 CFR 1.1307(a)(4) specifically addresses impacts that proposed antenna structures may have on historical sites and other protected resources.	Federal Communications Commission and cell carriers
Payments In Lieu of Taxes Act (PILOT or PILT), as amended by P.L. 98-63	P.L. 94-565 (31 U.S.C. 6901-6907), recodified at 31 U.S.C. 6907	Provide certain payments from the Federal Government to local governments to compensate for the removal of land from the local real estate tax base and the amount (acres) of certain public lands within the boundaries of local governmental units.	National Park Service
Department of Transportation Act of 1966, section 4(f)	49 U.S.C. 303	Requires the Secretary of Transportation to demonstrate that there is no feasible or prudent alternative to impacting publicly owned land from a park, recreation area, wildlife and waterfowl refuge, or an historic site of national, state or local significance, or any land from an historic site of national, state or local significance, and that all possible planning to minimize harm to such land is incorporated into the proposed transportation project.	U.S. Department of Transportation; PennDOT; FAA
NPS Policies	Reference	Purpose	Compliance Required
Draft Park Planning Program Standards	In progress	Describes the National Park Service framework for park planning and decisionmaking, which includes six discrete kinds of planning, each with its own particularly purpose and standards.	National Park Service
Conservation Planning, Environmental Impact Analyses and Decisionmaking	DO-12 and Handbook for Environmental Impact Analyses	Provides bureau guidance on NEPA compliance consistent with CEQ regulations and on approaches to environmental documentation.	National Park Service
National Park Service Tourism	DO-17	Promotes and supports sustainable, responsible, informed, and manages visitor use through cooperation and coordination with the tourism industry.	National Park Service
Land Protection	DO-25	Articulates the framework for land protection and the process for land acquisition and interests in land within the authorized boundaries of NPS units. The policy includes direction for parks to develop a "Land Protection Plan," which establishes land acquisition priorities.	National Park Service
Special Park Uses	DO-53	Provides supplemental guidance to section 8.6 of NPS Management Policies on permitting special park uses.	National Park Service
Wetlands Protection	DO-77-1	Establishes NPS policies, requirements and standards for implementing Executive Order 11990, "Protection of Wetlands." Recommends park units obtain a parkwide wetland inventory, based on "Classification of Wetlands and Deepwater Habitats of the U.S.," FWS/OBS-79/31	National Park Service
Cultural Resource Management Cultural Resource Management Guideline Release No. 5 Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation; Secretary's Standards for the Treatment of Historic Properties; and Standards for the Treatment of Historic Properties with Guidelines for Cultural Landscapes	DO-28 NPS-28 36 CFR 28 36 CFR 68	Addresses the preservation and treatment of archaeological, cultural, and historic properties and ethnographic resources. Addresses standards and requirements for research, planning, and stewardship of cultural resources, as well as management of archeological resources, cultural landscapes, historic, and prehistoric structures, museum objects, and ethnographic resources.	National Park Service

Appendix Table A: Applicable Federal and Commonwealth of Pennsylvania Laws and Regulations, and National Park Service Policies, Flight 93 GMP/EIS, 2005 *(Continued)*

NPS Policies	Reference	Purpose	Compliance Required
Natural Resource Management Guidelines	NPS-77	To guide the actions of park managers so that natural resource management activities planned and initiated at field areas comply with Federal laws and regulations, and with Department of the Interior and NPS policy.	National Park Service
Accessibility for Park Visitors	DO-42	Ensures that all people have the highest level of accessibility that is reasonable to NPS programs, facilities, and services in conformance with applicable regulations and standards.	National Park Service
Integrated Pest Management Manual and Integrated Pest Management Plan		Describes the biology and management of 21 species or categories of pests. Minimizes the use of toxic pesticides and establishes a strategy for the control of invasive species.	National Park Service
Structural Fire Management	DO-58/RM-58	Supplements the structural fire policy articulated in NPS Management Policies by setting forth the operational policies and procedures necessary to establish and implement structural fire management programs throughout the national park system. Structural fire management is defined as the protection of people, content, structures, resources, and the landscape surrounding the structure from the effects of fire. At the park level, a fully implemented and documented structural fire prevention program is the most effective way to achieve that goal. NPS will employ the most effective concepts, techniques, and equipment to protect cultural resources against theft, fire, vandalism, overuse, deterioration, environmental impacts, and other threats, without compromising the integrity of the resources.	National Park Service
Integrated Solid Waste Management Plan	NPS SD 91-1 and NPS Solid Waste Management Handbook	Identifies strategies for solid waste management and recycling to reduce the generation of solid waste.	National Park Service
Federal Executive Orders	Reference	Purpose	Responsible
Protection of Wetlands	Executive Order 11990	Requires Federal agencies to consider all practicable alternatives to impacting wetlands.	Federal agencies
Off Road Vehicles on Public Lands	Executive Order 11644, as amended by E.O. 11989	Requires public land managers to establish policies and procedures to ensure that the use of off-road vehicles on public lands will be controlled to protect the resources, to promote the safety of all users of those lands and to minimize conflicts among the various uses of those lands.	Federal agencies
Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations	Executive Order 12898	To avoid Federal actions that cause disproportionately high and adverse impacts on minority and low-income populations with respect to human health and environment.	Federal agencies
Invasive Species	Executive Order 13112	Prevents the introduction of invasive species and provides for their control and to minimize the economic and human health impacts that invasive species cause.	Federal agencies

Appendix Table A: Applicable Federal and Commonwealth of Pennsylvania Laws and Regulations, and National Park Service Policies, Flight 93 GMP/EIS, 2005 *(Continued)*

Commonwealth of Pennsylvania Statutes	Reference	Purpose	Compliance required
Clean Streams Law of 1937, as amended in 1945 and 1965	Act 394	Establishes the basic authority Pennsylvania has to protect streams from pollution and the effects of surface coal mining. Defines acid mine drainage as an industrial waste, requiring all mines to treat AMD to specified standards. The provisions of § 93.2 issued under sections 5(b)(1) and 402 of the Clean Streams Law (35 P. S. § 691.5(b)(1) and 691.402); and § 1920-A of The Administrative Code of 1929 (71 P. S. § 510-20).	PaDEP
Air Pollution Control Act	Act 787	Authorizes the State to prevent pollution from sources of air pollution.	PaDEP
Storm Water Management Act	Act 167	Directs counties to prepare storm water management plans.	PaDEP; counties
Safe Drinking Water Act	Act 43	Establishes a program to ensure safe public drinking water supplies.	PaDEP
Pennsylvania Infrastructure Investment Authority Act	Act 16	Creates a program to finance improvements to drinking water and sewage systems.	PaDEP; local governments
Surface Mining Conservation and Reclamation Act of 1945, as amended in 1992 and 1996	Acts 154, 173 and 418	Prevents pollution from surface coal mining, and to comply with minimum Federal standards for preventing pollution from surface coal mining. Improves protection of water supplies; provides incentives for re-mining previously abandoned areas; and encourages the private reclamation of abandoned mine lands through re-mining.	PaDEP
Dam Safety and Encroachments Act	Title 25, Chapter 105	Provides wetland permitting criteria, mitigation and replacement requirements.	PaDEP
Land Recycling Statewide Health Standards	Act 2	Regulates clean fill and establishes limits on contaminated soils.	PaDEP
Environmental Stewardship and Watershed Protection Act (Growing Greener Act)	Act 68	Protects open space, cleans up abandoned mines and restores watersheds, provides funds for recreational trails and local parks, provides upgraded water and sewer systems.	PaDEP
Pennsylvania Sewage Facilities Act	Act 537	Requires municipalities to develop comprehensive plans to resolve existing sewage disposal problems, provide for the future sewage disposal needs of new development.	PaDEP
Game and Wildlife Codes	Title 34 and Title 58, Part II, Subpart B, Chapter 75	Establishes regulations for hunting, fishing and protecting wildlife in Pennsylvania. Amended game law in 1974 to include listings of federally protected species as state protected.	Pennsylvania Game Commission
Wild Resource Conservation Act	Act 170; Pa. Stat. Ann. tit. 32, §5302	Preserves and enhances rare or endangered flora and fauna that are not commonly pursued, killed or consumed either for sport or profit. Creates a special Board to protect endangered plants and animals.	PaDCNR
Land Use Planning	Pa. Executive Order 1999-1	To guide all Commonwealth agencies when making decisions that impact the use of land in Pennsylvania.	Governor's Green Government Council and PaDEP
Endangered Species	7 Pa. Code § 128.102	Provides for the protection of rare and endangered species	PaDCNR

Source: Compiled by Environmental Management Collaboration, Ltd., 2004-2005.

APPENDIX B
Flight 93 National Memorial
Agency Correspondence



COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA GAME COMMISSION
2001 ELMERTON AVENUE, HARRISBURG, PA 17110-9797

May 25, 2005

Ms. Joanne Hanley
U.S. Department of Interior
National Park Service
Flight 93 National Memorial
109 West Main Street, Suite 104
Somerset, PA 15501

In re: National Park Service
Flight 93 National Memorial
Shanksville, Somerset County, PA

Dear Ms. Hanley:

This is our response to your letter dated April, 29, 2005, requesting information on the above referenced project.

We have completed an office review of the proposed project and determined that except for occasional transient individuals, the proposed project is not located within an area, which is the habitat of an endangered or threatened species of bird or mammal recognized by the Pennsylvania Game Commission. Furthermore, we do not anticipate any long term adverse impacts to any critical or unique habitats as a direct result of this project.

If project plans change or if additional information becomes available on endangered or threatened species, or impacts to critical or unique habitats, this determination may be reconsidered.

ADMINISTRATIVE BUREAUS:

PERSONNEL: 717-787-7836 ADMINISTRATION: 717-787-5670 AUTOMOTIVE AND PROCUREMENT DIVISION: 717-787-6594
LICENSE DIVISION: 717-787-2084 WILDLIFE MANAGEMENT: 717-787-5529 INFORMATION & EDUCATION: 717-787-6286 LAW ENFORCEMENT: 717-787-5740
LAND MANAGEMENT: 717-787-6818 REAL ESTATE DIVISION: 717-787-6568 AUTOMATED TECHNOLOGY SYSTEMS: 717-787-4076 FAX: 717-772-2411

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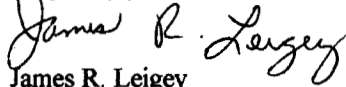
Ms. Joanne Hanley

-2-

May 25, 2005

If you have any questions, please contact me at 717-783-5957.

Very truly yours,

A handwritten signature in cursive script, reading "James R. Leigey".

James R. Leigey
Wildlife Impact Review Coordinator
Section Oil/Gas and Mineral Development
Bureau of Land Management

JRL/pfb

Cc: File
Zaffuto



United States Department of the Interior

National Park Service
Flight 93 National Memorial
109 West Main Street, Suite 104
Somerset, PA 15501



In reply refer to:

L7621

April 29, 2005

Mr. Barry S. Zaffuto
Land Management Supervisor
Pennsylvania Game Commission
P.O. Box A
Ligonier, PA 15658

Dear Mr. Zaffuto:

As you are aware, the National Park Service (NPS) has been conducting environmental and engineering studies in support of planning for the Flight 93 National Memorial since 2003. During this period, we have conducted two formal agency scoping meetings and numerous public meetings. We have conducted two natural resource surveys, the most recent of which was completed this month by the Western Pennsylvania Conservancy.

Our consultants and our park staff have continued coordination with applicable Federal and State resource and regulatory agencies. As part of this ongoing coordination, the NPS recently reinitiated Section 7 consultation with the U.S. Fish and Wildlife Service (FWS) in accordance with the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*). The FWS responded to our request on April 5, 2005 (see enclosure) and expressed concern that the Flight 93 NM was within the range of the federally listed, endangered Indiana bat (*Myotis sodalists*). The FWS further express concern that a hibernacula may exist on this site due to the former coal mines.

Our consultant has spoken with Mr. John Weir of PBS Coals, Inc., land manager for this site, and has learned that the mines within the Flight 93 NM boundary were immediately closed and portals and opening sealed after mining activities ceased. These mines were not abandoned for any prolonged period of time. In addition, Mr. Weir and others who worked in the mine explained that bats were never seen in the mine most likely due to the noise and the lights that occurred during mining activities. Bats would not hibernate under these conditions. Further, bats are more likely to occur in abandoned limestone mines rather than in coal mines.

The Western Pennsylvania Conservancy stated in their recent natural resource survey that the Conservancy is not aware of any known occupied summer habitats for the Indiana bat within Somerset County or Pennsylvania's Allegheny Mountains where the Flight 93 NM is located. However, based on PA Natural Heritage Program data, provided by the PA Game Commission,

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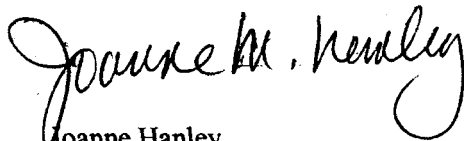
there are two known hibernacula within Somerset County roughly 8 kilometers to 25 kilometers from the site.

Information available from the field studies of this project, site maps and interviews did not reveal winter habitat, or particularly suitable summer habitat on the Flight 93 NM site. This includes no knowledge of open portal deep mines in the area that might serve as a winter hibernacula.

We are requesting your comments on the possible presence of this species and any other known rare or protected species that could occur at the Flight 93 NM. We are enclosing a copy of the recent WPC natural resource survey for your review and information.

Thank you for any information you can provide to help us manage and ensure protection to these important species.

Sincerely,

A handwritten signature in black ink, reading "Joanne M. Hanley". The signature is fluid and cursive, with the first name "Joanne" being the most prominent part.

Joanne Hanley
Superintendent

Enclosures



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Pennsylvania Field Office
315 South Allen Street, Suite 322
State College, Pennsylvania 16801-4850



August 3, 2005

Ms. Joanna Hanley
U.S. National Park Service
Flight 93 National Memorial
109 West Main Street, Suite 104
Somerset, Pennsylvania 15501

RE: USFWS Project #2005-0929

Dear Ms. Hanley:

This responds to your letter of July 8, 2005, which provided the Fish and Wildlife Service with information regarding the proposed Flight 93 National Memorial, located in Somerset County, Pennsylvania. The proposed project is within range of the Indiana bat (*Myotis sodalis*), a species that is federally listed as endangered. The following comments are provided pursuant to the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) to ensure the protection of endangered and threatened species.

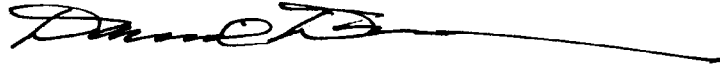
An assessment of the site's ecological resources was conducted by the Western Pennsylvania Conservancy in 2005. According to this report, no mine openings or caves are known to occur within the project boundaries. Therefore, based on our review of this report, and the fact that tree-clearing will be minimal, we conclude that implementation of the proposed project will not likely affect the Indiana bat. However, if any natural caves or abandoned mines portals are discovered within the project area in the future, or if additional forest removal is proposed, further consultation with this office will be necessary.

This response relates only to endangered or threatened species under our jurisdiction, based on an office review of the proposed project's location. No field inspection of the project area has been conducted by this office. Consequently, this letter is not to be construed as addressing potential Fish and Wildlife Service concerns under the Fish and Wildlife Coordination Act or other authorities.

To avoid potential delays in reviewing your project, please use the above-referenced USFWS project tracking number in any future correspondence regarding this project.

If you have any questions regarding this matter, please contact Jennifer Dombroskie of my staff at 814-234-4090.

Sincerely,

A handwritten signature in black ink, appearing to read "David Densmore", followed by a long horizontal flourish line extending to the right.

David Densmore
Supervisor



United States Department of the Interior

National Park Service
Flight 93 National Memorial
109 West Main Street, Suite 104
Somerset, PA 15501



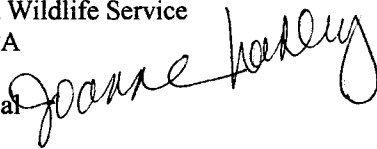
In reply refer to:

JUL 08 2005

D18

Memorandum

To: David Densmore, Supervisor U.S. Fish and Wildlife Service
Pennsylvania Field Office, State College, PA

From: Superintendent, Flight 93 National Memorial 

Subj: (USFWS Project #2005-0929) Flight 93 National Memorial, Somerset
County, PA

Thank you for your recent comments concerning the Flight 93 National Memorial (NM), which were submitted in response to our consultation initiated pursuant to Section 7 of the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*). Your letter, dated April 5, 2005, expressed concern that the Flight 93 NM was within the range of the federally listed, endangered Indiana bat (*Myotis sodalist*), and that a hibernacula may exist on this site due to the presence of former coal mines.

The National Park Service (NPS) has been conducting environmental and engineering studies in support of planning for the Flight 93 National Memorial since 2003. During this period, NPS has conducted two formal agency scoping meetings and two natural resource surveys, the most recent of which was completed this spring by the Western Pennsylvania Conservancy. The Western Pennsylvania Conservancy stated in their study that the Conservancy is not aware of any known occupied summer habitats for the Indiana bat within Somerset County or Pennsylvania's Allegheny Mountains where the Flight 93 NM is located. However, we recognize that based on PA Natural Heritage Program data, provided by the PA Game Commission, two known hibernacula do occur within Somerset County roughly 8 kilometers to 25 kilometers from the Flight 93 NM.

Information available from the field studies conducted for this project, site maps and various interviews did not reveal the presence of winter habitat, or particularly suitable summer habitat on the Flight 93 NM site for the Indiana bat. This includes no known open portal deep mines in the area that might serve as a winter hibernacula for the bat.

Conversations Mr. John Weir of PBS Coals, Inc., land manager for this site, concluded that the mines that were active on the Flight 93 NM site had been immediately closed and portals and



openings sealed immediately in January 2005 after all mining activities had ceased. The mines were not abandoned or left open for any prolonged period of time, and therefore no hibernacula would have been able to establish. Mr. Weir and others who worked in the mines explained that bats were never seen in mining operations most likely due to the noise and the lights that were on continually during mining activities. Bats would not hibernate under these conditions. Further, other resource specialists have informed us that bats are more likely to occur in abandoned limestone mines rather than in active coal mines.

Consultation with the Pennsylvania Game Commission (PGC) has also been conducted regarding this issue. The PGC has submitted a letter stating that except for occasional transient individuals, no long-term adverse effects to any critical or unique habitat would occur from the Flight 93 NM, and that this site is not located within an area that serves as habitat for an endangered or threatened species recognized by the PGC. As the portals and openings of the PBS Coals, Inc. mines were sealed in January 2005, there is no need to conduct a bat survey of the site.

We are enclosing a copy of the PGC's letter, dated May 25, 2005, and the natural resource survey conducted by the Western Pennsylvania Conservancy for the Flight 93 NM. We trust that this information will assist you in determining no effect regarding the presences of any species under your jurisdiction. We hope this information answers any questions you may have regarding the presence of the Indiana bat or any other protected species on this site. If we can provide any addition information, please contact Jeff Reinbold or me at (814) 443-4557. We look forward to your determination. Thank you.

Enclosures



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Pennsylvania Field Office
315 South Allen Street, Suite 322
State College, Pennsylvania 16801-4850



April 5, 2005

Ms. Joanna Hanley
U.S. National Park Service
Flight 93 National Memorial
109 West Main Street, Suite 104
Somerset, Pennsylvania 15501

RE: USFWS Project # 2005-0929

Dear Ms. Hanley:

This responds to your letter of March 4, 2005, requesting information about federally listed and proposed endangered and threatened species within the area affected by the proposed Flight 93 National Memorial, located in Somerset County, Pennsylvania. The following comments are provided pursuant to the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) to ensure the protection of endangered and threatened species.

The project area is within the range of the federally listed, endangered Indiana bat (*Myotis sodalis*). Indiana bats hibernate in caves and abandoned mines during the winter months (November through March), and use a variety of upland, wetland and riparian habitats during the spring, summer and fall. Indiana bats usually roost in dead or living trees with exfoliating bark, crevices or cavities. Female Indiana bats form nursery colonies under the exfoliating bark of dead or living trees, such as shagbark hickory, black birch, red oak, white oak, and sugar maple, in upland or riparian areas.

Land-clearing, especially of forested areas, may adversely affect Indiana bats by killing, injuring or harassing roosting bats, and by removing or reducing the quality of foraging and roosting habitat. If impacts to forested habitat are anticipated with the chosen project design, a bat survey of the project area should be conducted between May 15 and August 15 by a qualified, Fish and Wildlife Service-approved biologist (see enclosed list) using the enclosed *Indiana Bat Mist Netting Guidelines*. Survey results should be submitted to the Service for review and concurrence.

In addition, if any natural caves or abandoned mines occur within the project area, it is possible that Indiana bats or other bat species may be using them during hibernation or potentially as summer roost sites. Entrances to these potential hibernacula could be intentionally or inadvertently closed or destroyed during activities such as land-clearing, grading, fill disposal, mining, road construction or building construction. If bats are present within a cave or abandoned mine when this occurs, they will become trapped inside and perish. Even if bats are not present during the closure, they may be adversely affected when they return to their hibernaculum in the fall and find it closed. This will force them to expend energy looking for another suitable hibernaculum during a time when it is crucial that they store up sufficient fat reserves for hibernation. Bats are at an increased risk of mortality when they enter hibernation

with insufficient fat reserves, or are unable to locate a cave/mine with the suite of conditions (e.g., temperature, humidity, air flow) necessary for successful hibernation.

To determine whether this project will affect any potential Indiana bat hibernacula, the project area should be surveyed for cave and mine openings. All openings should be accurately mapped using a GPS unit. If potentially unstable mines (e.g., abandoned coal mines) occur in the project area, the openings of these mines should be evaluated using the enclosed *Protocol for Assessing Abandoned Mines/Caves for Bat Surveys*. The Pennsylvania Game Commission has developed this protocol to determine whether abandoned mines may serve as potentially suitable bat habitat. Following this initial mine opening assessment, a qualified bat surveyor (see enclosed list) should survey each potentially suitable opening, as well as the area in the immediate vicinity of these openings. Surveys should be carried out in accordance with the enclosed survey protocol. Please submit a copy of the survey results to the Service and the Pennsylvania Game Commission for review and concurrence.

Caves or stable hard rock mines (e.g., limestone mines) occurring in the project area should also be surveyed for hibernating bats during the winter. Interior winter hibernacula surveys should be coordinated with the Pennsylvania Game Commission, and survey results submitted to the Service for review and concurrence. If caves or hard rock mines cannot be safely entered, their openings should be surveyed as described above.

Should Indiana bats be found during any survey, further consultation with the Service will be necessary, including the submission of detailed project plans, and an analysis of alternatives to avoid and minimize adverse effects.

This response relates only to endangered or threatened species under our jurisdiction, based on an office review of the proposed project's location. No field inspection of the project area has been conducted by this office. Consequently, this letter is not to be construed as addressing potential Fish and Wildlife Service concerns under the Fish and Wildlife Coordination Act or other authorities.

To avoid potential delays in reviewing your project, please use the above-referenced USFWS project tracking number in any future correspondence regarding this project.

If you have any questions regarding this matter, please contact Jennifer Dombroskie of my staff at 814-234-4090.

Sincerely,



David Densmore
Supervisor

Enclosures

Federally Listed, Proposed, and Candidate Species in Pennsylvania

(revised July 27, 2004)

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status¹</u>	<u>Distribution (Counties and/or Watersheds)</u>
MAMMALS			
Indiana bat	<i>Myotis sodalis</i>	E	Hibernacula: Armstrong, Blair, Fayette, Lawrence, Luzerne, Mifflin and Somerset Co. Maternity sites: Blair Co.
BIRDS			
Bald eagle	<i>Haliaeetus leucocephalus</i>	T	Nesting: Armstrong, Berks, Butler, Centre, Chester, Crawford, Dauphin, Erie, Forest, Huntingdon, Lancaster, Lebanon, Lycoming, Mercer, Monroe, Montgomery, Northumberland, Pike, Tioga, Venango, Warren, Wayne and York Co. Winter: near ice-free sections of rivers, lakes and reservoirs (e.g., Delaware River, Pymatuning Reservoir)
Piping plover	<i>Charadrius melodus</i>	E	Migratory. No nesting in Pennsylvania since 1950s. Designated critical habitat on Presque Isle (Erie Co)
REPTILES			
Bog turtle	<i>Clemmys (Glyptemys) muhlenbergii</i>	T	Adams, Berks, Bucks, Chester, Cumberland, Delaware, Franklin, Lancaster, Lebanon, Lehigh, Monroe, Montgomery, Northampton, Schuylkill and York Co. [Historically found in Crawford, Mercer and Philadelphia Co.]
E. massasauga rattlesnake	<i>Sistrurus catenatus catenatus</i>	C	Butler, Crawford, Mercer and Venango Co. [Historically found in Allegheny and Lawrence Co.]
MUSSELS			
Clubshell	<i>Pleurobema clava</i>	E	French Creek and Allegheny River (and some tributaries) in Clarion, Crawford, Erie, Forest, Mercer, Venango, and Warren Co.; Shenango River (Mercer and Crawford Co.) [Has not been found recently in 13 streams of historical occurrence in Butler, Beaver, Fayette, Greene, Lawrence, Mercer, and Westmoreland Co.]
Dwarf wedgemussel	<i>Alasmodonta heterodon</i>	E	Delaware River (Wayne Co.). [Has not been found recently in streams of historical occurrence in the Delaware River watershed (Bucks, Carbon, Chester, Philadelphia Co.) or Susquehanna River watershed (Lancaster Co.)]
Northern riffleshell	<i>Epioblasma torulosa rangiana</i>	E	French Creek and Allegheny River (and some tributaries) in Clarion, Crawford, Erie, Forest, Mercer, Venango, and Warren Co. [Has not been found recently in streams of historical occurrence, including: Shenango River (Lawrence Co.), Conewango Creek (Warren Co.)]

US Fish and Wildlife Service
315 South Allen Street, Suite 322, State College, Pennsylvania 16801

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status</u> ¹	<u>Distribution (Counties and/or Watersheds)</u>
MUSSELS (continued)			
Rayed bean	<i>Villosa fabalis</i>	C	French Creek and Allegheny River (Armstrong, Clarion, Crawford, Erie, Forest, Mercer, Venango, Warren Co.); Cussewago Creek (Crawford Co.). [Has not been found recently in 5 streams of historical occurrence in Armstrong, Lawrence, Mercer and Warren Co.]
Sheepnose	<i>Plethobasus cyphus</i>	C	Allegheny River (Forest and Venango Co.). [Has not been found recently in streams of historical occurrence, including: Allegheny River (Armstrong Co.), Beaver River (Lawrence Co.), Ohio River (Allegheny and Beaver Co.), and Monongahela River (Washington Co.)]
FISH			
Shortnose sturgeon ²	<i>Acipenser brevirostrum</i>	E	Delaware River and other Atlantic coastal waters
PLANTS			
Northeastern bulrush	<i>Scirpus ancistrochaetus</i>	E	Adams, Bedford, Blair, Carbon, Centre, Clinton, Columbia, Cumberland, Dauphin, Franklin, Huntingdon, Lackawanna, Lehigh, Lycoming, Mifflin, Monroe, Perry, Snyder, Tioga, and Union Co. [Historically found in Northampton Co.]
Small-whorled pogonia	<i>Isotria medeoloides</i>	T	Centre, Chester, and Venango Co. [Historically found in Berks, Greene, Monroe, Montgomery and Philadelphia Co.]

¹ E = Endangered; T = Threatened; P = Proposed for listing; C = Candidate

² Shortnose sturgeon is under the jurisdiction of the National Marine Fisheries Service

Commonwealth of Pennsylvania
Pennsylvania Game Commission, Bureau of Wildlife Management
Wildlife Diversity Section
2001 Elmerton Avenue, Harrisburg, PA 17110-9797

Protocol for Assessing Abandoned Mines/Caves for Bat Surveys

In general, openings can be dismissed from bat surveys when:

1. There is only one horizontal opening less than 6 inches in diameter and no or very little airflow is detected.
2. Vertical shafts <1 foot in diameter.
3. Passage continues less than 50 feet and terminates with no fissures that bats can access.
4. Mines that are prone to flooding, collapsed shut and completely sealed, or otherwise inaccessible to bats.
5. Openings, which have occurred recently (within 1 year) due to subsidence.

Additional notes: Bats can access mines via old open buildings such as a fan house. Foliage and other vegetation in front of mine openings do not stop use by bats. They can navigate through foliage. Collapsed entrances with multiple crevices between boulders etc. are accessible to bats and should be sampled. Collapses completely sealed with fine soil are of course inaccessible to bats.

Sampling Dates, Times and Temperature Criteria

1. Spring sampling will be conducted between: April 10 thru May 10
2. Fall sampling will be conducted between: September 15 thru October 31
3. Sampling will start ½ hour before sunset and continue for at least 5 hours.
4. Weather must provide for:
 - a. Temperatures $\geq 50^{\circ}\text{F}$ (10°C) for first 2 hours of sampling and not fall below 35°F (1.6°C) by midnight.
 - b. At least 3 hours free of heavy rain and thunderstorms.
5. Sampling will be conducted on two evenings. If no captures occur and no bat activity is noted with a bat detector on the first evening during acceptable weather conditions, sampling can be suspended for the site.
6. The shining of lights, and noise will be kept to a minimum with no smoking around the sample site. The use of radios, campfires, running vehicles, punk sticks, citronella candles and other disturbances will not be permitted within 300 feet of site during surveys.
7. Before conducting surveys, local residents and/or law enforcement agencies should be informed of the scheduled nighttime activities.

Equipment

No equipment, litter or other debris will be left unattended at site that could result in the capture or entanglement of any animals. Any equipment stored at site between sampling sessions will be clearly labeled with contact information.

Harp Trap: Place in front of opening and block surrounding space with plastic sheeting or bird netting. Traps should be tended at least once per hour. When the catch rate is high (>25 bats per hour) or during inclement weather, traps should be tended more frequently.

Mist Nets: 50 denier, 38mm mesh. Place in front or around opening. Nets need to be monitored closely and checked at least once every 20 minutes. At sites with a heavy bat swarm, the net may need to be monitored continuously.

Bat Detector: A bat detector should be on site to monitor bat activity when trapping or netting. Bat passes should be monitored and tallied for at least one hour after 10pm. Bat tallies should be reported along with the time sampled. Reporting format will be: Start and end time for 1-hour sample period and bat passes for that hour.

Other: In situations where it is too dangerous to approach an entrance, bat detectors and/or night vision/infrared recording devices may be used to monitor and record bat activity to determine bat use of the site. Bat activity in or around the entrance can be monitored by counting bat passes with a bat detector, or night vision/infrared video tapes can be made providing actual counts of bats entering the opening. As with trapping, monitoring should be conducted for 5 hours. Reporting format will be: Start and end time for 1-hour sample period and bat passes for that hour.

Reporting

In addition to reports for the client, the Pennsylvania Game Commission requires copies of the report as part of the vendor's permitting requirement. To simplify data entry, mandatory sampling summary forms are also required by the PA Game Commission for bat surveys within the Commonwealth. If the vendor did not receive a copy of the data form with the permit, they can be obtained by contacting the:

Pennsylvania Game Commission
Bureau of Law Enforcement, Technical Services Division
2001 Elmerton Avenue, Harrisburg, PA 17110-9797
717/787-5740

INTERIOR WINTER HIBERNACULA SURVEYS

Sites that are determined to be safe for entry to conduct winter counts (primarily caves & stable hard rock mines) will be coordinated with the PA Game Commission, Wildlife Diversity Section and scheduled for interior surveys between January 1 and March 10. Contact information for the Wildlife Diversity Section is:

PA Game Commission
Bureau of Wildlife Management, Wildlife Diversity Section
2001 Elmerton Avenue, Harrisburg, PA 17110-9797
(717) 787-5529

INDIANA BAT MIST NETTING GUIDELINES

RATIONALE

A typical mist net survey is an attempt to determine presence or probable absence of the species, it does not provide sufficient data to determine population size or structure. Following these guidelines will standardize procedures for mist netting. It will help maximize the potential for capture of Indiana bats at a minimum acceptable level of effort. Although the capture of bats confirms their presence, failure to catch bats does not absolutely confirm their absence. Netting effort as extensive as outlined below usually is sufficient to capture Indiana bats. However, there have been instances in which additional effort was necessary to detect the presence of the species.

NETTING SEASON

May 15 - August 15

These dates define acceptable limits for documenting the presence of summer population of Indiana bats, especially maternity colonies. Several captures, including adult females and young of the year, indicate that a nursery colony is active in the area. Outside these dates, even when Indiana bats are caught, data should be carefully interpreted: If only a single bat is captured, it may be a transient or migratory individual.

EQUIPMENT

Mist nets - Use the finest, lowest visibility mesh commercially available:

1. In the past, this was 1 ply, 40 denier monofilament - denoted 40/1
2. Currently, monofilament is not available and the finest on the market is 2 ply, 50 denier nylon - denoted 50/2
3. Mesh of approximately 1 ½ (1 ¼ - 1 ¾) in (~38 mm)

Hardware - No specific hardware is required. There are many suitable systems of ropes and/or poles to hold the nets. See NET PLACEMENT below for minimum net heights, habitats, and other netting requirements that affect the choice of hardware. The system of Gardner, *et al.* (1989) has met the test of time.

NET PLACEMENT

Potential travel corridors such as streams or logging trails typically are the most effective places to net. Place the nets approximately perpendicular across the corridor. Nets should fill the corridor from side to side and from stream (or ground) level up to the overhanging canopy. A typical set is seven meters high consisting of three or more nets "stacked" on top one another and up to 20 m wide. (Different width nets may be purchased and used as the situation dictates.)

Occasionally it may be desirable to net where there is no good corridor. Take caution to get the nets up into the canopy. The typical equipment described in the section above may be inadequate for these situations, requiring innovation on the part of the observers.

RECOMMENDED NET SITE SPACING:

Stream corridors - one net site per km of stream.

Non-corridor land tracts - two net sites per square km of forested habitat.

MINIMUM LEVEL OF EFFORT

Netting at each site should consist of:

At least four net-nights (unless bats are caught sooner) (one net set up for one night = one net-night)

A minimum of two net locations at each site (at least 30m apart, especially in linear habitat such as a stream corridor)

A minimum of two nights of netting

Sample Period: begin at sunset; net for at least 5 hr

Each net should be checked approximately every 20 min

No disturbance near the nets, other than to check nets and remove bats

WEATHER CONDITIONS

Severe weather adversely affects capture of bats. If Indiana bats are caught during weather extremes, it is probably because they are at the site and active despite inclement weather. On the other hand, if bats are not caught, it may be that there are bats at the site but they may be inactive due to the weather. Negative results combined with any of the following weather conditions throughout all or most of a sampling period are likely to require additional netting:

- Precipitation
- Temperatures below 10EC
- Strong winds (Use good judgement: moving nets are more likely to be detected by bats.)

MOONLIGHT

There is some evidence that small myotine bats avoid brightly lit areas, perhaps as predator avoidance. It is typically best to set nets under the canopy where they are out of the moon light, particularly when the moon is ½-full or greater.

U.S. FISH AND WILDLIFE SERVICE
Pennsylvania Field Office

QUALIFIED INDIANA BAT SURVEYORS

The following list includes persons known by the U.S. Fish and Wildlife Service to have the skills and experience to conduct surveys for Indiana bats. Any individuals handling or conducting surveys for Indiana bats must first obtain a permit from the Pennsylvania Game Commission. All Indiana bat captures must be reported in writing to the Service and Commission within 48 hours. Indiana bat surveys should be overseen by a qualified surveyor, who should be present in the field at all times during the investigation. Mist-net surveys should be carried out in accordance with the Service's *Indiana Bat Mist Netting Guidelines*. If any female Indiana bats are captured during mist-netting, a surveyor with bat telemetry experience should be prepared to place a transmitter on the bat(s) to identify roost trees and foraging habitat. Various sampling techniques, including mist-netting, Anabat detection, radio-telemetry, harp-trapping and hibernacula surveys, are used to detect and monitor bats. Some individuals on this list may not be qualified to conduct all types of sampling.

This information is not to be construed as an endorsement of individuals or firms by the Service or any of its employees. Persons not on this list, but who have documented experience in conducting scientific studies of, or successful searches for, Indiana bats may submit their qualifications to the Service for review. The submission must include documentation that the requestor has experience successfully locating and identifying Indiana bats in their hibernacula and their summer habitat. Additions to and deletions from this list are at the sole discretion of the Service. This list is subject to revision at any time without prior notice.

Dr. Virgil Brack, Jr.
Environmental Solutions &
Innovations
781 Neeb Road
Cincinnati, OH 45233
513-451-1777
513-451-3321 (fax)

John Macgregor
Berea Ranger District
Daniel Boone National Forest
1835 Big Hill Road
Berea, KY 40403
606-745-3100

Dr. Karen Campbell
Biology Department
Albright College
Reading, PA 19614
610-921-2381

Hal Bryant
Eco-Tech, Inc.
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Frankfort, KY 40602-0008
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502-695-8061 (fax)
myotis2000@aol.com

Chris Sanders &
Michael O'Mahony
Sanders Environmental, Inc.
314 N. Pennsylvania Ave.
PO Box 185
Centre Hall, PA 16828-0185
814-364-8776
814-659-8257 (cell)
sanders@batgate.com

Dr. Phillip Clem
University of Charleston
2300 MacCorkle Ave., SE
Charleston, WV 25304
304-357-4793

Tim Blackburn
825 19th Street, 2nd Floor
Altoona, PA 16601

Andrew King, Jeffrey Brown,
Amy Henry, Russell Romme³
BHE Environmental, Inc.
11733 Chesterdale Road
Cincinnati, OH 45246
513-326-1500
513-326-1550 (fax)

Dr. Lynn Robbins
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Biology Department
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Springfield, MO 65804
417-836-5366

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R.D. Zande & Associates
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614-486-4387 (fax)

John Chenger
Bat Conservation &
Management
220 Old Stone House Road
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717-241-2228
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Altoona College
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rleiberher@skellyloy.com

James Hart
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Shippensburg University
Shippensburg, PA 17257
717-532-1145

David Wayland
218 East Walnut Street
Clearfield, PA 16830
814-883-9994
dwayland@uplink.net



United States Department of the Interior

National Park Service
Flight 93 National Memorial
109 West Main Street, Suite 104
Somerset, PA 15501



In reply refer to:

D18

March 4, 2005

Ms. Carole Copeyon, Chief
Endangered Species Division
U.S. Fish and Wildlife Service
315 South Allen Street, Suite 322
State College, PA 16801-4850

COPY

MAR 11 2005

RE: Flight 93 National Memorial, Section 7 Consultation Initiation

Dear Ms. Copeyon:

The National Park Service is currently preparing a General Management Plan/Environmental Impact Statement (GMP/EIS) for the Flight 93 National Memorial in Somerset County, Pennsylvania. The National Park Service has held two agency scoping meetings on the project, to which your office has been invited, and is now requesting formal consultation pursuant to Section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531-1543).

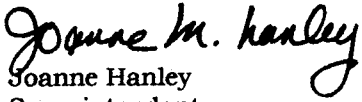
Five final designs have been recently selected in Stage I of the design competition for the memorial. These designs can be viewed online at www.flight93memorialproject.org. The project involves evaluating the five final designs and the No Action Alternative (Existing Conditions), and providing sufficient analysis for a recommendation by the Secretary of the Interior to U.S. Congress by September 2005. The project is located in Somerset County and can be found on the Stoystown and the Central City quads. A copy of the approved boundary map is enclosed. The area in light green composes approximately 1,200 acres and is the core area for the park. The area in dark green is land to be protected in partnership with local residents through less-than-fee means such as scenic easements. In total, the park unit comprises approximately 2,200 acres, including the scenic easements.

In the coming months, the design finalists will proceed with refining their conceptual designs and will provide more detailed information on their various proposals for the site. In the meantime, we have an ambitious schedule to maintain and plan to publish a draft GMP/EIS at the end of May. The National Park Service wishes to initiate section 7 consultation with the U.S. Fish & Wildlife Service and provide you with any information you may need for your determination. A natural resource survey of the site will be conducted as part of this study.

TAKE PRIDE[®]
IN AMERICA 

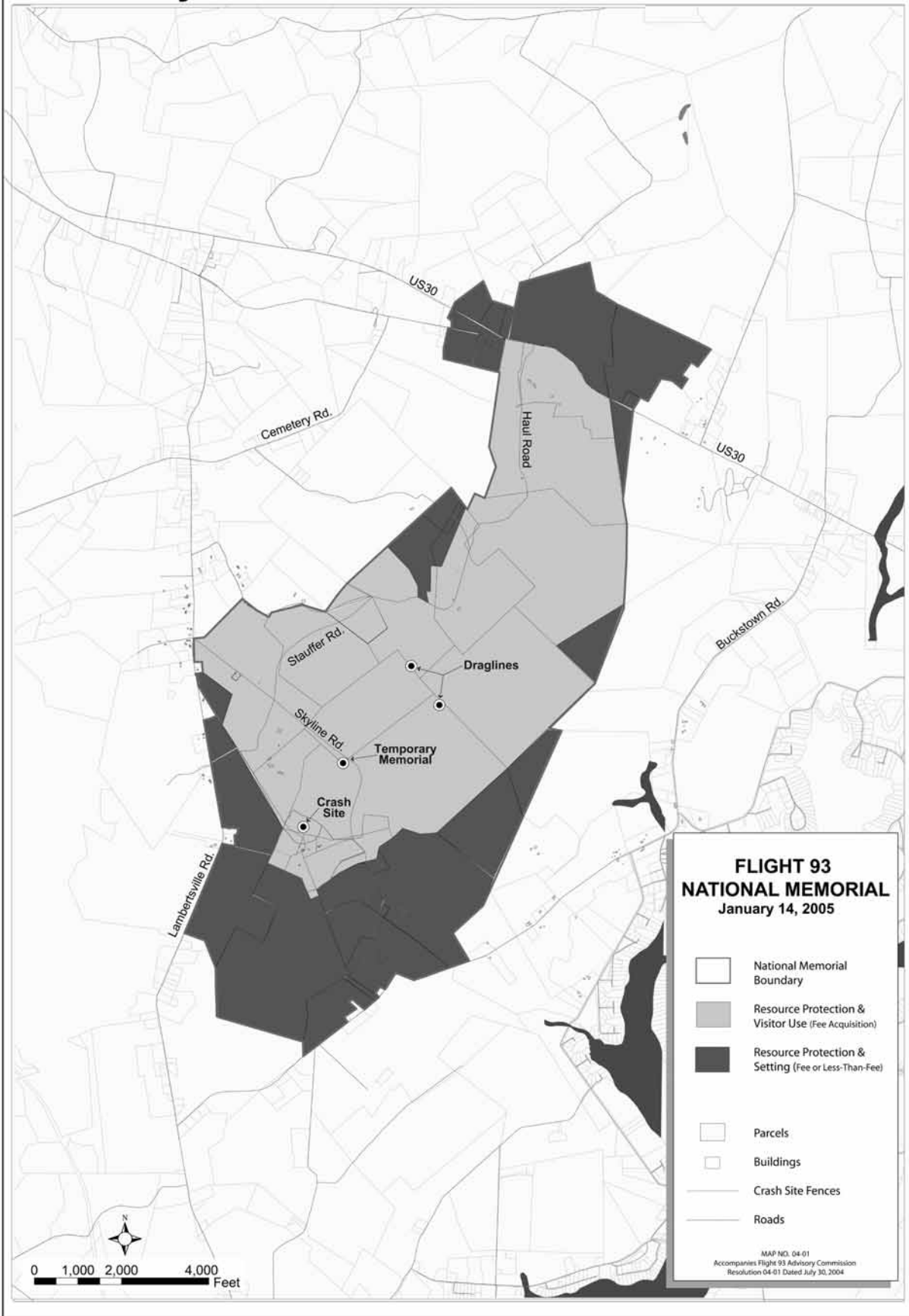
If you have any questions or need further information, please call Jeff Reinbold, Project Planner for Flight 93 National Memorial or me at 814-443-4557. We are requesting your comments by April 4, 2005.

Sincerely,


Joanne Hanley
Superintendent
Flight 93 National Memorial

Enclosure

Boundary





United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pennsylvania Field Office
315 South Allen Street, Suite 322
State College, Pennsylvania 16801-4850



December 22, 2003

Jeffrey Reinbold, Chief Planner
National Park Service
109 West Main Street, Suite 104
Somerset, PA 15501

Dear Mr. Reinbold:

This responds to your letter of November 28, 2003, requesting information about federally listed and proposed endangered and threatened species within the area affected by the Flight 93 National Memorial located in Somerset County, Pennsylvania. The following comments are provided pursuant to the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) to ensure the protection of endangered and threatened species.

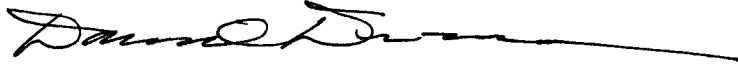
Except for occasional transient species, no federally listed or proposed threatened or endangered species under our jurisdiction are known to occur within the project impact area. Therefore, no biological assessment nor further consultation under the Endangered Species Act are required with the Fish and Wildlife Service. This determination is valid for two years from the date of this letter. If the proposed project has not been fully implemented prior to this, an additional review by this office will be necessary. Also, should project plans change, or if additional information on listed or proposed species becomes available, this determination may be reconsidered. A compilation of certain federal status species in Pennsylvania is enclosed for your information.

This response relates only to endangered or threatened species under our jurisdiction based on an office review of the proposed project's location. No field inspection of the project area has been conducted by this office. Consequently, this letter is not to be construed as addressing potential Service concerns under the Fish and Wildlife Coordination Act or other authorities.

Requests for information regarding State-listed endangered or threatened species should be directed to the Pennsylvania Game Commission (birds and mammals), the Pennsylvania Fish and Boat Commission (fish, reptiles, amphibians and aquatic invertebrates), and the Pennsylvania Department of Conservation and Natural Resources (plants).

Please contact Michael Schmaus of my staff at 814-234-4090 if you have any questions or require further assistance.

Sincerely,

A handwritten signature in black ink, appearing to read "David Densmore", with a long horizontal flourish extending to the right.

David Densmore
Supervisor

Enclosure

**FEDERALLY LISTED AND PROPOSED SPECIES
THAT NO LONGER OCCUR IN PENNSYLVANIA**

<u>COMMON NAME</u>	<u>SCIENTIFIC NAME</u>	<u>STATUS**</u>	<u>FORMER DISTRIBUTION</u>
<u>MAMMALS</u>			
Canada lynx	<i>Lynx canadensis</i>	PT	north-central PA (Tioga Co.)
Delmarva Peninsula fox squirrel	<i>Sciurus niger cinereus</i>	E	mature forests of southeastern PA (Delaware and Chester Co.)
Eastern cougar	<i>Felis concolor cougar</i>	E	state-wide
Grey wolf	<i>Canis lupus</i>	E	state-wide
<u>MOLLUSKS</u>			
Fanshell*	<i>Cyprogenia stegaria</i>	E	Ohio River drainage
Orange pimpleback*	<i>Plethobasus striatus</i>	E	Ohio River drainage
Pink mucket pearly mussel*	<i>Lampsilis abrupta</i>	E	Ohio River drainage
Ring pink mussel*	<i>Obovaria retusa</i>	E	Ohio River drainage
Rough pigtoe*	<i>Pleurobema plenum</i>	E	Ohio River drainage
<u>INSECTS</u>			
American burying beetle	<i>Nicrophorus americanus</i>	E	state-wide
Karner blue butterfly	<i>Lycaides melissa samuelis</i>	E	pine barrens, oak savannas (wild lupine habitat) (Wayne Co.)
Northeastern beach tiger beetle	<i>Cicindela dorsalis dorsalis</i>	T	along large rivers in southeastern PA
<u>PLANTS</u>			
Eastern prairie fringed orchid	<i>Platanthera leucophaea</i>	T	wet prairies, bogs (Crawford Co.)
Sensitive joint-vetch	<i>Aeschynomene virginica</i>	T	freshwater tidal marshes of Delaware river (Delaware and Philadelphia Co.)
Virginia spiraea*	<i>Spiraea virginiana</i>	T	along Youghiogheny River (Fayette Co.)
Smooth coneflower	<i>Echinacea laevigata</i>	E	serpentine barrens (Lancaster Co.)

Revised 10/19/00

* It is possible that remnant populations of some of these species (indicated with an *) may still occur in Pennsylvania, however, there have been no confirmed sightings of these species for over 70 years.

** E = Endangered, T = Threatened, PT = Proposed Threatened

The following is a partial list of additional species that no longer occur in Pennsylvania: moose, bison, wolverine, passenger pigeon, Bachman's sparrow, greater prairie-chicken, olive-sided flycatcher, Bewick's wren, eastern tiger salamander, blue pike, butterfly mussel, Diana fritillary butterfly, precious underwing moth, deertoe mussel, marbled underwing moth, cobblestone tiger beetle, mountain clubmoss, crested yellow orchid, red milkweed, American barberry, small white lady's-slipper, etc. etc.

U.S. FISH AND WILDLIFE SERVICE
315 SOUTH ALLEN ST., SUITE 322, STATE COLLEGE, PA 16801

**FEDERALLY LISTED, PROPOSED AND CANDIDATE SPECIES
(in Pennsylvania)**

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status</u> ¹	<u>Distribution</u> (by County and/or Watershed)
<u>FISHES</u>			
Shortnose sturgeon ²	<i>Acipenser brevirostrum</i>	E	Delaware River & other Atlantic coastal waters
<u>REPTILES</u>			
Bog turtle	<i>Clemmys muhlenbergii</i>	T	Current - Adams, Berks, Bucks, Chester, Cumberland, Delaware, Franklin, Lancaster, Lebanon, Lehigh, Monroe, Montgomery, Northampton, Schuylkill, York. Historic - Crawford, Mercer, Philadelphia Co.
Eastern massasauga rattlesnake	<i>Sistrurus catenatus catenatus</i>	C	Current - Butler, Crawford, Mercer and Venango Co. Historic - Allegheny and Lawrence Co.
<u>BIRDS</u>			
Bald eagle	<i>Haliaeetus leucocephalus</i>	T	Suitable habitats across the state. Recent nesting in Butler, Cameron, Centre, Chester, Crawford, Dauphin, Erie, Forest, Huntingdon, Lancaster, Lebanon, Mercer, Northumberland, Pike, Tioga, Venango, Warren, Wayne and York Co. Wintering concentrations occur near ice-free sections of rivers, lakes and reservoirs, including the Delaware River.
Piping plover	<i>Charadrius melodus</i>	E	Migratory. No nesting in Pennsylvania since 1950s. Designated critical habitat on Presque Isle, Erie Co.
<u>MAMMALS</u>			
Indiana bat	<i>Myotis sodalis</i>	E	Winter hibernacula: Armstrong, Blair, Lawrence, Luzerne, Mifflin and Somerset Co.
<u>MOLLUSKS</u>			
Dwarf wedgemussel	<i>Alasmidonta heterodon</i>	E	Current - Delaware River (Wayne Co.). Historic - Delaware River watershed (Bucks, Carbon, Chester and Philadelphia Co.); Susquehanna River watershed (Lancaster Co.)
Clubshell mussel	<i>Pleurobema clava</i>	E	French Creek and Allegheny River watersheds (Clarion, Crawford, Erie, Forest, Mercer, Venango and Warren Co.); Shenango River (Ohio River watershed; Mercer and Crawford Co.)
Northern riffleshell	<i>Epioblasma torulosa rangiana</i>	E	French Creek and Allegheny River watersheds (Clarion, Crawford, Erie, Forest, Mercer, Venango and Warren Co.)
<u>PLANTS</u>			
Northeastern bulrush	<i>Scirpus ancistrochaetus</i>	E	Current - Adams, Bedford, Blair, Carbon, Centre, Clinton, Cumberland, Dauphin, Franklin, Huntingdon, Lackawanna, Lehigh, Lycoming, Mifflin, Monroe, Perry, Snyder and Union Co. Historic - Northampton Co.
Small-whorled pogonia	<i>Isotria medeoloides</i>	T	Current - Centre, Chester and Venango Co. Historic - Berks, Greene, Monroe, Montgomery and Philadelphia Co.

¹ E = Endangered, T = Threatened, PE = Proposed Endangered, PT = Proposed Threatened, C = Candidate Revised 2/27/03

² Shortnose sturgeon is under the jurisdiction of the National Marine Fisheries Service

U.S. FISH AND WILDLIFE SERVICE
315 SOUTH ALLEN ST., SUITE 322, STATE COLLEGE, PA 16801



United States Department of the Interior

National Park Service
Flight 93 National Memorial
109 West Main Street, Suite 104
Somerset, PA 15501



In reply refer to:

L7621

April 29, 2005

Mr. Douglas C. McLearen, Chief
Division of Archaeology & Protection
Bureau for Historic Preservation
400 North Street, 2nd Floor
Harrisburg, PA 17120-0093

Dear Mr. McLearen:

The National Park Service (NPS) is in receipt of your letter dated March 23, 2005, responding to our initial Section 106 consultation request, dated March 4, 2005, concerning preparation of a General Management Plan/Environmental Impact Statement (GMP/EIS) for the Flight 93 National Memorial in Somerset County. The purpose of the GMP/EIS is to guide the long-term development of the Flight 93 National Memorial and to evaluate alternatives to the design of the memorial and assess potential effects on the park's natural, historic and cultural resources. This consultation request was submitted to your office pursuant to Section 106 of the National Historic Preservation Act of 1966 (36 CFR Part 800).

The NPS has been conducting ongoing environmental and technical resource studies at this site for approximately two years. As part of these studies, the NPS Philadelphia Support Office conducted a draft Cultural Landscapes Inventory (CLI) in 2004. The CLI described three log cabins and associated out-buildings located in a hemlock grove just south of the crash site that were constructed during the 1930s. Information on these cabins can be found on p. 32 of the enclosed CLI. The CLI noted that the log cabins were constructed in the 1930s by a member of the locally prominent Lambert family of Stonycreek Township. These cabins may have local significance as examples of vernacular architecture for this region of southwest Pennsylvania. It is also noted that the Flight 93 crash site was listed in the National Register of Historic Places on November 8, 2002.

In March 2005, a small family cemetery, dating from the mid-19th century (1856 through 1892) was discovered on the property. This cemetery, locally referred to as the Sorber Cemetery, is located in Stonycreek Township, south of US Route 30 across the road from the cell tower and about 200 meters southwest of the roadway in a grove of trees. The Sorber Family cemetery is situated on PBS Coals, Inc. property just west of the Camp Allegheny property line. A map and aerial photo showing the location are attached.

Coordination with Ms. Nancy Hallberg, who maintains records of the Stonycreek Township cemeteries, was conducted by our consultant in March and April, and information obtained from



the grave markers was provided to her. Based on the names on the grave markers and Ms. Hallberg's records, the following family members are believed to be buried in this cemetery:

<u>Name</u>	<u>Dates</u>
Lewis, Rebecca (1 st without Charles of New Jersey)	23Sep1844-08Aug1863
Rebecca	16Mar1863-26Oct1863
Sorber, Daniel, Jr.*	Jul1892 ag 77-4-28
Margaret (Brant)	No dates inscribed
Annie Jane	d-28Dec1856 ag-7-0-3
Charles	d-29Nov1856 ag 3-11-26

*Records of the Stoystown Lutheran Church show Daniel's birthdate as March 1, 1811, and baptism date as September 25, 1812. These dates do not correlate with the age given on his headstone. However, the inscription is very clear with the date shown above.

Ms. Hallberg reports that there are at least three Daniel Sorbers (maybe more) in the Sorber line. Daniel Sorber (first generation) settled in Brother's Valley in 1805. He was born in Northampton County in 1782. [Ed. Note: His headstone shows he was born in 1777, and it was his wife Elizabeth who was born in 1782. He moved to Stoystown, and followed the millwright's trade, helping to build the first mill at Sprucetown. He afterward kept tavern on the turnpike; two and one-half miles east of Stoystown. He died in Shade Township, aged seventy-six. His children were Joseph, Jonathan (deceased), Adam, Daniel, Anna (deceased), Elizabeth (Blough) and Sophia (deceased). Joseph was born in Brother's Valley, in 1805. For 12 years, he was a wagoner on the Pittsburgh Pike. He has been living in Stony Creek for several years. He married Mary Brant, and is the father of Martin, John, William, Daniel W., Orange, Elizabeth, Emeline and Margaret (deceased). Martin was a captain in late war. John was also in the service. William and Daniel W. are farming their father's place.¹

The Sorber cemetery discovered within the Flight 93 National Memorial boundary is the final resting place of the second generation of Sorbers, Daniel Jr.'s family.

- Daniel 1777-1852 and his wife Elizabeth Sivits (1782 - 1851) buried in the Sorber Cemetery in Shade twp.
- Daniel & Elizabeth had a son named Daniel, Jr. who married Margaret Brant on Feb. 21, 1839, another of his sons, Joseph Sorber (1805-1887) was the one who married Mary Brant (the Brant girls were probably sisters, married to brothers) and they had a son named Daniel W. Joseph is buried in the Lambertsville Cemetery.
- Daniel W. Sorber, the youngest child of Joseph & Mary Sorber, was born sometime shortly after 1850. As of 1884, records show Daniel W. was still living on the family farm in Stonycreek Township. Daniel W. married Jane Richardson. (Perhaps this was Annie Jane?)

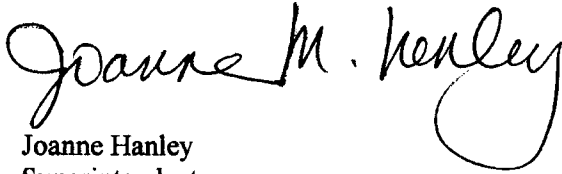
¹Source: History of Bedford, Somerset, and Fulton Counties, 1884. Waterman, Watkins & Co. p. 518.

The National Park Service is in the process of obtaining assistance from Indiana University of Pennsylvania to conduct an archeological survey of undisturbed areas of the site. The NPS will provide your office with the results of this survey when it is completed.

Ms. Hallberg has posted information on the Stonycreek Township website at <http://www.rootsweb.com/~pasomers/stonycreek/cemeteries.html>. A copy of the Sorber Cemetery listing is enclosed for your records. If you have any questions regarding the Sorber Cemetery, please do not to hesitate to contact Jeff Reinbold of this office at (814) 443-4557.

We look forward to your review of this evolving project, and will continue to forward information to you as it becomes available. Please advise us of your office's position on this new information.

Sincerely,

A handwritten signature in cursive script that reads "Joanne M. Hanley". The signature is written in dark ink and is positioned above the printed name and title.

Joanne Hanley
Superintendent

Enclosures



Commonwealth of Pennsylvania
Pennsylvania Historical and Museum Commission
Bureau for Historic Preservation
Commonwealth Keystone Building, 2nd Floor
400 North Street
Harrisburg, PA 17120-0093
www.phmc.state.pa.us

March 23, 2005

Joanne Hanley
US Department of the Interior
National Park Service
Flight 93 National Memorial
109 West Main Street, Suite 104
Somerset, PA 15501

THE EXERCISE OF THE
NPS REFERENCE NUMBER

Re: File No. ER 04-0631-111-C
NPS: Flight 93 National Memorial
General Management Plan/
Environmental Impact Statement
Stonycreek Twp., Somerset Co.

Dear Ms. Hanley:

The Bureau for Historic Preservation (the State Historic Preservation Office) has reviewed the above named project in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended in 1980 and 1992, and the regulations (36 CFR Part 800) of the Advisory Council on Historic Preservation. These requirements include consideration of the project's potential effect upon both historic and archaeological resources.

There may be historic buildings and/or structures eligible for the National Register of Historic Places located in the project area. However, due to the nature of the activity, it is our opinion that there will be no effect on these properties. Should the applicant become aware, from any source, that unidentified historic resources are located at the project site, or that the project activities will have an effect on these properties, the Bureau for Historic Preservation should be contacted immediately.

If you need further information in this matter please consult Ann Safley at (717) 787-9121.

Sincerely,

Douglas C. McLearn, Chief
Division of Archaeology &
Protection

DCM/tmw



United States Department of the Interior

National Park Service
Flight 93 National Memorial
109 West Main Street, Suite 104
Somerset, PA 15501



In reply refer to:

COPY

MAR 11 2005

D18

March 4, 2005

Ms. Jean Cutler, Director
Pennsylvania Historical and Museum Commission
Bureau for Historic Preservation
400 North Street, Second Floor
Harrisburg, PA 17120-0093

RE: Flight 93 National Memorial, Section 106 Consultation Initiation

Dear Ms. Cutler:

The National Park Service is currently preparing a General Management Plan/Environmental Impact Statement (GMP/EIS) for the Flight 93 National Memorial in Somerset County, Pennsylvania. The National Park Service has held two agency scoping meetings on the project, to which your office has been invited, and is now initiating formal consultation pursuant to Section 106 of the National Historic Preservation Act (36 CFR 800).

Five final designs have been recently selected in Stage I of the design competition for the memorial. These designs can be viewed online at www.flight93memorialproject.org. The project involves evaluating the five final designs and the No Action Alternative (Existing Conditions), and providing sufficient analysis for a recommendation by the Secretary of the Interior to U.S. Congress by September 2005. The project is located in Somerset County and can be found on the Stoystown and the Central City quads. A copy of the approved boundary map is enclosed. The area in light green composes approximately 1,200 acres and is the core area for the park. The area in dark green is land to be protected in partnership with local residents through less-than-fee means such as scenic easements. In total, the park unit comprises approximately 2,200 acres, including the scenic easements. The predominance of the site (the core area) is reclaimed strip mine, but a small family cemetery is located in the northern portion of the site. This cemetery is not expected to be impacted. A second cemetery was initially located on old maps, but we have learned that these graves were relocated several years ago.

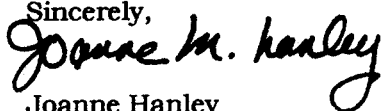
In the coming months, the design finalists will proceed with refining their conceptual designs and will provide more detailed information on their various proposals for the site. In the meantime, we have an ambitious schedule to maintain and plan to publish a draft GMP/EIS at the end of May. The National Park Service wishes to initiate

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section 106 consultation with the Pennsylvania Historical and Museum Commission, Bureau for Historic Preservation, and provide you with any additional information you may need for your determination.

If you have any questions or need further information, please call Jeff Reinbold, Project Planner for Flight 93 National Memorial or me at 814-443-4557. We are requesting your comments by April 4, 2005.

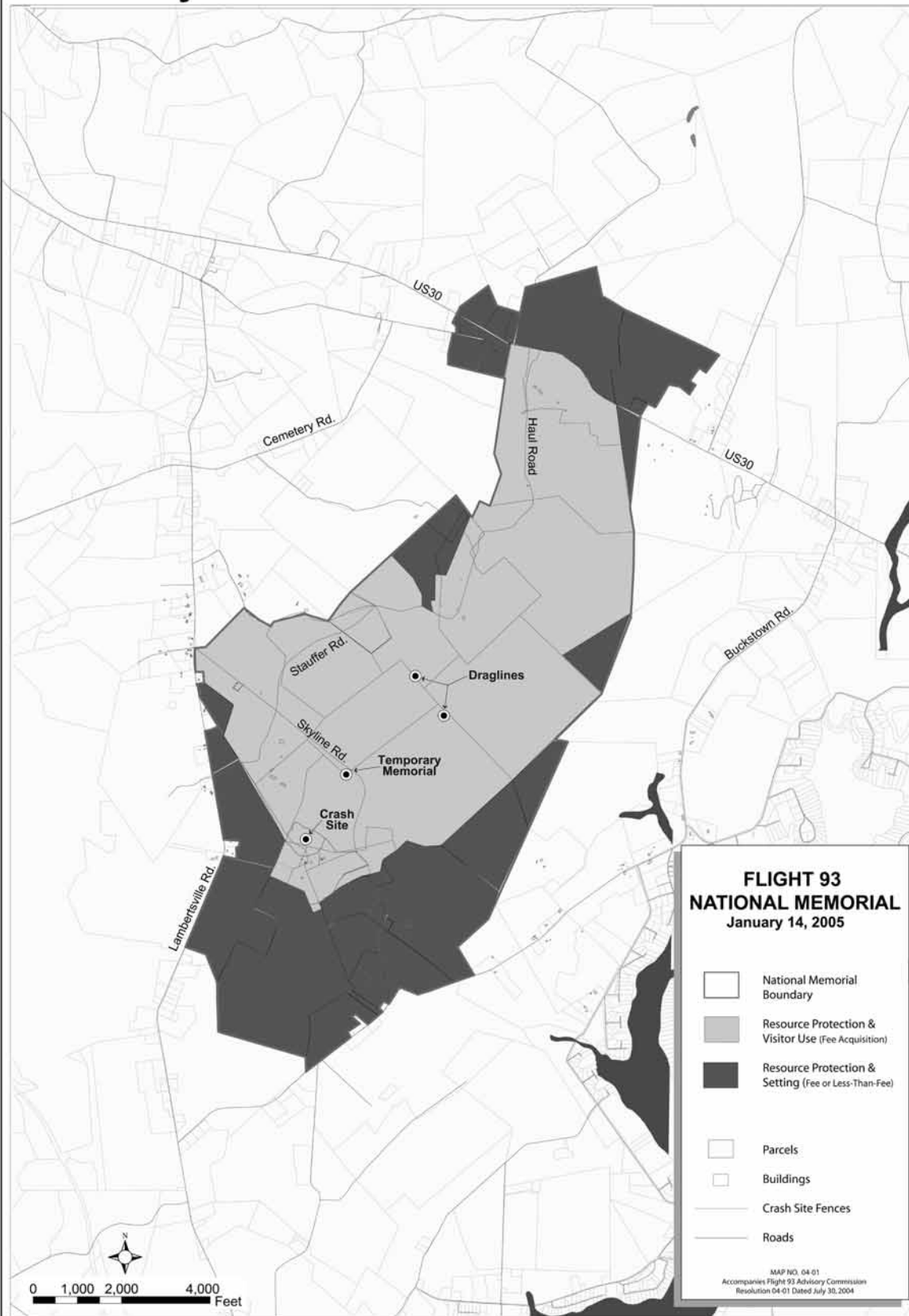
Sincerely,

A handwritten signature in black ink that reads "Joanne M. Hanley". The signature is written in a cursive style with a large, stylized "J" and "H".

Joanne Hanley
Superintendent
Flight 93 National Memorial

Enclosure

Boundary





Commonwealth of Pennsylvania
Pennsylvania Historical and Museum Commission
Bureau for Historic Preservation
Commonwealth Keystone Building, 2nd Floor
400 North Street
Harrisburg, PA 17120-0093

December 30, 2003

Jeffery Reinbold, Chief Planner
National Park Service
109 West Main Street, Suite 104
Somerset, PA. 15501

RE: ER# 04-0631-111
Flight 93 National Memorial
Stonycreek Twp., Somerset Co.

Dear Mr. Reinbold:

The Pennsylvania State Historic Preservation Office has reviewed the proposed Flight 93 National Memorial as described in your letter of 11/28/03 in accordance with the National Historic Preservation Act and the regulations of the Advisory Council on Historic Preservation. Although, we do not have specific boundaries for this project, we have a general location and we have been informed that 90% of the proposed project will be located on land reclaimed from surface mining. We have checked both our historic structures files and the Pennsylvania Archaeological Site Survey files. We do not have any resources recorded for the area around the crash site and extending north to Rt. 30. However, there are buildings in the project area and for any structures that are over 50 years old, a Pennsylvania Historic Resources survey form should be completed so that these structures can be reviewed by our National Register committee. Further, we would recommend that all areas beyond the reclaimed land should be evaluated for their archaeological potential. Although, no sites have been recorded, portions of the project area are topographically similar to areas where sites have been recorded in the county. Specifically, there is a high probability for significant prehistoric archaeological resources to be located adjacent to the wetland area just south of the crash site and on the saddle just east of the reclaimed area. If earth disturbing construction activities are planned for these areas, we would recommend that archaeological surveys be conducted during the planning phase.

If we can be of any further assistance, I can be contacted at (717) 705-4035 or at jecutler@state.pa.us.

Sincerely,


Jean Cutler
Director



United States Department of the Interior

National Park Service
Flight 93 National Memorial
109 West Main Street, Suite 104
Somerset, PA 15501



In reply refer to:

D18

August 12, 2005

Federal Preservation Officer
National Park Service
1201 Eye Street, N.W., 8th Floor
Washington, DC 20005

Subject: Flight 93 National Memorial Listing in the National Register of Historic Places

Dear Madam:

On September 24, 2002, Congress enacted the "Flight 93 National Memorial Act," (P.L. 107-226), which authorized "*a national memorial to commemorate the passengers and crew of Flight 93 who, on September 11, 2001, gave their lives thereby thwarting a planned attack on our Nation's Capital...*". As stated, the purpose of this Act is to establish a national memorial to honor the passengers and crew of United Airlines Flight 93. Section 3 of this Act established a memorial at the crash site of United Airlines Flight 93 in Stonycreek Township, Somerset, Pennsylvania.

This Act created the Flight 93 National Memorial (NM), and specifically designated the crash site of Flight 93, located in Stonycreek Township, Somerset County, Pennsylvania, as the site to honor the passengers and crew of Flight 93 and to designate this site a unit of the national park system. Designation of Flight 93 NM as a unit of the national park system by Congress automatically listed the crash site in the *National Register of Historic Places*. This site was officially listed in the National Register on November 8, 2002 (see enclosed listing).

Under the provisions of P.L. 107-226, Congress established the Flight 93 Advisory Commission and directed the Advisory Commission and the National Park Service to accomplish three principal tasks by September 2005:

1. Advise the Secretary of the Interior on the boundary of the national memorial;
2. Submit recommendations for the planning, design, and construction of the national memorial; and
3. Develop a management plan for the site.

Boundary Recommendation

On July 30, 2004, the Advisory Commission submitted Resolution 0410 to the Secretary of the Interior, recommending a boundary for the Flight 93 National Memorial. The Secretary approved the boundary on January 14, 2005, as shown on the enclosed map. A notice announcing the Secretary's approval of the boundary was published in the *Federal Register* on March 21, 2005 (see enclosure). Most of the land within the boundary remains in private ownership. The core area of the memorial is comprised of approximately 1,200 acres with another 1,000 acres included around the perimeter to protect the viewshed.

Design Competition

The first stage of an open design competition for a permanent memorial was conducted from September 11, 2004 through January 11, 2005. In February, a jury selected five final designs. These five designs are on public



display through September 25, 2005. A jury met in early August to select the final design. The final design will be announced on September 7, 2005.

General Management Plan/Environmental Impact Statement

The National Park Service is currently preparing a General Management Plan/Environmental Impact Statement (GMP/EIS) to guide the future of the Flight 93 National Memorial. During the scoping process for this project, which began in December 2003, the National Park Service coordinated with the Pennsylvania Bureau for Historic Preservation. The enclosed listing of National Register Properties, dated March 11, 2005, shows the Flight 93 Crash Site listed in the National Register for Historic Places. The Bureau for Historic Preservation has reviewed the project and granted clearance pursuant to Section 106 of the National Historic Preservation Act of 1966.

In 2004, the National Park Service prepared a draft *Cultural Landscapes Inventory* (CLI) for the Flight 93 National Memorial, based on data collected in May 2003. The CLI provides baseline information of the existing conditions, and documents each landscape's location, physical development, condition, significance, and National Register eligibility, as well as other important information for park management. A copy of the draft CLI is enclosed for your files.

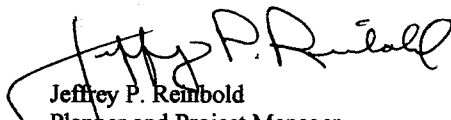
The draft CLI included an inventory of the structures within the boundary. Of these, three log cabins and an ashlar stone cabin located in the hemlock grove south of the crash site were recommended for a historic structures survey in the future. The log cabins were constructed as summer homes some time during the 1930s-1940s. The National Park Service is proposing to retain these cabins if acquired.

The remaining structures within the boundary are industrial buildings formerly used as maintenance and welding shops, mining offices and a shower house. During the investigations that occurred subsequent to the crash, some of these buildings were occupied by the FBI, NTSB and other investigators. None of the buildings within the boundary are either listed in or determined eligible for listing in the National Register of Historic Places.

Some of the final designs propose to remove these structures, and some present minor modifications to the crash site. The final five designs can be reviewed by accessing the project website at <http://www.flight93memorialproject.org>.

If you have any questions, please contact me at 814-443-4557. Thank you for your attention to this important project.

Sincerely,



Jeffrey P. Reinbold
Planner and Project Manager
Flight 93 National Memorial

Enclosures:

Listing of National Register Properties
Boundary Map No 04-01
Federal Register Notice (70 FR 13538-13539)
Cultural Landscapes Inventory-Flight 93 NM



U.S. Department
of Transportation

**Federal Aviation
Administration**

Harrisburg Airports District Office
3911 Hartzdale Drive, Ste. 1100
Camp Hill, PA 17011
(717) 730-2830 phone
(717) 730-2838 FAX

JUN 08 2004

Jeffrey Reinbold, Chief Planner
National Park Service
109 West Main Street, Suite 104
Somerset, PA 15501

Re: Flight 93 Memorial
Environmental Impact Statement
Scoping Comments

Dear Mr. Reinbold:

Thank you for extending the Federal Aviation Administration (FAA) the opportunity to comment on the National Park Service's Flight 93 Memorial planning efforts. We are pleased to participate in this effort to honor our citizen-heroes.

Pursuant to Title 49, United States Code, Section 40103(b), the FAA Administrator is responsible for developing plans and policies for the use of the navigable airspace and assigning, by regulation or order, the use of the airspace necessary to ensure the safety of aircraft and the efficient use of airspace. Accordingly, any plans to regulate the airspace over the memorial must be coordinated with this office and the FAA Eastern Region. The FAA is concerned that a proposed flight restriction may have an adverse effect on the utility of nearby Sommerset County Airport and/or the National Air Transportation System.

Again, thank you for the opportunity to comment. If you have any questions regarding this issue, please contact me at 717-730-2830.

Sincerely,

A handwritten signature in black ink, which appears to read "Wayne Heibeck".

Wayne Heibeck, Manager
Harrisburg Airports District Office

cc: William Flanagan, AEA-600
Tom Felix, AEA-610



Pennsylvania Natural Diversity Inventory

Scientific information and expertise for the conservation of Pennsylvania's native biological diversity

December 16, 2003

717-772-0258
fax 717-772-0271

Bureau of Forestry

Joanne Hanley
US Dept. of Interior/ NPS
109 West Main St.
Somerset, PA 15501

Re: Pennsylvania Natural Diversity Inventory Review of the Proposed Flight 93 National Memorial, Stonycreek Township, Somerset County **PER NO: 15328**

Dear Ms. Hanley:

In response to your request on November 28, 2002 the Pennsylvania Natural Diversity Inventory (PNDI) information system was used to gather information regarding the presence of resources of special concern within the referenced site. PNDI records indicate no occurrences of **plant** species of special concern within the project area, therefore we do not anticipate any impact on endangered, threatened, or rare plant species at this location.

Because of the close proximity of the project to species of special concern outside our jurisdiction, our office recommends that you contact **Bonnie Dreshem** of US Fish & Wildlife Service at **(814) 234-4090** for recommendations on potential impact on endangered animals in the area.

This response represents the most up-to-date summary of the PNDI data files and is applicable for one year. However, an absence of recorded information does not necessarily imply actual conditions on site. A field survey of any site may reveal previously unreported populations. Should project plans change or additional information on listed or proposed species become available this determination may be reconsidered.

Sincerely,

Justin P. Newell
Environmental Review Specialist

Western Pennsylvania Conservancy
209 Fourth Ave.
Pittsburgh, PA 15222
(412)288-2777
www.paconserve.org

Pennsylvania Dept. of Conservation and Natural Resources
Bureau of Forestry
P. O. Box 8552
Harrisburg, PA 17105-8552
(717)787-3444
www.dcnr.state.pa.us

The Nature Conservancy
208 Airport Drive
Middletown, PA 17057
(717)948-3962
www.tnc.org

APPENDIX C

Flight 93 National Memorial Related Plans, Projects and Other Activities

Flight 93 National Memorial Related Plans, Projects and Other Activities

The following information summarizes some of the pertinent plans, projects and other activities in Somerset County that either relate to commemorating Flight 93 or directly affect access to the memorial and management of the memorial's resources.

PENNSYLVANIA TURNPIKE INTERCHANGE IMPROVEMENT PROJECT

The Pennsylvania Turnpike Commission completed major reconstruction on the Somerset interchange in the fall of 2004.

SOMERSET COUNTY COMPREHENSIVE PLAN UPDATE

In July 2003, the Somerset County Planning Commission published a draft county comprehensive plan update. This plan summarizes ten key initiatives proposed to spur new economic opportunities and enhance the quality of life. Initiative #7 addresses zoning and land development. This initiative sets forth a goal "to ensure that new development conserves and maintains the positive character qualities of the county and its landscape and to provide for growth which is consistent with infrastructure investments."

FLIGHT 93 NATIONAL MEMORIAL CORRIDOR PLANNING STUDY

The Somerset County Commissioners, in conjunction with several local jurisdictions, are preparing a planning study of the corridors leading from the turnpike interchange in Somerset to the Flight 93 National Memorial. In January 2005, the following jurisdictions passed a resolution agreeing to participate in the corridor planning study: Somerset Borough and Jenner, Shade, Somerset and Stonycreek townships. The study is being funded through grants from the Commonwealth of Pennsylvania and supported by the National Park Service and the Pennsylvania Environmental Council.

The study will evaluate portions of Routes 281, 219 and U.S. Route 30 and assess the potential for residential, commercial and other development along these corridors and recommend strategies for "encouraging economic development while keeping the rural character of the area intact." The corridor planning study will—¹

- Identify options to preserve the existing rural features along the future corridor, while encouraging economic development;
- Understand the needs and desires of local landowners and business owners;
- Determine the potential for new growth, including what it may be and where it could be located;

- Give options to local officials as to managing new growth and development within the corridor area, including what the new development would include;
- Consider ways in which municipalities and the county can work with each other to address common planning and development options; and
- Identify existing historic and natural assets, including corridor landscapes for protection

THE MONUMENT FOR LIFE AT QUEECREEK

In July 2002, nearly one year after the Flight 93 crash on September 11, 2001, the citizens of Somerset County experienced yet another ordeal. A dramatic rescue of nine miners trapped in a nearby flooded deep mine for 77 hours occurred, once again testing the mettle of a shaken community. In July 2004, a memorial dedicated to the dramatic rescue of the Queecreek miners was constructed to "educate the public and preserve for future generations the integrity and details surrounding this miraculous mine rescue." A museum is scheduled to open in the Windber Coal Heritage Center in May 2005 that will tell the tales of the coal miners and their families and teach about their lifestyle. Tours to Flight 93 NM have been linked with those to the Queecreek museum and memorial.

THE LEGACY GROVES

The Legacy Groves of Somerset County are plantings of sugar maples in memory of those killed when Flight 93 crashed near Shanksville and in appreciation of the first responders on the scene. The Legacy Groves, funded through the U.S. Forest Service and the Kiski Basin Initiatives of Johnstown, were planted by students in the Horticulture and Forestry classes at the Somerset County Career Technology Center. A nursery for the Legacy Grove began in 2003. Groves of maple trees are planned throughout Somerset County.

HEROES GARDEN AND MEMORIAL TO FLIGHT ATTENDANTS ON FLIGHT 93

The Garden Club Federation of Pennsylvania is planning to establish a "Heroes Garden" honoring the passengers and crew of Flight 93 during an Arbor Day observance on April 30, 2005, at the Flight 93 Memorial Chapel near Shanksville. The garden will include flower beds and ornamental trees along with two registered "Liberty" elms that were donated to the chapel in 2002 by Westmont Borough. Plans also include walkways constructed of historic paving bricks donated by Patton Borough.

¹Pennsylvania Environmental Council and Somerset Co. Planning Commission information from Flight 93 NM public open house, May 12, 2005.

A subcommittee of the CAUSE Foundation, a support organization for United Airlines flight attendants, is planning a memorial near Shanksville to commemorate the lives of seven crew members who died aboard Flight 93. The monument will include an etching and biographic information of each crew member on seven of its eight sides. The eighth side will be reserved for general information, such as a dedication date. The monument is planned for location at the center of a “Heroes Garden.”

“THUNDER ON THE MOUNTAIN,” UAL FLIGHT 93 MEMORIAL CHAPEL AND THUNDER BELL

“Thunder on the Mountain, UAL Flt 93 Memorial Chapel” is located three miles from the crash site near the town of Shanksville on Stutzmantown-Shanksville Road. The UAL Flt 93 Memorial Chapel is a spiritual memorial and perpetual tribute to honor the Heroes of UAL Flight 93, and all others who perished September 11, 2001. The chapel is secular and non-denominational, and open to all faiths. The chapel will present multi-media programs to the public celebrating the Memory of the Heroes of UAL Flight 93.

The church building, first dedicated in 1902, was previously used for religious services for 70 years. Most recently, the building served as a seed warehouse of the Servos Seed Corporation. The building was purchased privately from the Kurt Servos Family in January 2002 and is currently under reconstruction as the Memorial Chapel.

The Thunder Bell was donated March 11, 2002, by Mr. and Mrs. Harold Knupp to honor Flight 93. Named “Thunder Bell, the Voice of Flight 93,” the bell was transported from storage to the Somerset Foundry where it was cleaned and refurbished. The cast steel bell with wrought cradle, dated 1860, weighs a total of 1,150 pounds. On July 10, 2002, the bell was moved to its current location in front of the UAL Flt 93 Memorial Chapel sanctuary. Thunder Bell, dedicated as the Voice of Flight 93, stands in noble tribute to the Heroes of Flight 93.

NATIONAL PARK SERVICE PLANS

To support the goal of protecting the memorial’s resources and to provide public and interpretive information on the events that occurred on September 11, 2001, the National Park Service is engaged in preparing the following plans, projects and studies:

Flight 93 NM Collections Management Plan—The curatorial items and tributes had been archived and stored at Iron Mountain, north of Pittsburgh, PA. The NPS is currently leasing available space from Somerset County to store tributes and mementos left at the Temporary Memorial. A collections management plan is scheduled for completion in late 2005.

Flight 93 NM Archeological Survey—The National Park Service has entered into an agreement with Indiana University of Pennsylvania to provide an overview of the mining history of the memorial site and a brief overview of any potential archeological and cultural resources within the park boundary. This study is scheduled to begin in 2005.

Flight 93 NM Oral History Study—The Partners of Flight 93 National Memorial are sponsoring an international effort to collect the inclusive story of Flight 93 and its affect on people throughout the nation and around the world. This information will be collected through oral histories and will be available for researchers, interpretation and educational programs at the memorial and for long-term preservation in the National Park Service Archives.

Flight 93 NM Capital Campaign—The Partners of Flight 93 contracted with Ketchum, a marketing and fund raising firm, to prepare a fundraising feasibility strategy. This study concluded that it is possible to raise the private portion of the Federal match to construct a Flight 93 memorial. Ketchum will be implementing a fundraising plan in the future.

Flight 93 NM Land Acquisition Program—Through the Flight 93 NM’s enabling legislation, the National Park Service is authorized to acquire land for the memorial only from willing sellers or from persons wishing to donate or exchange land. PBS Coals, Inc. has donated 29 acres near the crash site to the National Park Service. Another 141 acres have been donated by Consolidation Coal Co. of Pittsburgh and Tim Lambert, a Harrisburg-area resident.

In April 2004, The Conservation Fund acquired the first real property at the Flight 93 NM on behalf of the National Park Service. Two mining draglines were acquired from PBS Coals, Inc. of Friedens, PA. The Fund is also working to acquire 800 acres near the crash site, which include the two draglines and would potentially provide access between the crash site and US 30. In December 2003, the Fund purchased the coal and mineral rights from PBS Coals on land included in the 800 acres.

APPENDIX D

Flight 93 National Memorial National Register Sites Somerset County, PA

NATIONAL REGISTER LISTED PROPERTIES
Pennsylvania Historical-Museum Commission
Bureau for Historic Preservation

3/11/2005

Page 119 of 136

Somerset County

Municipality	KeyNo	Historic Name	Address	Status	Stat Date
Addison Borough	000842	Petersburg Toll House	Main St. Old Rte. 40	Listed	03/30/1979
Addison Township	096950	Wable/Augustine Tavern	U.S. 40, 1 mile East of Addison	Listed	11/27/1995
Allegheny Township	050848	New Baltimore Covered Bridge	T-812, North of New Baltimore	Listed	12/10/1980
Boswell Borough	101704	Boswell Historic District	Howar Ave., Atkinson Way, Quemahoning Creek	Listed	06/03/1994
Brothersvalley Township	050844	Beechdale Bridge	T-548 Over Buffalo Creek, 2 mile Northeast of Garrett	Listed	12/10/1980
Conemaugh Township	050852	Shaffer's Bridge	T-634, North of Thomas Mills	Listed	12/10/1980
Fairhope Township	050845	Packsaddle Bridge	T-407, 2.5 mile Northwest of Fairhope	Listed	12/10/1980
Jefferson Township	088884	Kooser State Park Family Cabin District	Kooser State Park	Listed	02/12/1987
Jenner Township	000108	Bridge in Jenner Township	L.R. 55125, 1.6 mile Northeast of Boswell	Listed	06/22/1988
Jenner Township	093107	Hair, Matthew, Farm	T-747, 1.5 mile North of Pilltown	Listed	10/24/1996
Lower Turkeyfoot Township	050853	Lower Humbert Bridge	T-393, North of Ursina	Listed	12/10/1980
Meyersdale Borough	089249	Second National Bank of Meyersdale	151 Center St. Formerly 226 Main St.	Listed	02/20/2002
Middlecreek Township	050846	Barron's Mill Bridge	L.R. 55118, in Barronvale	Listed	12/10/1980
Middlecreek Township	050847	King's Bridge	Rte. 653	Listed	12/10/1980
Middlecreek Township	088885	Laurel Hill State Park	4 Miles West of New Centerville & PA Rte. 281 on L.R. 5	Listed	05/18/1987
Middlecreek Township	096262	Miller's Store	Junction of S.R. 3029 & S.R. 3033	Listed	07/24/1992
Paint Borough	096748	Windber Historic District	Somerset, Graham Aves., 15th St.	Listed	11/14/1991
Quemahoning Township	050851	Trostletown Covered Bridge	T-647, We of Kantrner	Listed	12/10/1980
Rockwood Borough	089230	Wolf, Penrose, Building	452 W Main St.	Listed	09/13/2002
Shade Township	094516	Cairbrook Historic District	Penn Central RR, McGregor Ave., Windber Ave.	Listed	06/03/1994
Somerset Borough	000843	Somerset County Courthouse	E. Union St. & N. Center Ave.	Listed	06/27/1980
Somerset Borough	100998	Uptown Somerset Historic District	North Kimberlv, Main Columbia & West Catherine	Listed	11/07/1995
Somerset Borough	105188	Uptown Somerset Historic District (Boundary Incr	Bounded by W Union St., N Center Ave., W Main St. and	Listed	03/28/1997
Somerset Township	050849	Walter's Mill Bridge	West of Rte. 985, Somerset Historical Center	Listed	12/10/1980
Somerset Township	078952	Zimmerman, Daniel B., Mansion	800 Georgian Place Dr.	Listed	02/24/1995
Stonycreek Township	125785	Flight 93 Crash Site	North of Shanksville, Off Skyline Rd.	Listed	11/08/2002
Stonycreek Township	050850	Glessner Bridge	T-565, Northwest of Shanksville	Listed	12/10/1980
Stovtown Borough	093009	Hite House	121 W Main St.	Listed	11/23/1998
Stovtown Borough	105454	Stovtown Historic District	Bounded by W & E Forbes Rds, E Main St., Meadow St.,	Listed	09/07/2001
Summit Township	000844	Bollman, W. & Company Bridge	T-516 Just off Rte. 219; 1 mile North of Meyersdale	Listed	11/08/1978
Windber Borough	096748	Windber Historic District	Somerset, Graham Aves., 15th St.	Listed	11/14/1991

Totals: *National Historic Landmarks: 0* *National Register Listed: 30*

APPENDIX E
Flight 93 National Memorial
Water Quality Data

Appendix Table E. Water Quality Analyses from Streams at and Near Flight 93 National Memorial, 1990

Date	Instantaneous Discharge (cfs)	Water Temperature (° C)	Specific Conductance (umhos/cm)	pH	Total Alkalinity (mg/l as CaCO ₃)	Dissolved Residue at 105° C	Total Inorganic Carbon (mg/l as C)	Total Sulfate (mg/l as SO ₄)
STONYCREEK RIVER AT SHANKSVILLE, STATION 801								
09/01/92	11	16.0	557	6.8	58	532	10	190
07/27/93	11	23.5	740	6.8	100	596	19	220
05/24/94	21	18.0	446	6.4	50	360	11	140
LAMBERTS RUN AT LAMBERTSVILLE, STATION 812								
09/01/92	2.6	14.0	2,330	6.7	28	2,360	5.9	1,500
07/27/93	3.9	20.5	2,550	6.6	14	2,450	3.1	1,800
05/23/94	7.2	18.0	2,350	6.1	30	2,450	6.5	1,800
OVEN RUN AT ROWENA, STATION 815								
09/02/92	0.57	13.0	1,930	2.7	0	2,130	<1.0	1,100
07/27/03	0.55	23.5	2,350	2.8	0	2,740	<1.0	2,000
05/24/94	3.1	12.5	1,320	3.2	0	1,240	<1.0	820
PADEP CHAPTER 93 WATER QUALITY CRITERIA								
				6.0 to 9.0	20 or more			250 max.
Total Fluoride (mg/l as F)	Total Recoverable Iron (ug/l as Fe)	Dissolved Iron (ug/l as Fe)	Total Recoverable Manganese (ug/l as Mn)	Dissolved Manganese (ug/l as Mn)	Total Recoverable Aluminum (ug/l as Al)	Dissolved Aluminum (ug/l as Al)	Total Heated Acidity (mg/l as CaCO ₃)	Mineral Acidity methyl orange (mg/l as CaCO ₃)
STONYCREEK RIVER AT SHANKSVILLE, STATION 801								
<0.2	1,000	83	450	210	820	130	0	0
<0.2	500	40	500	440	330	<100	0	–
<0.2	390	220	820	780	<130	<130	0	–
LAMBERTS RUN AT LAMBERTSVILLE, STATION 812								
<0.2	930	81	1,300	1,200	440	<130	0	0
<0.2	1,800	140	1,500	1,300	1,000	170	0	–
<0.2	3,700	300	3,400	3,100	1,300	250	0	–
OVEN RUN AT ROWENA, STATION 815								
0.8	23,000	23,000	21,000	21,000	26,000	26,000	350	124
0.5	21,000	19,000	39,000	36,000	46,000	42,000	450	136
0.5	15,000	15,000	15,000	15,000	19,000	18,000	190	66
PADEP CHAPTER 93 WATER QUALITY CRITERIA								
2.0 (d.a.)	1,500 (daily avg., 30 days)		1,000 (Note: standards for F, Mn, and Sulfate are for public water supplies.)					

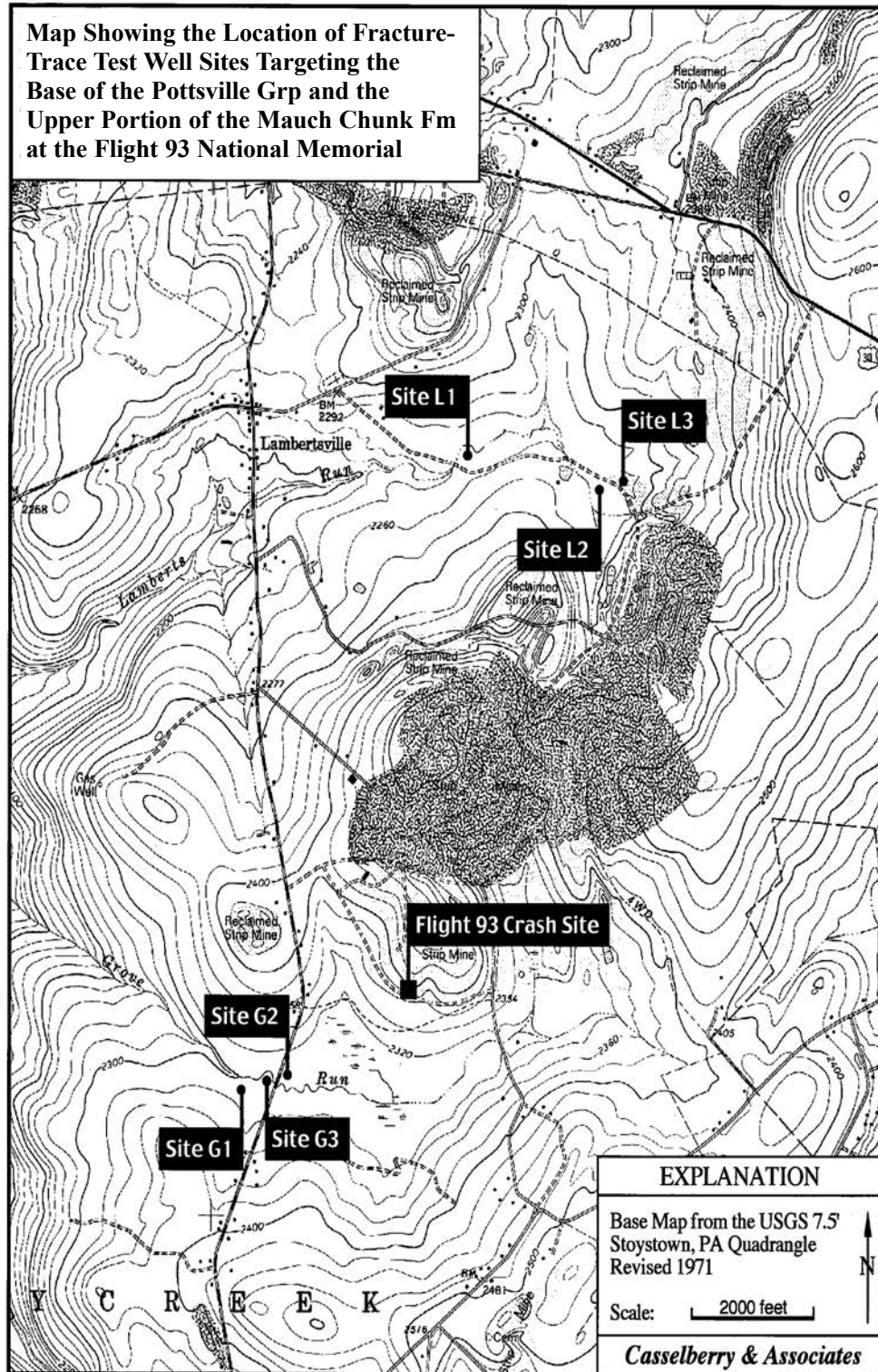
Note: Data from laboratory analyses of samples that characterize surface water quality during the early 1990s in the vicinity of the Flight 93 Memorial study area (Williams, Sams, and Mulkerrin 1996). Station 801 is upstream from the study area. Station 812 is just west of the study area and downstream at Lambertsville Road. Station 815 is downstream from the study area near the mouth of Oven Run.

Source: Schmid & Company and Cahill Associates, Inc., 2004.

APPENDIX F

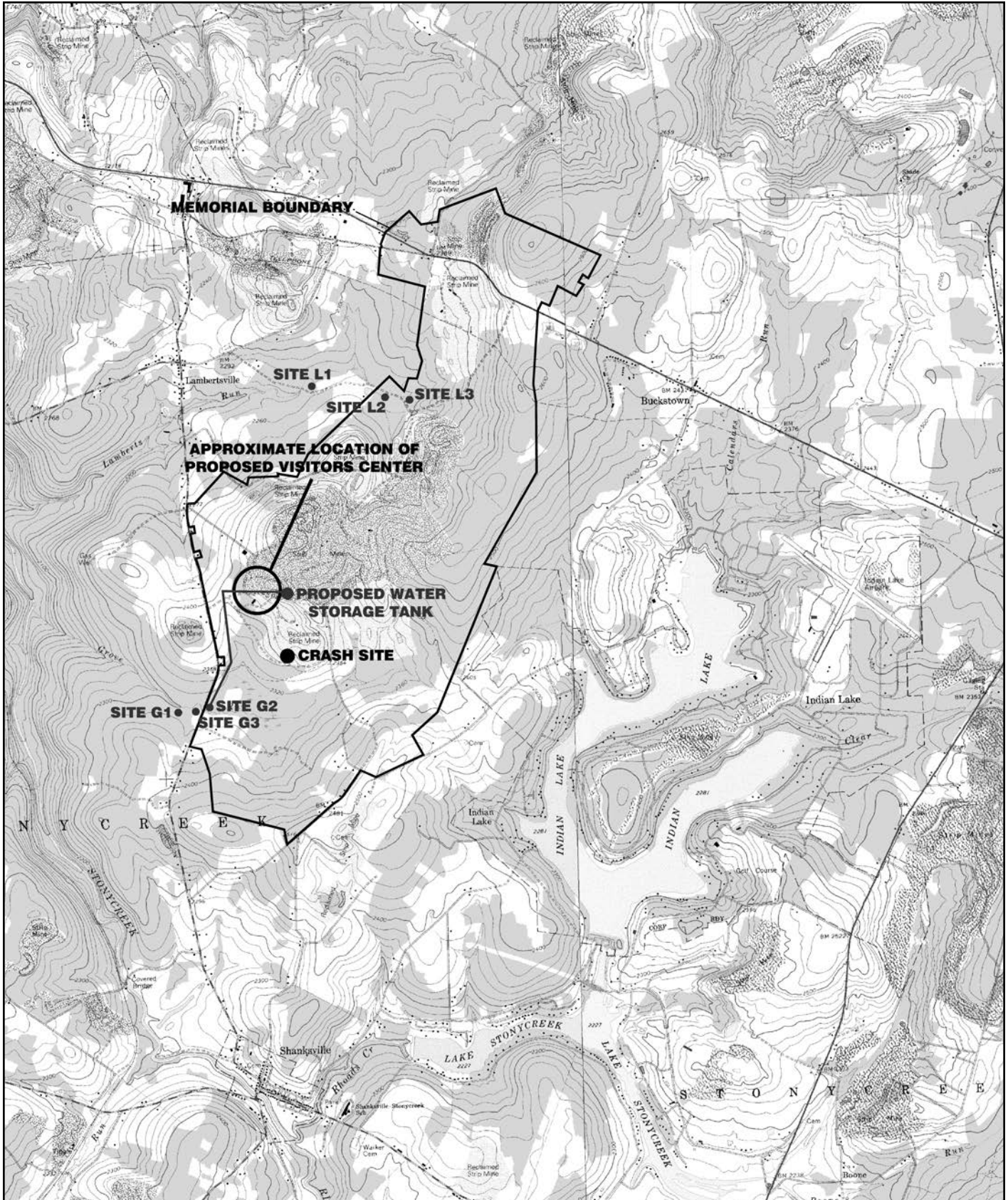
Flight 93 National Memorial Potable Water and Sewage Treatment Options

**APPENDIX F-1: PROPOSED TEST WELL SITES FOR POTABLE WATER
AT FLIGHT 93 NATIONAL MEMORIAL**



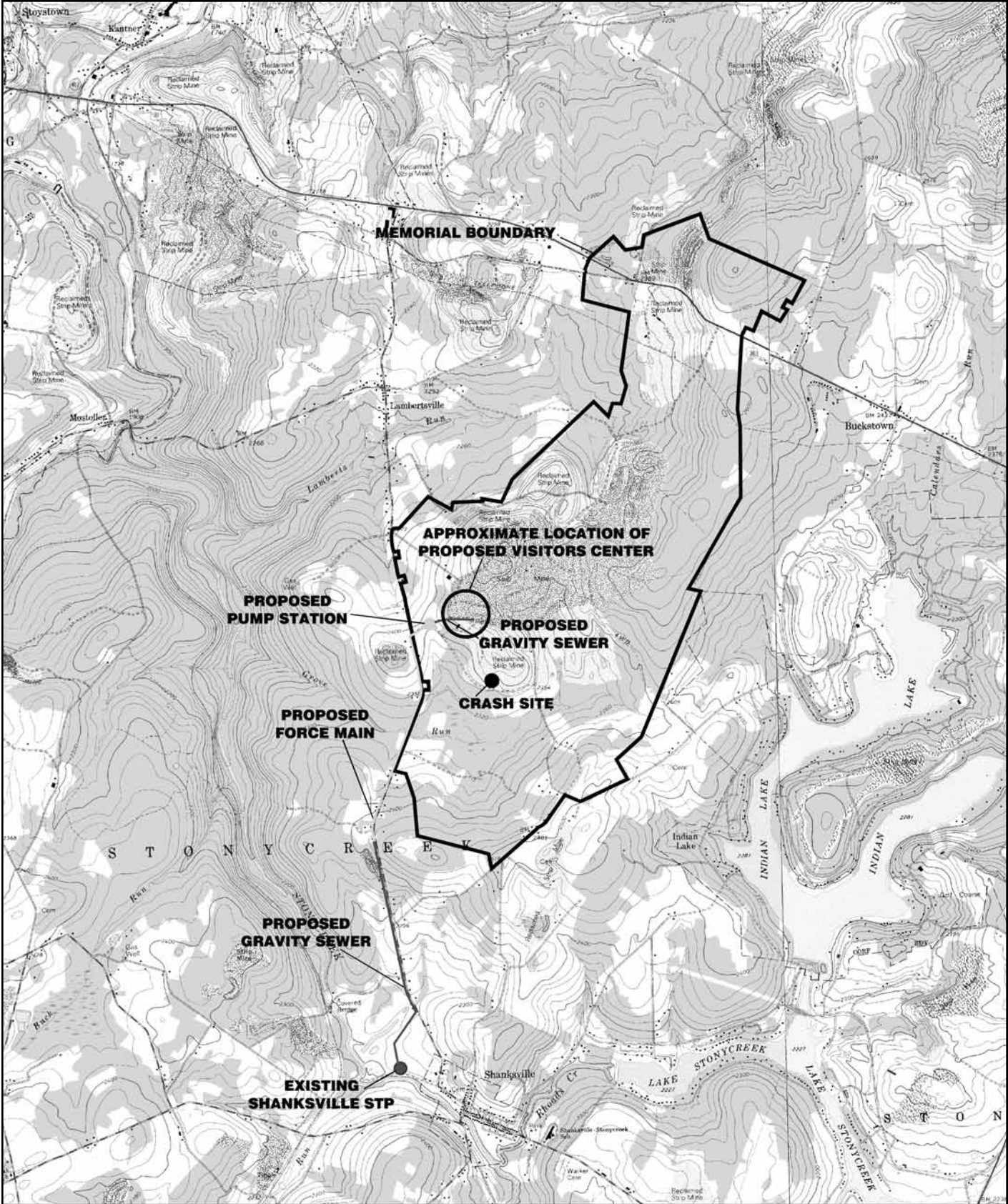
Source: The Eads Group Engineering and Design Services

APPENDIX F-2: POSSIBLE FLIGHT 93 NM ONSITE DEEP WELL OPTIONS



Source: The Eads Group Engineering and Design Services

APPENDIX F-3: PROPOSED CONVEYANCE OF FLIGHT 93 NM SEWAGE TO SHANKSVILLE BOROUGH SEWAGE TREATMENT PLANT



Source: The Eads Group Engineering and Design Services

APPENDIX G

**Flight 93 National Memorial
Transportation and Traffic Data**

Flight 93 National Memorial Transportation and Traffic Data

APPROACH ROUTE A: PENNSYLVANIA TURNPIKE (EXIT 110) TO PROPOSED SITE ENTRANCE VIA STATE ROUTE 281 (S.R. 0281)/U.S. ROUTE 30.

Two-way average daily traffic (ADT) volumes along S.R. 0281 vary from 4,700 vehicles per day (vpd) during the weekday to 4,200 vpd on Saturdays and 2,900 vpd on Sundays. Truck traffic is high during the average weekday, varying from 10 to 14 percent of the total traffic during the weekday, 5 to 6 percent on Saturdays, and 2 percent on Sundays.

Land uses along S.R. 0281 include a mix of residences, including single-family homes and manufactured-housing communities, several large churches, and a range of small businesses, such as gas stations, storage facilities, etc. Within Somerset Township, this pattern of development is nearly continuous. In Quemahoning Township, similar development patterns occur along the roadway, although at a lower density. Significant establishments located along this road include the Somerset County Airport, Friedens Elementary School, Pennsylvania National Guard Armory and the Friedens Volunteer Fire Station.

A15-mph school zone is designated by flashing beacons and blank-out signs in the vicinity of the Friedens Elementary School. There are three (3) traffic signals located along S.R. 0281 along the route in Somerset Borough. Horizontal and vertical alignments along this roadway are typically good, and provide generally adequate sight distances and moderate grades at numerous locations. Increased traffic along this route could adversely impact the adjacent land uses by increasing congestion, noise and pollution.

Between the Pennsylvania Turnpike (Interstate 70/76) and S.R. 0281, drivers must use Pleasant Avenue (S.R. 4055), which is wide and has a center turn lane. A railroad crossing is located on S.R. 0281 at Pleasant Avenue, as well as a narrow (approximately 20 feet wide) underpass of the Pennsylvania Turnpike. A single traffic light is located at the intersection of S.R. 4055 and S.R. 0281. The speed limit along Pleasant Avenue is posted at 25 miles per hour.

Two-way ADT volumes along U.S. Route 30 range from 3,800 to 4,300 vehicles per day (vpd) during the weekday, 3,300 to 3,800 vpd on Saturdays and 2,800 to 3,200 vpd on Sundays. Truck traffic is particularly high along this roadway during the average weekday, varying from 27 to 33 percent during the weekday, 6 to 8 percent on Saturdays and 5 to 6 percent on Sundays. Passing is permitted in specific locations along this roadway.

Single-family residences and small businesses are scattered along U.S. Route 30, none of which currently generate significant amounts of traffic. Horizontal and vertical alignments are poor at some locations along this roadway, particularly in the vicinity of the memorial. Inadequate sight distances and steep grades occur

at numerous locations. Average travel times for Approach Route A are shown below:

- Average Travel Time to Memorial = 17.3 minutes
- Average Travel Time from Memorial = 18.1 minutes
- One-Way Driving Distance = 14.2 miles

APPROACH ROUTE B: PENNSYLVANIA TURNPIKE (EXIT 110) TO PROPOSED SITE ENTRANCE VIA STATE ROUTE 601 (S.R. 601)/U.S. ROUTE 219/U.S. ROUTE 30.

S.R. 601 is one of the few roadways in the County that experiences congestion, particularly during evening rush hour. The traffic generated on this regional corridor has taxed the capacity of the roadway which lacks proper facilities to handle the increase in turning movements. Various road segments in the urbanized area of the County are currently at peak capacity, and have high truck volumes, lack of turning lanes, have signalization adjustment needs and induce the spread of commercial development.¹

S.R. 601 was studied in PennDOT's Congested Corridor Improvement Program (CCIP), a pilot program initiated to examine various traffic corridors that exhibit traffic delays. An examination of the future (2013) No Build condition showed that this corridor has a Level of Service (LOS) C at all of the corridor traffic signals except Main Street and Somerset Commons. These areas operate at LOS D or LOS E during some peak periods, especially the weekday evening rush hour.

Traffic counts showed that the average two-way traffic volume on S.R. 601 during the weekday was 17,500 vpd; two-way peak hour counts totaled 1,383 vph. With minimum speeds in the upper teens to lower 20 mph, the overall LOS on SR 601 was between LOS C and LOS D. The Turnpike ramp intersection is the most critical signalized intersection with the S.R. 601 corridor. LOS E and LOS F conditions were shown to occur on S.R. 601 approaches to this intersection, and LOS E conditions were shown at the West Main Street and Lake Road intersections.

Numerous traffic signals and businesses, as well as some single-family residences, are located along S.R. 601. Many of the businesses, such as restaurants, auto dealerships, gas stations, and several large retail developments, are heavy traffic generators. Eleven traffic signals exist between the Pennsylvania Turnpike and U.S. Route 219 that typically involve auxiliary left and right turn lanes. Horizontal and vertical alignments along this roadway are typically good and provide adequate sight distances and minimal grades. The amount of congestion existing in this corridor poses some concern for traffic flow from increased local traffic.

¹Somerset County Comprehensive Plan Update. July 31, 2003, App. B, p. B-67.

Two-way ADT volumes along U.S. Route 219 range from 11,300 vpd during the weekday to 7,900 vpd on Saturdays and 6,700 vpd on Sundays. Truck traffic is high during the average weekday, ranging from 16 to 18 percent during the weekday, from 6 to 7 percent on Saturdays, and from 5 to 7 percent on Sundays. As a limited access highway, direct access to residences and businesses is not provided along U.S. Route 219. Horizontal and vertical alignments along this roadway range from good to fair, and provide adequate sight distances, though grades can be moderate at times.

The characteristics of U.S. Route 30, including ADT volumes and truck traffic, are provided in the description for Approach Route A. Average travel times under Approach Route B are shown below:

- Average Travel Time to Memorial = 23.8 minutes
- Average Travel Time from Memorial = 21.8 minutes
- One-Way Driving Distance = 19.4 miles

APPROACH ROUTE C: PENNSYLVANIA TURNPIKE (EXIT 110) TO PROPOSED SITE ENTRANCE VIA STATE ROUTE 281/U.S. ROUTE 219/U.S. ROUTE 30.

Approach Route C uses roadways that are also described in Approach Routes A and B, with the exception that drivers utilize State Route 281 (S.R. 0281) to access U.S. Route 219 (S.R. 0219) rather than using State Route 601 (S.R. 0601) to U.S. Route 219. For this portion of State Route 281, drivers must also use Pleasant Avenue (S.R. 4055) between the Pennsylvania Turnpike (Interstate 70/76) and S.R. 281. Average travel times under Approach Route C are shown below:

- Average Travel Time to Memorial = 22.6 minutes
- Average Travel Time from Memorial = 21.3 minutes
- One-Way Driving Distance = 19.4 miles

The characteristics of U.S. Route 30, including ADT volumes and truck traffic, are described for Approach Route A.

APPROACH ROUTE D: PENNSYLVANIA TURNPIKE (EXIT 146) TO PROPOSED SITE ENTRANCE VIA U.S. ROUTE 30 EAST OF MEMORIAL – ARRIVING FROM BEDFORD INTERCHANGE (EXIT 146).

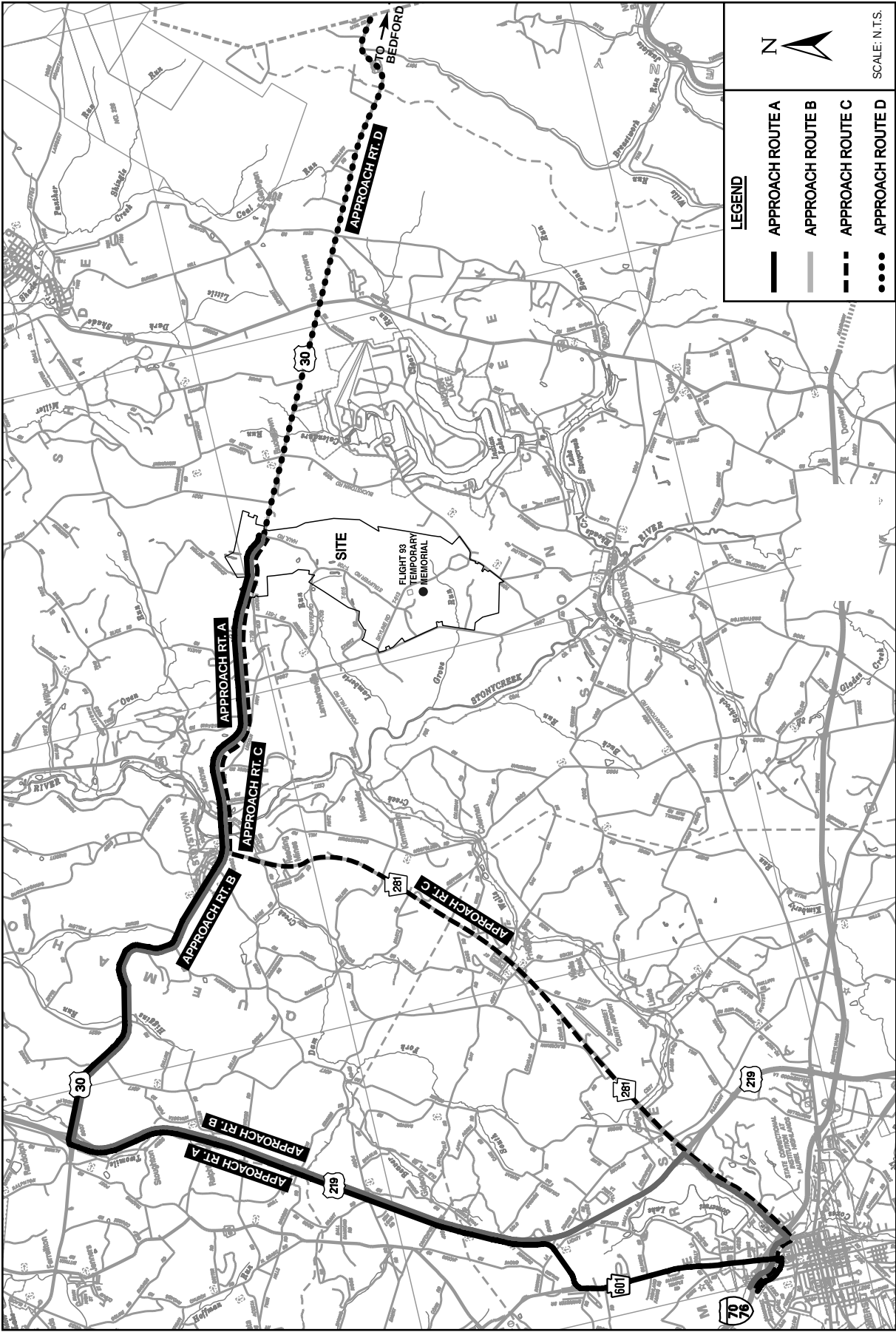
Speed limits along U.S. Route 30 east of the Memorial range from 35 miles per hour within the vicinity of Buckstown and in Schellsburg to 55 miles per hour for passenger vehicles. However, these speed limits are not posted for much of the route and are based on the roadway classification. Truck speeds are down-posted to 20 mph due to grades up to 9 percent for a distance of 6 miles. Advisory signage down-posts speeds for passenger vehicles as low as 20 miles per hour at several very tight bends in the roadway. There are no posted weight restrictions.

Two-way ADT volumes along this roadway range from 3,800 to 4,300 vpd during the weekday, from 3,300 to 3,800 vpd on Saturdays, and from 2,800 to 3,200 vpd on Sundays. Truck traffic is particularly high along this roadway during the average weekday, ranging from 27 to 33 percent during the weekday, from 6 to 8 percent on Saturdays, and from 5 to 6 percent on Sundays. Passing is permitted in certain locations, with truck climbing lanes provided between Schellsburg and Reels Corners. However, passing zones are restricted within the lengthy grade section.

A mix of single-family residences and small businesses is located along this roadway, none of which would generate significant amounts of traffic. Horizontal and vertical alignments are poor, and sight distances are inadequate. Dangerous curves and long, steep grades (up to 9 percent) occur for about 6 miles. Trucks heading eastbound toward Bedford are traveling mainly downhill and must stop at two locations during the extended descent. Average travel times under Approach Route D are shown below:

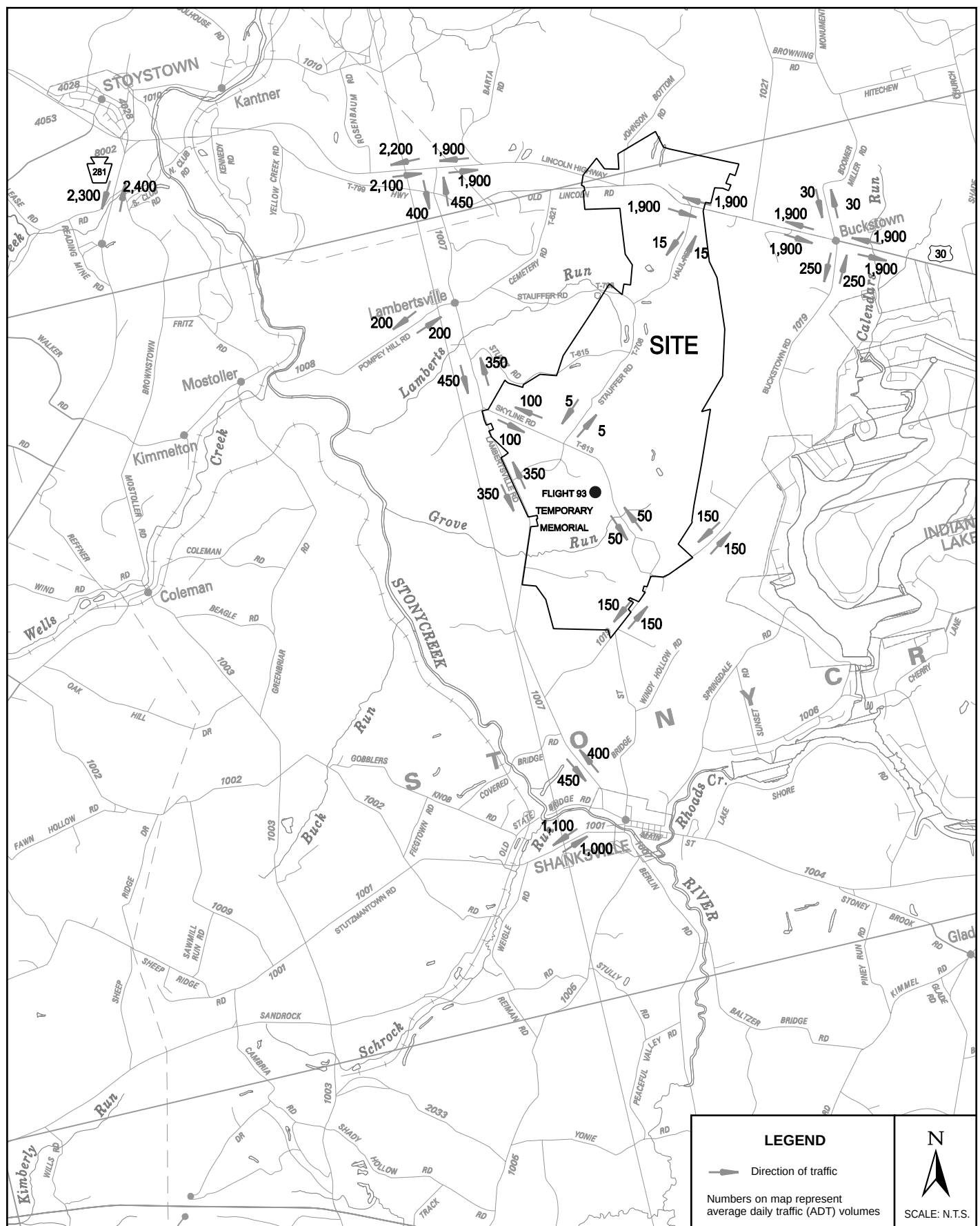
- Average Travel Time to Memorial = 34.1 minutes
- Average Travel Time from Memorial = 34.2 minutes
- One-Way Driving Distance = 25.6 miles

APPENDIX MAP G-1: POTENTIAL ARRIVAL ROUTES TO MEMORIAL, FLIGHT 93 NATIONAL MEMORIAL



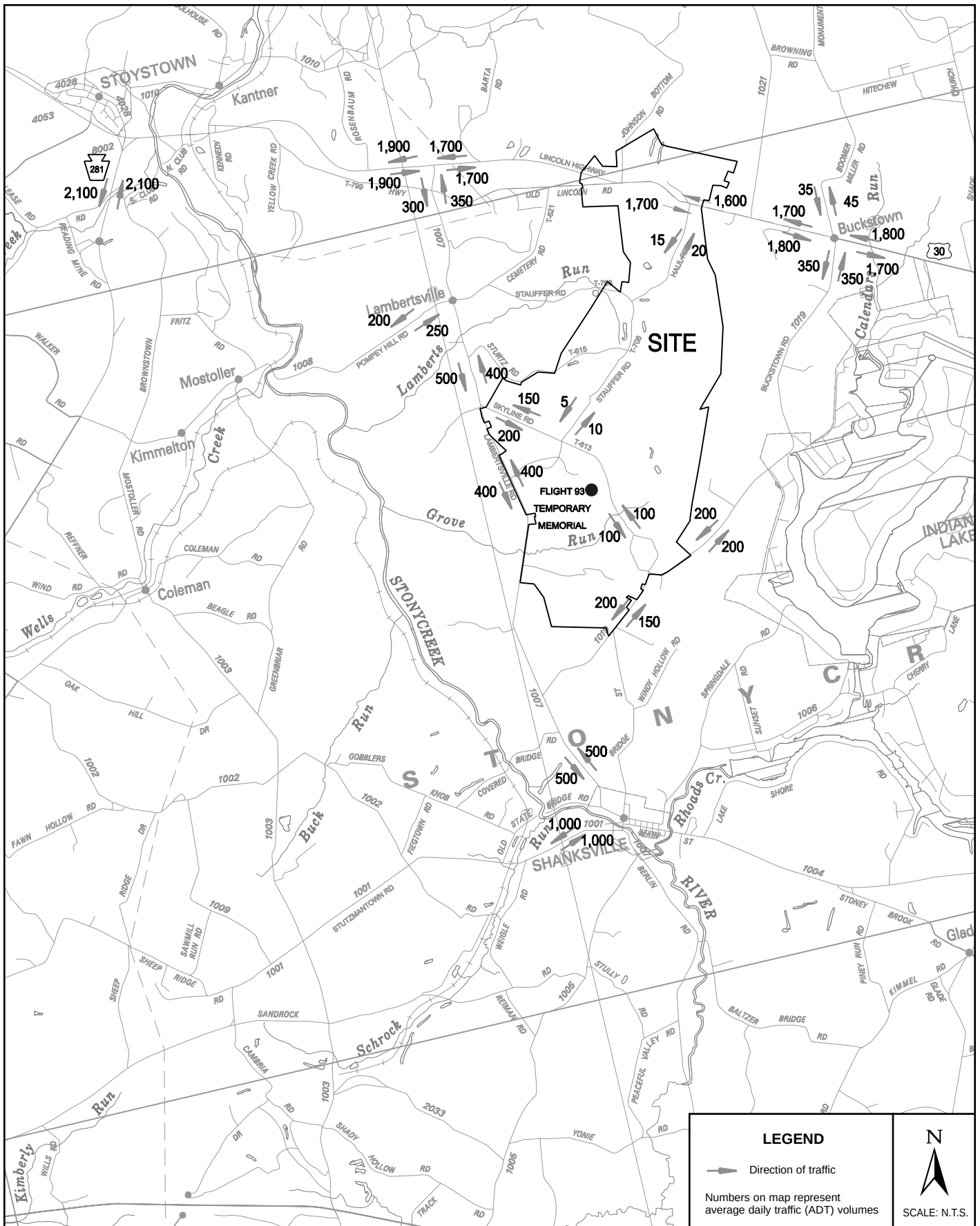
Source: Trans Associates, 2005

APPENDIX MAP G-2: WEEKDAY AVERAGE DAILY TRAFFIC VOLUMES, FLIGHT 93 NATIONAL MEMORIAL



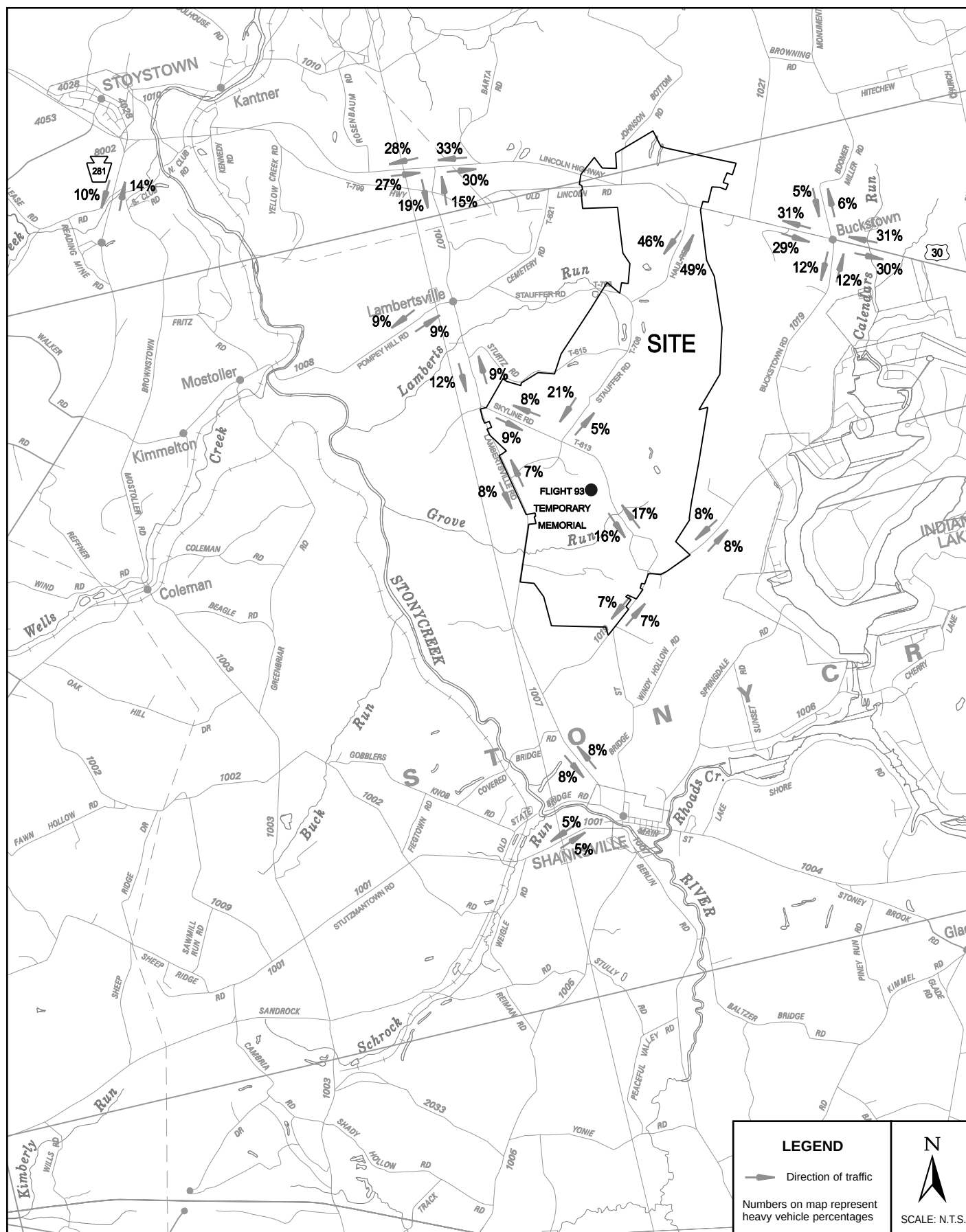
Source: Trans Associates, 2005

APPENDIX MAP G-3: SATURDAY AVERAGE DAILY TRAFFIC VOLUMES, FLIGHT 93 NATIONAL MEMORIAL



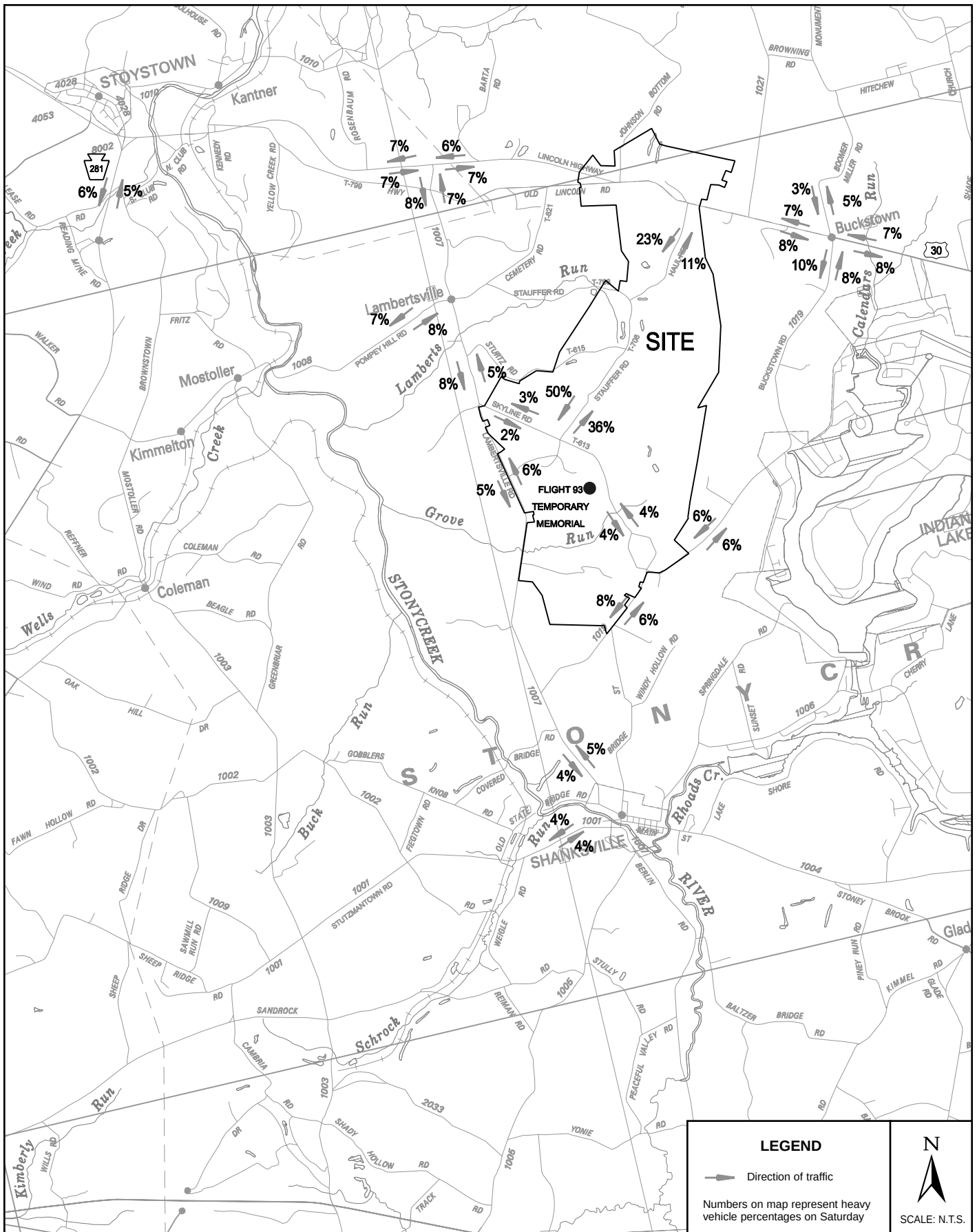
Source: Trans Associates, 2005

APPENDIX MAP G-4: WEEKDAY HEAVY VEHICLE PERCENTAGES, FLIGHT 93 NATIONAL MEMORIAL



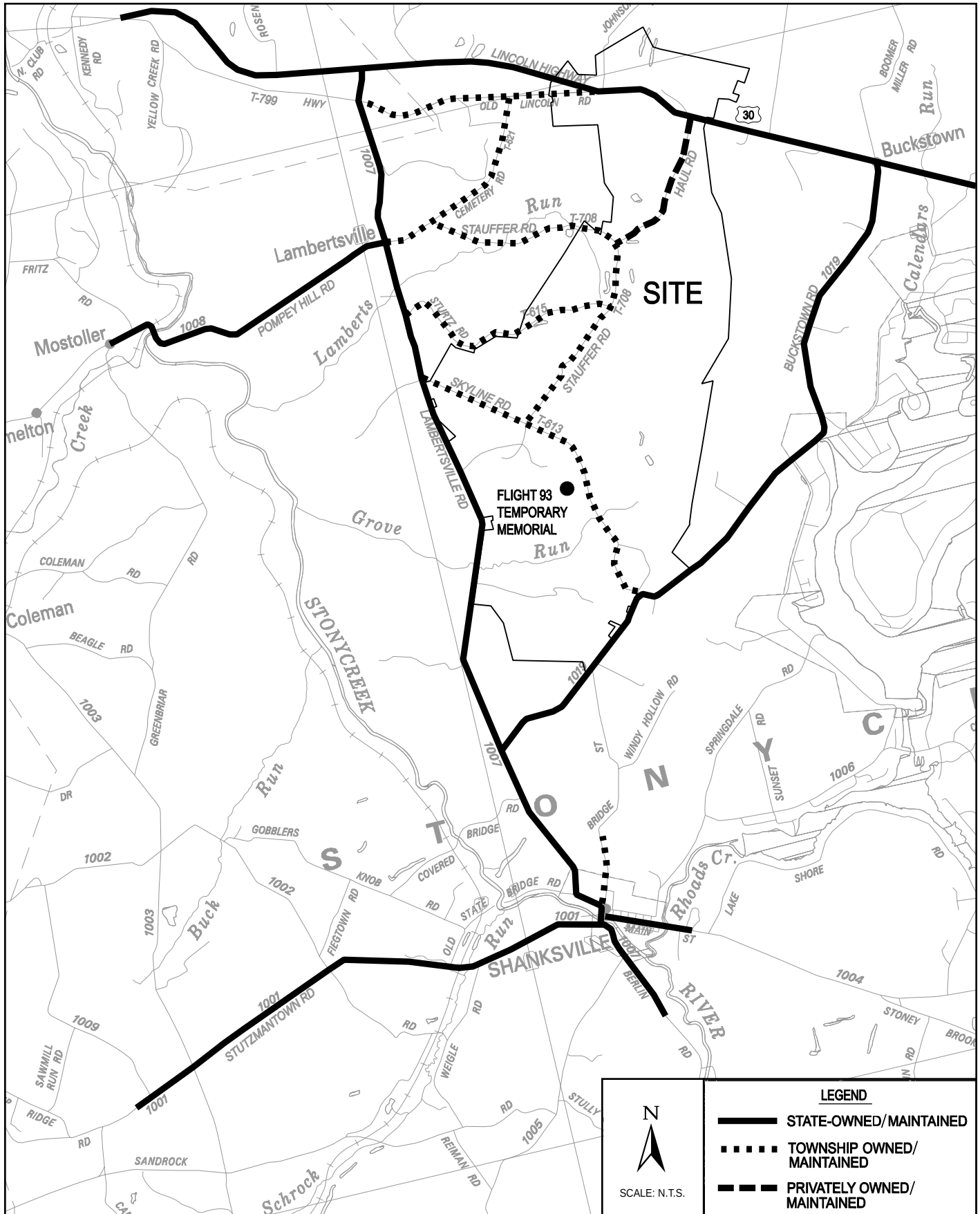
Source: Trans Associates, 2005

APPENDIX MAP G-5: SATURDAY HEAVY VEHICLE PERCENTAGES, FLIGHT 93 NATIONAL MEMORIAL



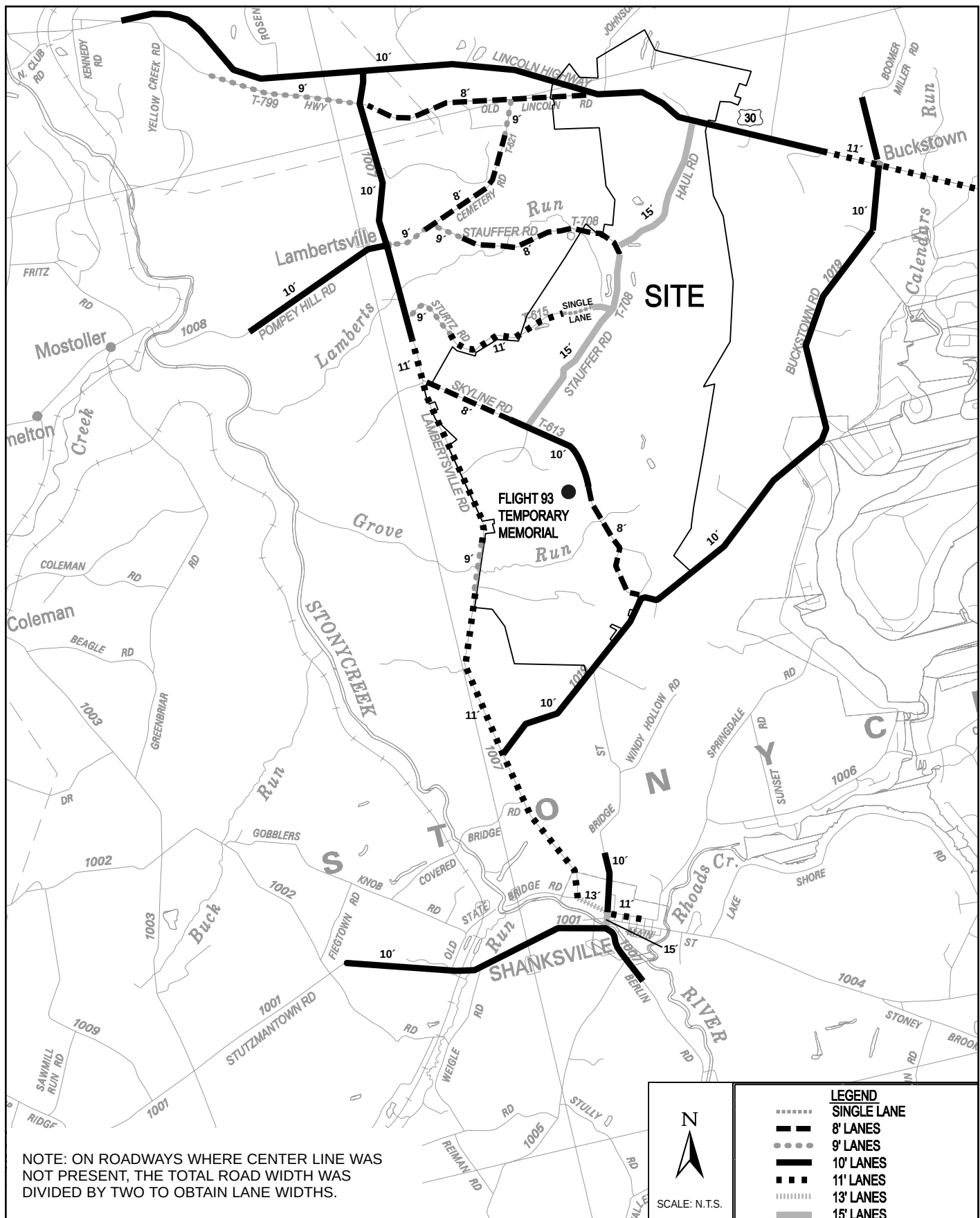
Source: Trans Associates, 2005

APPENDIX MAP G-6: EXISTING ROADWAY OWNERSHIP/MAINTENANCE IN VICINITY OF FLIGHT 93 NATIONAL MEMORIAL



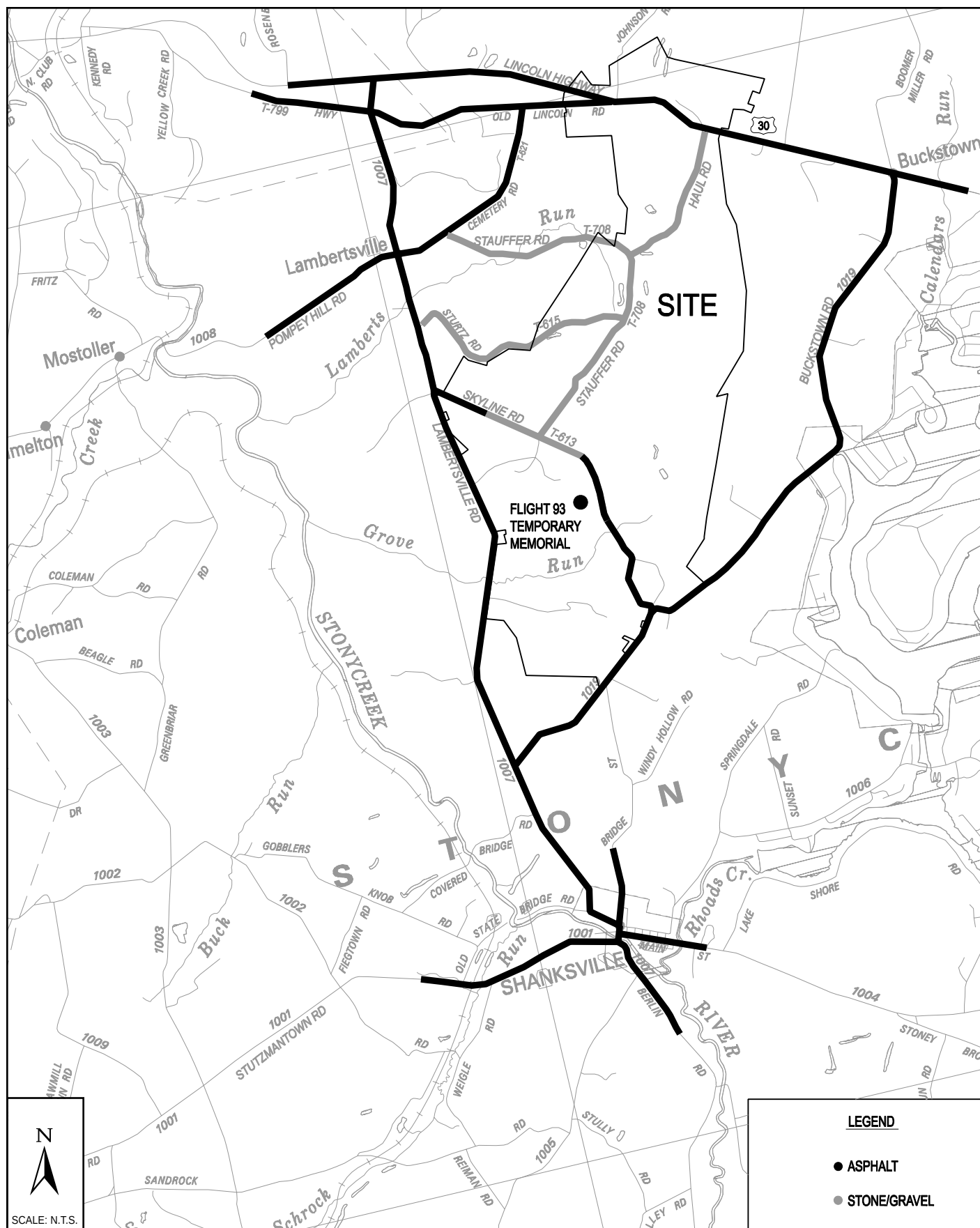
Source: Trans Associates, 2005

APPENDIX MAP G-7: EXISTING ROADWAY LANE WIDTH, FLIGHT 93 NATIONAL MEMORIAL

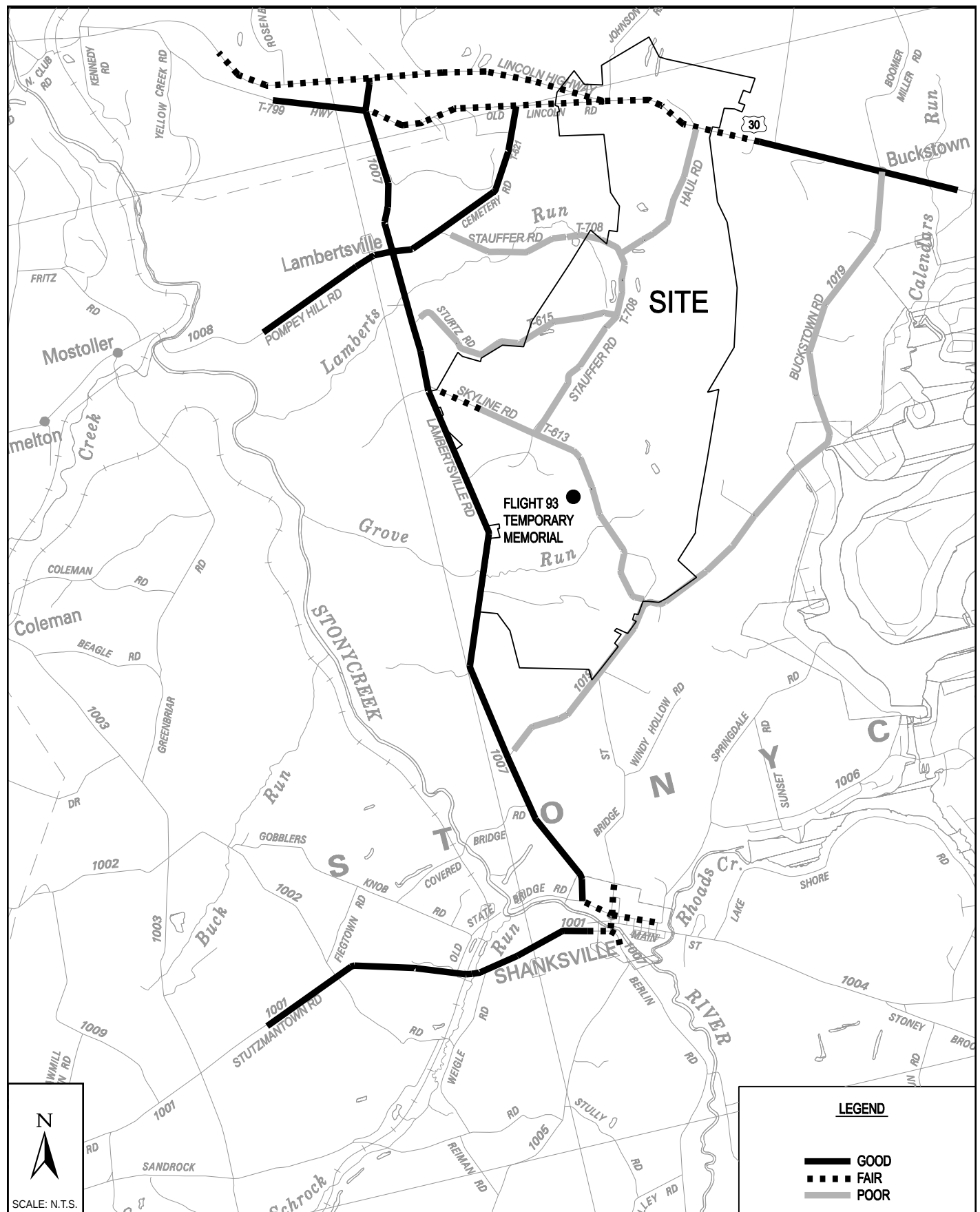


Source: Trans Associates, 2005

APPENDIX MAP G-8: EXISTING ROADWAY SURFACE COMPOSITE, FLIGHT 93 NATIONAL MEMORIAL

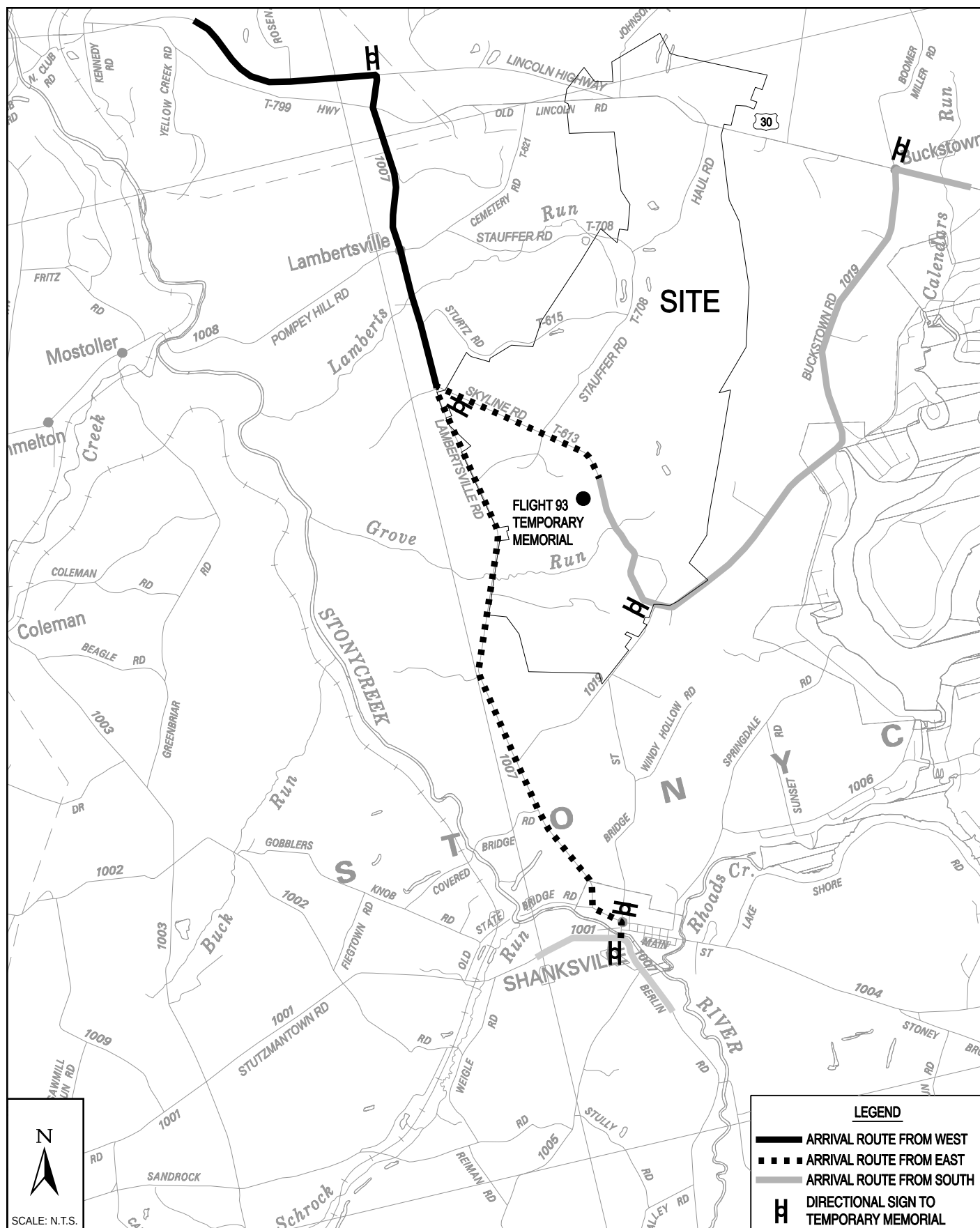


APPENDIX MAP G-9: EXISTING OVERALL ROADWAY CONDITIONS, FLIGHT 93 NATIONAL MEMORIAL



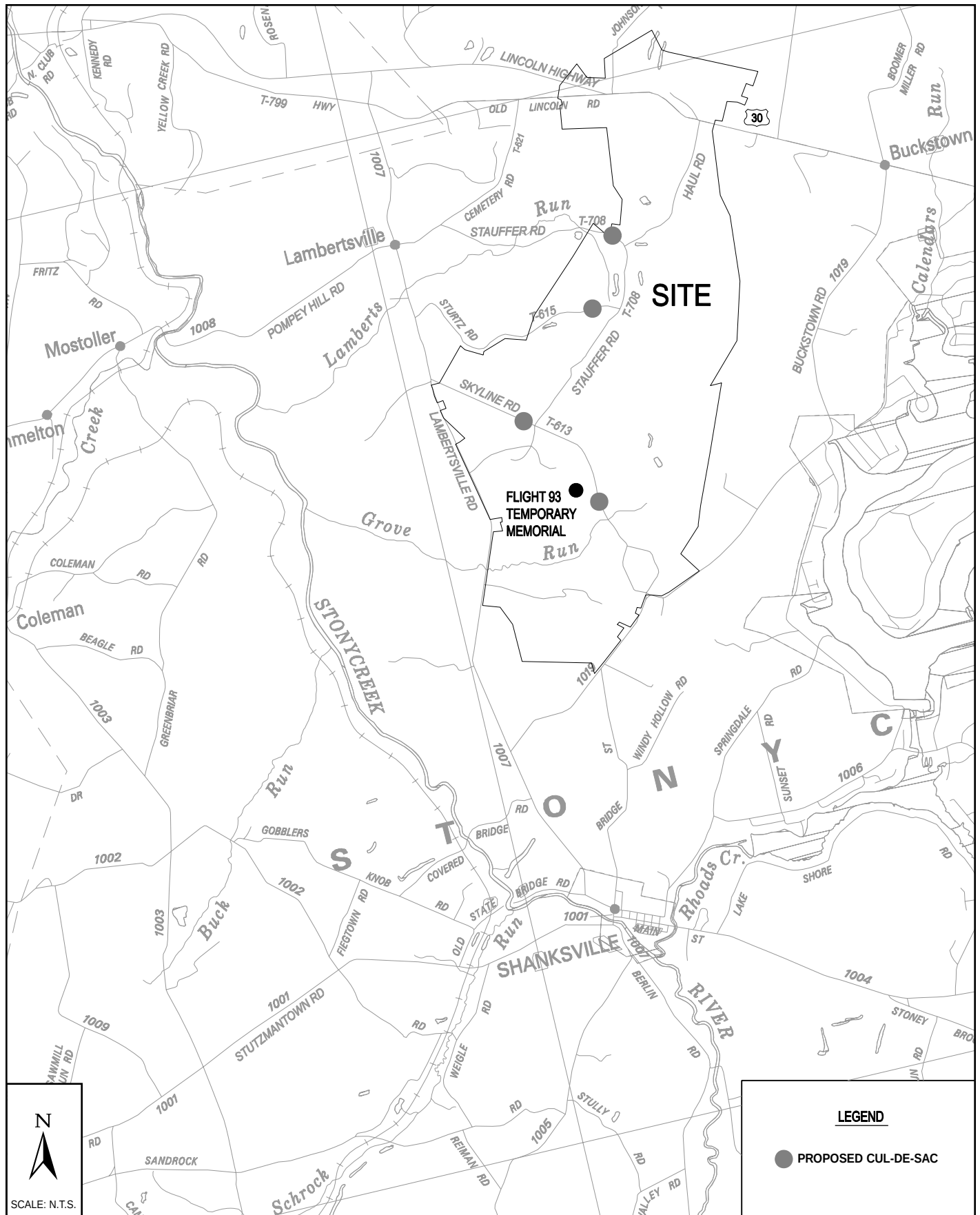
Source: Trans Associates, 2005

APPENDIX MAP G-10: EXISTING SIGNED ROUTES TO THE FLIGHT 93 TEMPORARY MEMORIAL



Source: Trans Associates, 2005

APPENDIX MAP G-11: PROPOSED ROAD CLOSURES AND CUL-DE-SACS, FLIGHT 93 NATIONAL MEMORIAL



Source: Trans Associates, 2005

APPENDIX H

Flight 93 National Memorial
Economic Impact Tables

Economic Impact Tables

Appendix Table H-1: Estimated Annual Impact of Flight 93 National Memorial Operations on the Nine-County Region After Construction is Completed (2011)

Industry	Direct Sales	Secondary Sales	Total Sales	Value Added	Wages	Employment
Ag, Forestry, Fish & Hunting	\$1,071	\$2,844	\$3,915	\$1,423	\$533	0
Mining	\$153	\$7,041	\$7,195	\$4,028	\$929	0
Utilities	\$61,346	\$7,276	\$68,621	\$43,872	\$14,568	0
Construction	\$0	\$5,769	\$5,769	\$2,666	\$1,907	0
Manufacturing	\$16,154	\$18,270	\$34,423	\$11,307	\$7,051	0
Wholesale Trade	\$16,517	\$10,859	\$27,375	\$19,819	\$10,075	0
Transportation & Warehousing	\$10,937	\$16,284	\$27,221	\$15,043	\$11,390	0
Retail trade	\$91,123	\$21,828	\$112,951	\$82,428	\$37,010	2
Information	\$16,679	\$12,544	\$29,223	\$16,392	\$6,692	0
Finance & insurance	\$25,147	\$18,362	\$43,510	\$24,121	\$10,990	0
Real estate & rental	\$10,445	\$12,518	\$22,963	\$15,247	\$2,388	0
Professional- scientific & tech svcs.	\$2,946	\$9,281	\$12,227	\$8,553	\$5,220	0
Management of companies	\$0	\$6,867	\$6,867	\$4,750	\$3,244	0
Administrative & waste services	\$1,837	\$10,278	\$12,115	\$6,540	\$4,671	0
Educational svcs.	\$3,618	\$1,656	\$5,274	\$2,739	\$2,443	0
Health & social services	\$72,544	\$23,185	\$95,729	\$56,710	\$44,361	1
Arts- entertainment & recreation	\$5,266	\$2,136	\$7,402	\$3,612	\$2,132	0
Accommodation & food services	\$29,159	\$10,884	\$40,043	\$16,535	\$12,748	1
Other services	\$19,983	\$10,742	\$30,725	\$15,062	\$11,058	1
Government & non NAICs	\$62,756	\$21,918	\$84,674	\$66,401	\$1,961	0
Institutions	\$293,319	\$0	\$293,319	\$0	\$0	0
NPS Employment				\$800,000	\$800,000	14
TOTAL	\$741,000	\$230,540	\$971,540	\$1,217,251	\$991,371	22

Source: Source: Bruce E. Lord, Ph.D., Final Economic Impacts, Flight 93 National Memorial, May 27, 2005.

Appendix Table H-2: Estimated Annual Impact of Visitors to the Flight 93 National Memorial on the Nine-County Region after Construction and Visitation has Stabilized (2013)

Industry	Direct Sales	Secondary Sales	Total Sales	Value Added	Wages	Employment
Ag, Forestry, Fish & Hunting	\$0	\$44,625	\$44,625	\$13,407	\$4,888	1
Mining	\$129,680	\$66,521	\$196,201	\$112,796	\$22,527	1
Utilities	\$0	\$184,474	\$184,474	\$119,159	\$35,191	0
Construction	\$0	\$82,841	\$82,841	\$39,205	\$28,754	1
Manufacturing	\$194,349	\$345,800	\$540,148	\$161,963	\$114,885	3
Wholesale Trade	\$327,590	\$251,975	\$579,566	\$419,603	\$213,293	5
Transportation & Warehousing	\$277,076	\$243,743	\$520,818	\$259,450	\$180,329	8
Retail trade	\$1,208,786	\$440,009	\$1,648,795	\$1,225,517	\$623,488	38
Information	\$0	\$236,985	\$236,985	\$110,742	\$54,977	2
Finance & insurance	\$0	\$271,006	\$271,006	\$154,015	\$70,629	2
Real estate & rental	\$0	\$211,217	\$211,217	\$141,631	\$21,095	2
Professional- scientific & tech svcs.	\$5	\$149,360	\$149,364	\$105,151	\$64,540	3
Management of companies	\$0	\$122,252	\$122,252	\$84,564	\$57,748	1
Administrative & waste services	\$11	\$164,450	\$164,461	\$81,716	\$58,490	3
Educational svcs.	\$0	\$31,908	\$31,908	\$16,591	\$14,955	1
Health & social services	\$0	\$467,801	\$467,801	\$273,278	\$216,546	7
Arts- entertainment & recreation	\$0	\$45,321	\$45,321	\$21,994	\$13,138	1
Accommodation & food services	\$6,481,000	\$212,558	\$6,693,558	\$4,560,373	\$2,296,485	150
Other services	\$0	\$205,846	\$205,846	\$100,984	\$72,946	4
Government & non-NAICs	\$2,202	\$471,415	\$473,617	\$363,168	\$22,054	1
Institutions	\$743,302	\$0	\$743,302	\$0	\$0	0
TOTAL	\$9,364,000	\$4,250,108	\$13,614,108	\$8,365,307	\$4,186,961	234

Source: Source: Bruce E. Lord, Ph.D., Final Economic Impacts, Flight 93 National Memorial, May 27, 2005.

Appendix Table H-3: Estimated Economic Impact of the Flight 93 National Memorial on the Nine-County Region, 2005-2020

Year	2005-2012	2013	2014	2015	2016	2017	2018	2019	2020	Total
Number of Visitors	1,990,000	230,000	230,000	230,000	230,000	230,000	230,000	230,000	230,000	3,830,000
Visitation Impacts										
Sales	\$ 111,360	\$ 12,871	\$ 12,871	\$ 12,871	\$ 12,871	\$ 12,871	\$ 12,871	\$ 12,871	\$ 12,871	\$ 214,327
Employment	2,027	234	234	234	234	234	234	234	234	3,900
Value Added	\$ 72,378	\$ 8,365	\$ 8,365	\$ 8,365	\$ 8,365	\$ 8,365	\$ 8,365	\$ 8,365	\$ 8,365	\$ 139,301
Construction Impacts										
Sales	\$ 90,268	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 90,268
Employment	1,134	0	0	0	0	0	0	0	0	1,134
Value Added	\$ 46,230	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 46,230
Operations Impacts										
Sales	\$ 2,442	\$ 698	\$ 698	\$ 698	\$ 698	\$ 698	\$ 698	\$ 698	\$ 698	\$ 8,022
Employment	77	22	22	22	22	22	22	22	22	253
Value Added	\$ 4,260	\$ 1,217	\$ 1,217	\$ 1,217	\$ 1,217	\$ 1,217	\$ 1,217	\$ 1,217	\$ 1,217	\$ 13,998
Total Impacts										
Sales	\$204,070	\$13,568	\$13,568	\$13,568	\$13,568	\$13,568	\$13,568	\$13,568	\$13,568	\$312,617
Employment	3,238	256	256	256	256	256	256	256	256	5,287
Value Added	\$122,868	\$ 9,583	\$ 9,583	\$ 9,583	\$ 9,583	\$ 9,583	\$ 9,583	\$ 9,583	\$ 9,583	\$199,529

Source: Source: Bruce E. Lord, Ph.D., Final Economic Impacts, Flight 93 National Memorial, May 27, 2005.

Appendix Table H-4: Distribution of Regional Employment by Wage Rates for the Nine-County Flight 93 Region (2002)

Industry	Average Wages	Wages*	Employment
Ag, Forestry, Fish & Hunting	\$4,761.15	\$51,895	10,900
Arts- entertainment & recreation	\$11,713.12	\$83,626	7,139
Accommodation & food services	\$11,729.72	\$480,590	40,972
Real estate & rental	\$12,101.43	\$110,348	9,119
Administrative & waste services	\$18,302.35	\$331,011	18,086
Other services	\$18,759.02	\$595,840	31,763
Retail trade	\$19,662.42	\$1,376,678	70,016
Low Wage Industries (0-20K)		\$3,029,988	187,994
Educational svcs.	\$20,268.29	\$110,108	5,433
Construction	\$26,985.05	\$868,895	32,199
Health & social services	\$29,827.62	\$1,911,188	64,074
Professional- scientific & tech svcs.	\$30,721.53	\$557,584	18,150
Information	\$34,513.97	\$263,689	7,640
Finance & insurance	\$36,259.81	\$481,651	13,283
Mining	\$37,407.03	\$193,955	5,185
Medium Wage Industries (20-40K)		\$4,387,070	145,964
Wholesale Trade	\$40,211.67	\$636,608	15,831
Transportation & Warehousing	\$40,393.82	\$958,842	23,737
Government & non NAICs	\$43,236.24	\$2,451,938	56,710
Manufacturing	\$45,562.46	\$2,724,961	59,807
Management of companies	\$67,974.95	\$274,341	4,036
Utilities	\$76,884.83	\$165,769	2,156
High Wage Industries (40K+)		\$7,212,459	162,278
TOTAL	\$29,480.95	\$14,629,517	496,236

Appendix Table H-5: Distribution of average annual job impacts by income level for Construction, 2006-2011			
Industry	Average Wages	Wages*	Employment
Ag, Forestry, Fish & Hunting	\$6,324.40	\$4,710	1
Accommodation & food services	\$11,673.68	\$84,921	7
Arts- entertainment & recreation	\$11,841.98	\$16,122	1
Real estate & rental	\$13,680.31	\$26,231	2
Administrative & waste services	\$17,686.99	\$77,970	4
Other services	\$18,627.64	\$104,162	6
Retail trade	\$19,313.17	\$367,929	19
Educational svcs.	\$19,808.59	\$20,137	1
Low Wage Industries (0-20K)		\$702,184	41
Construction	\$26,974.71	\$2,995,074	111
Mining	\$28,044.07	\$5,156	0
Health & social services	\$30,232.00	\$294,357	10
Professional- scientific & tech svcs.	\$33,508.49	\$344,353	10
Information	\$35,455.13	\$49,482	1
Transportation & Warehousing	\$35,490.28	\$125,902	4
Finance & insurance	\$36,681.65	\$101,077	3
Government & non NAICs	\$38,828.22	\$17,739	0
Manufacturing	\$38,884.98	\$159,795	4
Medium Wage Industries (20-40K)		\$4,092,935	143
Wholesale Trade	\$40,211.67	\$128,874	3
Management of companies	\$67,974.95	\$39,591	1
Utilities	\$76,897.72	\$28,511	0
High Wage Industries (40K+)		\$196,976	4
TOTAL	\$26,410.63	\$4,992,094	189

Source: Source: Bruce E. Lord, Ph.D., Final Economic Impacts, Flight 93 National Memorial, May 27, 2005.

Appendix Table H-6: Distribution of annual job impacts by income level, for Memorial operations and visitation after 2012

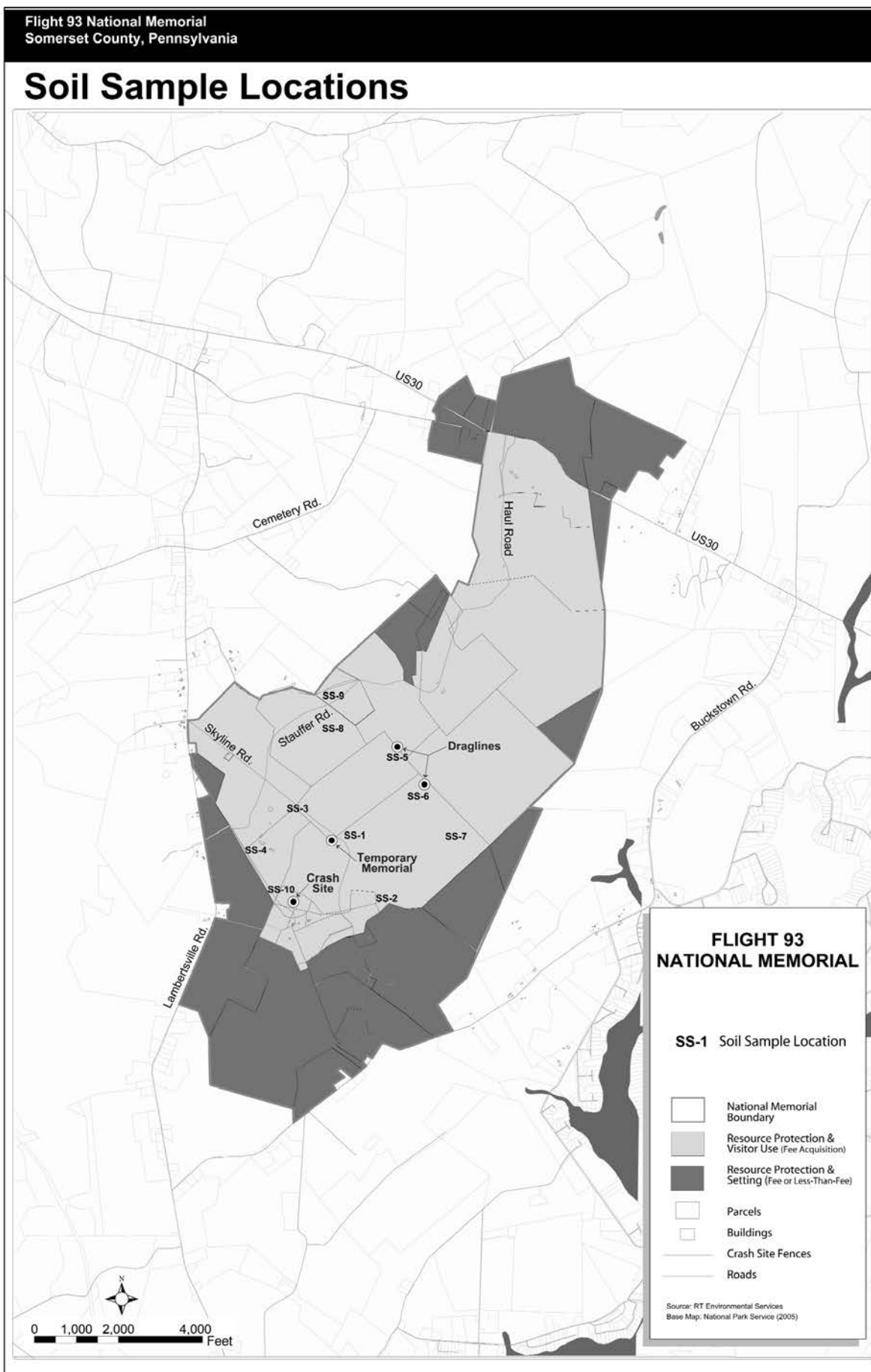
Industry	Average Wages	Wages	Employment
Ag, Forestry, Fish & Hunting	\$4,779	\$5,421	1
Arts- entertainment & recreation	\$10,356	\$15,270	1
Real estate & rental	\$11,141	\$23,484	2
Accommodation & food services	\$15,272	\$2,309,233	151
Retail trade	\$16,506	\$660,499	40
Administrative & waste services	\$17,659	\$63,161	4
Other services	\$18,180	\$84,004	5
Educational svcs.	\$19,811	\$17,398	1
Low Wage Industries (0-20K)		\$3,178,469	205
Mining	\$20,322	\$23,456	1
Transportation & Warehousing	\$22,007	\$191,720	9
Professional- scientific & tech svcs.	\$25,705	\$69,760	3
Construction	\$26,883	\$30,661	1
Health & social services	\$30,441	\$260,908	9
Information	\$32,095	\$61,670	2
Finance & insurance	\$36,739	\$81,619	2
Government & non NAICs	\$38,411	\$24,015	1
Medium Wage Industries (20-40K)		\$743,808	27
Wholesale Trade	\$40,212	\$223,368	6
Manufacturing	\$40,500	\$121,937	3
Management of companies	\$67,975	\$60,991	1
Utilities	\$70,605	\$49,759	1
High Wage Industries (40K+)		\$456,055	10
Total	\$18,074.36	\$4,378,332	242

Source: Source: Bruce E. Lord, Ph.D., Final Economic Impacts, Flight 93 National Memorial, May 27, 2005.

APPENDIX I

**Flight 93 National Memorial
Hazardous Materials Investigation
Soil Sample Locations**

APPENDIX MAP I-1: SOIL SAMPLE LOCATIONS, FLIGHT 93 NATIONAL MEMORIAL



APPENDIX J

Flight 93 National Memorial Public Hearing, Comments and Responses

Public Hearing, Comments and Responses

INTRODUCTION

During the development of the General Management Plan/Environmental Impact Statement (GMP/EIS), the Partners—the Flight 93 Advisory Commission, the Families of Flight 93, the Flight 93 Memorial Task Force, and the National Park Service—were committed to an open and transparent process with an inclusive and broad-reaching public participation program. Ideas, suggestions and concerns were solicited from interested parties across the nation using a wide range of venues. Additional time was spent understanding the concerns of local residents who would be directly impacted by the creation of a new national memorial.

Formal planning for the memorial was initiated on December 10, 2003, with the publication of a Notice of Intent in the *Federal Register*, followed by a series of agency and public scoping meetings that were conducted during 2003-2005. The planning and public involvement process is described in Chapter I. This process culminated in the publication of the Draft GMP/EIS in June 2006, a 60-day public review period, and a public hearing that was conducted on July 20, 2006, at the Shanksville-Stonycreek School in Shanksville, Pennsylvania. The purpose of the public comment period and public hearing was to provide agencies and the public with an opportunity to submit comments on the technical accuracy and adequacy of the Draft GMP/EIS.

Appendix J summarizes the comments received on the Draft GMP/EIS at the public hearing and during the 60-day public review period. Responses to substantive questions and issues are included. Although many comments were received expressing support for or opposition to the design that was selected during the design competition, it is important to note that these comments are not germane to the adequacy of the EIS and do not address the technical aspects of the document. These comments are included in the compendium of comments.

PUBLIC COMMENT PERIOD

After publication of the Draft GMP/EIS and before preparation of the Final GMP/EIS, the NPS solicited comments from the public; from non-profit organizations, and from Federal, State and local agencies having jurisdiction or an interest in the project.

On June 16, 2006, a “Notice of Availability” announcing the public comment period for the draft Flight 93 National Memorial GMP/EIS was published in the *Federal Register* (71 FR 34964). This public review period extended from June 16 to August 15, 2006. In addition to the *Federal Register* announcement, media announcements were released, and a newsletter was widely distributed that announced availability of the document and explained the public review process. Broad electronic messaging through email and through the Flight 93 National Memorial project website was conducted to alert the public and agencies

about the availability of the document and the 60-day public comment period. The document was posted on the project website and was accessible to anyone wishing to view it online and download it. Copies of the document were also available upon request.

PUBLIC HEARING

A public hearing in the format of an open house workshop was conducted on July 20, 2006, at the Shanksville-Stonycreek School in Shanksville, Pennsylvania. Approximately 70 to 80 people attended. The public was offered the following opportunities through which they could submit comments:

- Comment forms were available at the public hearing on which people could submit written comments and either deposit them into a comment box or mail them to the National Park Service;
- A “graffiti wall” was established on which large sheets of paper were taped onto a wall enabling people to write their comments about the project and view the comments of others;
- A video camera was set up in a private setting where persons wishing to give oral testimony could verbally express comments about the project;
- Staff persons and consultants were available for the public to talk with one-on-one; and
- The public could submit comments by mail, email or online at www.flight93memorialproject.org.

The following tabulation compares the relative number of comments received through each comment venue.

Comment Venue	Number of Comments
Comment Forms	11
Graffiti Wall	7
Video-taped Comments	16
Written Correspondence	9
Website Comments	1,367
Email Comments ^a	42
^a Email comments were directed to people who were associated with the project and were not received through the specified comment process noted in the <i>Federal Register</i> or the publications announcing the availability of the Draft GMP/EIS. These email comments were considered.	

The following section summarizes the comments that were germane to the technical data presented in the Draft EIS. Immediately following **Appendix Table J-1**, other non-technical comments are summarized. These comments had no relation to the technical accuracy or merits of the GMP or the EIS analysis. These comments appear in their entirety in a separate compendium of comments that may be obtained upon request from the National Park Service.

SUMMARY OF NEPA-RELATED COMMENTS

The Council on Environmental Quality instructs that comments on an EIS be specific, substantive and address either the technical adequacy of the DEIS and/or the merits of the alternatives (§1503.3). Federal agencies with jurisdiction by law or special expertise with respect to resources or regulations, and agencies that are authorized to develop and enforce environmental standards, are directed to comment on the EIS within their jurisdiction, expertise or authority. Written comments were received from the following Federal and State agencies:

- U.S. Environmental Protection Agency
- U.S. Fish and Wildlife Service
- Pennsylvania Historical and Museum Commission, Bureau for Historic Preservation (the State Historic Preservation Officer)
- Pennsylvania Department of Transportation

- Pennsylvania Department of Conservation and Natural Resources, Bureau of Forestry
- Pennsylvania Boat and Fish Commission

None of these agencies expressed concerns or identified significant impacts that potentially could result from the proposed action. Subsequent to its review, EPA assigned the project a rating of “LO,” which means Lack of Objections and the agency has not identified any potential environmental impacts requiring substantive changes to the preferred alternative.

Three environmental organizations, Stonycreek Conemaugh River Improvement Project (SCRIP), Somerset Conservation District and Western Pennsylvania Watershed Program provided specific comments on the document. **Appendix Table J-1** summarizes the NEPA-related comments received and provides agency responses to these comments. These letters are provided at the end of this appendix.

Appendix Table J-1: Summary of Comments and Responses, Flight 93 National Memorial

Commenter	Summary of Comment	Response
AGENCY COMMENTS		
U.S. Environmental Protection Agency (EPA)	EPA assigned the DEIS a rating of “LO” (Lack of Objections), which indicates there are no objections to the proposal. EPA fully supports the NPS in its work on the creation of the memorial.	Comment noted.
U.S. Fish & Wildlife Service (FWS)	This report complies with the Fish and Wildlife Coordination Act (48 Stat. 401, as amended). No significant adverse effects on fish and wildlife are expected to result from the proposed action and FWS has no objection to the project.	The Flight 93 National Memorial project was reviewed and cleared by FWS pursuant to section 7 of the Endangered Species Act of 1973 (87 Stat. 884, as amended, 16 U.S.C. 1531 et seq.) in August 2005 (see FWS correspondence in Appendix B).
PA Historical and Museum Commission, Bureau of Historic Preservation (State Historic Preservation Officer)	The project will have no effect on historic buildings, structures, objects, or districts (Section 106 of the National Historic Preservation Act of 1966, as amended). However, the Section 106 process has not been completed in regards to archeological investigations. The SHPO looks forward to continued consultation on effects to archeological resources.	An archeological assessment is proposed for undisturbed areas of the site in 2007. The National Park Service will consult with the SHPO on the results of this assessment.
PA Dept. of Transportation (PennDOT)	PennDOT offered no comments at this time. However, should Federal or State transportation funds be allocated to improve U.S. Route 30 in the future, separate environmental documentation will be required.	Comment noted. The National Park Service continues to meet with PennDOT representatives and recognizes that separate environmental compliance and documentation will be required when improvements are made to US 30.
PA Dept. of Conservation and Natural Resources (DCNR)	DCNR reviewed the project for species of concern and provided a PNDI review. No project impacts are anticipated as a result of the development of Flight 93 NM.	Comment noted.
NON-PROFIT ORGANIZATIONS		
Western Pennsylvania Watershed Program	Improve symbols and legend on Fig. III-3; Existing Infrastructure Map.	Legend has been corrected and improved.
	Will increased traffic impact Somerset County's current EPA 8-hour compliance?	Projected traffic to the memorial is not expected to affect the county's overall 8-hour ozone compliance mainly because traffic will be dispersed over time. Peak periods are expected to occur, particularly during the first few years after the memorial is constructed and during milestone commemoration ceremonies, such as the 10th anniversary.

Appendix Table J-1: Summary of Comments and Responses, Flight 93 National Memorial (continued)

Commenter	Summary of Comment	Response
NON-PROFIT ORGANIZATIONS (cont.)		
Western Pennsylvania Watershed Program (cont.)	Southern Alleghenies Resource Conservation and Development Areas should be corrected to read Southern Alleghenies Resource Conservation and Development "Council."	Comment noted and correction made.
	There is an inconsistency in describing the size of the crater on p. III-24.	The <i>Final Closure Report for Flight 93</i> , dated Sept. 3, 2002, states that the crater was approximately 85 feet by 85 feet with a maximum depth of 27 feet. The reference to a 30-foot depth was a rounded estimate.
	Transformers should have serial numbers to determine production date and PCB content.	Prior to land acquisition by NPS, transformers will be removed and PCB contamination will be remediated.
	Consideration should be given to partnering with the Somerset Conservation District and involving their Hybrid Poplar Initiative.	Information regarding the Hybrid Poplar Initiative is appreciated and consideration will be given to discussing this project with the Somerset Conservation District during development of the memorial.
	Funding is available for the Heinemeyer Mine discharge through the Abandoned Mine Lands Fund.	The National Park Service acknowledges that funding is available from the Abandoned Mine Lands Fund. According to sec. 403 (30 U.S.C. 1233), expenditures for publicly owned parkland are rated a fifth priority after protection of public health and safety from the effects of coal mining.
	No reference is made regarding the impact that a deep well would have on base flow to Lamberts Run or to Grove Run.	Based on information provided by DEP, PBS Coals is currently pumping about 1,500 to 1,800 gallons of water per minute at the site without causing draw down or impacts to surface streams. Projections for water demand at the memorial show that the park would require a maximum of approximately 15,000 gallons per day, which is significantly less than the amount of water currently being pumped. Should a deep well be drilled on site, it would be constructed using several hundred feet of well casing sealed with concrete grout. The well would be drilled several hundred feet below the surface mining and the area where deep mining occurred. Consultation with DEP's regional geologist concluded that there would be no impacts to surface waters under this proposal.
	Western Pennsylvania Watershed Program should be listed as a partner as WPWP funds were used for Lamberts Run evaluations.	The National Park Service looks forward to future cooperation with WPWP, but the term "Partners" as used in the document, refers to the four groups central to the planning process and identified in the <i>Flight 93 National Memorial Act</i> . WPWP funds were not used in the preparation of this GMP/EIS.
	The EIS should demonstrate additional involvement and more direct interaction in finding a solution to the AMD pollution in concert with the creation of the national memorial.	The proposed Federal action associated with this EIS directly relates to the management and development of the Flight 93 National Memorial. Although AMD is a serious issue within the region, treatment of the AMD is not a central issue in this EIS.

Appendix Table J-1: Summary of Comments and Responses, Flight 93 National Memorial (continued)

Commenter	Summary of Comment	Response
NON-PROFIT ORGANIZATIONS (cont.)		
Somerset Conservation District	There should be strong recommendations in the EIS that National Park Service will assist in the planning and funding for AMD abatement. No liability should be accepted, but the responsibility could be shared with many other partners and should be formally pursued.	The responsibility for the AMD treatment and abatement lies with the polluter (the coal company). By law, the National Park Service cannot commit to remediating the AMD onsite because it is not the responsible party. However, the National Park Service will continue to explore partnership opportunities and be an advocate for improving water quality at the site.
	The EIS should accurately portray the current status of the Lamberts Run watershed. The EIS attempts to describe the Stonycreek watershed's improving water quality and the efforts that have accomplished that task. The creation of the Stonycreek-Conemaugh River Improvement Project (SCRIP) through the efforts of the Somerset and Cambria County Conservation Districts, PA DEP, NRCS, and Congressman John Murtha are largely responsible for the past and present AMD abatement efforts in the watershed. These nationally recognized water quality improvements were accomplished because of shared responsibility and commitment from all entities associated with the land and water in the watershed.	During the planning process, coordination was conducted with NRCS and the Somerset Conservancy and valuable information was provided by these groups in the preparation of the EIS. Information was also obtained by conducting an online search for data from SCRIP's website. Appropriate credit and reference of this material has been cited. Comments and credits for the ongoing efforts to abate AMD in the Stonycreek River watershed are acknowledged. NPS recognizes the accomplishments of SCRIP, PA DEP, NRCS, the Somerset Conservancy, and the county conservation districts, as well as support from State and local elected officials who have worked to remediate the region's AMD.
	The Somerset Conservation District was a partner with SCRIP, PA DEP, Southern Alleghenies Conservancy, and Trout Unlimited in preparing the "AMD in the Upper Lambert's Run Watershed and Potential Solutions," which was published in January 2006 should be noted in the EIS.	The "AMD in the Upper Lambert's Run Watershed and Potential Solutions" report was published in January 2006 after technical studies had been completed and the Draft GMP/EIS was nearing completion. NPS was unaware of the preparation of this document until the Conservation District submitted this report with their comments on the Draft GMP/EIS. Consequently, this report was not available and is not listed in the References for the Draft GMP/EIS.
	The construction of the Flight 93 NM provides a unique opportunity to establish environmental and economic assets in the region.	Comment noted.
Stonycreek Conemaugh River Improvement Project	SCRIP understands that NPS will not and should not assume liability for the AMD nor should NPS shoulder the entire burden for its remediation since the impacts extend far beyond the boundaries of the park. However, the EIS stops short of sharing the responsibility for the AMD impacts and its abatement.	The National Park Service cannot and will not assume liability for damages that have occurred for any mining discharge. However, the National Park Service will participate to the extent possible and continue to be an advocate for the clean up of AMD.
	The EIS should be more direct in making a commitment to assist in locating long-term funding. SCRIP views the AMD abatement as a concurrent development process during the creation and implementation of the National Memorial and not as an issue that stands independent or outside the scope of the project.	The National Park Service is limited legally and by departmental policy from making any commitments toward either participating in or funding the abatement of AMD at the site.

Appendix Table J-1: Summary of Comments and Responses, Flight 93 National Memorial (continued)

Commenter	Summary of Comment	Response
NON-PROFIT ORGANIZATIONS (cont.)		
Stonycreek Conemaugh River Improvement Project (cont.)	The information on Lamberts Run water quality as presented in the GMP/EIS stops short of painting the real picture of the stream as it currently exists. The EIS states that trout were stocked twice in Lamberts Run but only one such stocking occurred upstream of Lamberts Run Falls in 2000. These fish, as well as those below the falls, were lost as water quality levels degraded after the closing of the Longview mine. Heavy deposits of iron and low pH have impacted fish and other aquatic life. Although the water chemistry has now improved, the stream is still heavily laden with iron sediment, and the EIS describes the stream as impaired. The EIS states progress has been made but fails to delineate the regression of that progress. The EIS is selling itself and the citizens short if it does not project the current status and future threats to water quality emanating from the upper Lamberts Run watershed.	The information used in the Draft GMP/EIS was the best available information at the time the Draft GMP/EIS was written. Close coordination with DEP and NRCS was conducted during the preparation of the document. NRCS provided updated information on the water quality and the monitoring of the treatment system on the site. New information developed on Lamberts Run by Hedin Environmental became available after preparation of the Draft GMP/EIS was nearly completed. This information was not used in the Draft GMP/EIS because NPS did not know that it was being developed. Although the figures for iron, phosphorus, alkaline, manganese, sulfate, and acidity reported in the Hedin report are more recent, the context of the site remains the same. The Hedin report evaluates the potential treatment of the Heinemeyer mine discharge, the effects and potential treatment of artesian discharges in a natural wetland, located on the south side of the town road.
	The EIS states that the water quality in the Stonycreek River watershed has improved because of "improved management practices." The actual reason is the creation of SCRIP in 1990 through the efforts of the Somerset and Cambria County Conservation Districts, PA DEP and NRCS with assistance from Congressman Murtha's office. The efforts aimed at Lamberts Run are a continuation of the long-term successful collaborations that SCRIP implemented and the AMD abatement projects that have occurred in the watershed to date.	NPS recognizes the accomplishments of SCRIP and also acknowledges the important contributions that the elected officials and other groups and agencies have made in addressing the issue of AMD in the region and throughout the State.
	Information from the "AMD in the Upper Lamberts Run Watershed and Potential Solutions" should be included in the EIS.	This report was published and made available after the preparation of the Draft GMP/EIS.
	The following should be added to the Consultants and Contributors: Stonycreek-Conemaugh River Improvement Project; Southern Alleghenies Conservancy; Wells Creek Watershed Association, Thurman Korns, President; Wells Creek Watershed Association, Carl Jones, Watershed Specialist; Somerset Conservation District; Len Lichvar, Chairman, SCRIP. These entities are referenced in the text but are omitted from the contributors list.	The listing of consultants and contributors is comprised of those individuals, groups, and agencies that were primarily responsible for preparing the EIS, including components of the EIS. Agency personnel who wrote basic components of the EIS or contributed significant background material are also identified. NRCS and the Somerset County Conservancy prepared water quality graphs that were used in the EIS. Because they contributed directly to the water quality analysis, these groups were listed under project contributors. Much information was collected from many sources during the preparation of the GMP/EIS. Data used in the EIS and the respective sources are appropriately footnoted and are listed under References. Data and information provided during the public review period for the EIS are treated as comments.

OTHER COMMENTS

In addition to NEPA-related comments, other comments were also received on the Draft GMP/EIS. None of these responses is considered a substantive comment based on the technical merits or adequacy of the Draft EIS or the accuracy of the material presented in the draft document. A separate compendium of all comments has been prepared.

General Public Support for or Opposition to the Project.

Comments were received from the public that expressed support for the design and the memorial project, as well as the process used during design selection. Through the NEPA process and the EIS, the selected design was evaluated under Alternative 2 in terms of potential impacts to the resources on the site and the area environment. General support for or opposition to the design itself is a subjective opinion and was not considered substantive nor did it have relevancy to the technical adequacy and accuracy of the document.

Public Opinion Concerning Selected Memorial Design. The Partners agreed that an open, professionally managed international design competition would be the most inclusive, transparent, and democratic way to solicit a wide range of ideas for the new memorial. The Flight 93 National Memorial design competition, which began on September 11, 2004, was conducted in two stages, both of which were independently juried. The intent of Stage I was to solicit a broad range of concepts for the new memorial. In response, the Partners received more than 1,000 design concepts in January 2005. These design concepts were placed on public exhibit in Pennsylvania and on the project website for public review and comment. On February 4, 2005, the Stage I jury, composed of nine design professionals, national leaders and family members, evaluated all the entries and recommended five final design concepts that best represented the spirit of the memorial's Mission Statement, showed an understanding of the physical landscape, and addressed the public comments made during the exhibition. These five concepts advanced to Stage II of the competition where they were further developed and refined. These design concepts were exhibited in Somerset, Pennsylvania, and were posted on the project website from July 1 until September 25, 2005, for public review and comment.

An independent Stage II design jury, composed of 15 design and art professionals, family members and local and national leaders evaluated the five final designs and considered public comments submitted on the designs. Based on this input, the Stage II jury recommended the design presented by the team of Paul Murdoch Architects as the design that they judged best embodies the spirit of the Mission Statement. Each of the project Partners reviewed the public comments and the jury reports, and they concurred with the Stage II jury recommendation. The selected design was publicly announced on September 7, 2005. A more detailed description of the competition can be found in Chapter I.

After public announcement of the final design, the National Park Service received comments criticizing the design's principal landscape feature, a curved allée or pathway lined with red maple trees. To these individuals, the curved walkway resembled an Islamic crescent symbol. Others, however, understood that the designers' intent was to reflect the natural contours of the land that encircle the crash site and "embrace" the final resting place of the passengers and crew.

In the fall of 2005, the Partners met with the architect to discuss a variety of issues, including perceptions that the design contained Islamic symbolism. This meeting was the first opportunity the Partners had to speak directly with the architect about the design because communication with all of the design finalists had been prohibited during the competition. Over the next few months, the architect refined the design in response to public comments received during and after the competition, as well as to conversations with the Partners, the Stage II jury comments, and specific issues that surfaced during the General Management Plan/EIS analysis. The refinements to the design were disclosed and again presented to the public through the project website and a newsletter published in November 2005.

The design refinements were well-received by the public, and, in particular, visitors to the Temporary Memorial. However, a sector of the public continued to assert that the design contained Islamic symbolism, and launched an email and targeted blog campaign against the design. In response, the Partners met with religious scholars, design professionals, and other family members and toured the site with the principal critic of the design. At the conclusion of these activities and consultations, the Partners determined that the perceptions of religious symbolism in the design had been adequately addressed by the architect and that the details of the design do not affect the GMP/EIS. The Partners were satisfied that the design properly honors the passengers and crew and that the refinements showed the architects' sensitivity and responsiveness to public comments. Certain design details, including the specific locations of memorial features and the selection of finish materials, will evolve as more detailed site information, such as survey and geotechnical data, becomes available and as funding priorities are established.

The National Park Service, as the Federal agency responsible for NEPA compliance in association with the General Management Plan/Environmental Impact Statement for the Flight 93 National Memorial, conducted a total of 13 public meetings throughout the GMP process. These included agency and public scoping meetings, four public meetings, seven open Advisory Commission meetings and a public open house hearing on the Draft GMP/EIS. The Draft GMP/EIS was available for public review and comment for 60 days from June 16-August 15, 2006. Comments received during the public comment period on the Draft General Management Plan/EIS are included in the compendium.

Request for Attribution of the Selected Design. During the Draft GMP/EIS comment period, two Stage I design competition participants, along with approximately 13 supporters, submitted claims that the modifications made by Paul Murdoch Architects to the selected design comprised specific features similar to a design they submitted during Stage I of the competition. Consequently, these two design professionals have requested attribution of the selected design along with Paul Murdoch Architects. The Partners reviewed these comments and agreed that attribution for the design is not a NEPA issue, and should not be addressed in the GMP/EIS. The Partners unanimously agreed that attribution of the final design remains solely with Paul Murdoch Architects.

National Park Service
U.S. Department of the Interior

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