

**ENVIRONMENTAL ASSESSMENT  
FOR  
CONSTRUCTION AND OPERATION  
OF PUBLIC HEALTH AND SAFETY  
COMMUNICATIONS TOWER AND  
FACILITIES  
NEW MARKET, FREDERICK  
COUNTY, MARYLAND**



**JUNE 2010**

*Presented to:*



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NEW MARKET, FREDERICK COUNTY, MARYLAND**

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**LIST OF ACRONYMS AND ABBREVIATIONS**

APE	Area of Potential Effects
BMPs	Best Management Practices
CAA	Clean Air Act
CAAA	Clean Air Act Amendment
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation Liability Act
CFR	Code of Federal Regulations
CO	carbon monoxide
dB	decibels
dBA	A-weighted Decibel
dbh	diameter breast height
DHS	Department of Homeland Security
DoIT	Department of Information Technology
EA	Environmental Assessment
EDR	Environmental Data Resources
EIS	Environmental Impact Statement
EMS	Emergency Medical Services
EO	Executive Order
FAA	Federal Aviation Administration
FCC	Federal Communications Commission
FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impact
ft	feet
HAPs	hazardous air pollutants
IEEE	Institute of Electrical and Electronics Engineers, Inc.
MD	Maryland
MDNR	Maryland Department of Natural Resources
MGS	Maryland Geological Survey
MHT	Maryland Historical Trust
MHz	megahertz
MIHP	Maryland Inventory of Historic Properties
MPE	maximum permissible exposure
NAAQS	National Ambient Air Quality Standards

NEPA	National Environmental Policy Act
NO <sub>2</sub>	nitrogen dioxide
NO <sub>x</sub>	nitrogen oxides
NPA	National Programmatic Agreement
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSR	New Source Review
NTIA	National Telecommunications and Information Administration
O <sub>3</sub>	ozone
Pb	lead
PEA	Programmatic Environmental Assessment
PELs	permissible exposure limits
PM	particulate matter
PSD	Prevention of Significant Deterioration
PSIC	Public Safety Interoperable Communications
RF	Radio Frequency
SF	square feet
SIP	State Implementation Plan
SO <sub>2</sub>	sulfur dioxide
U.S.	United States
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VOCs	volatile organic compounds



**TABLE OF CONTENTS**

**EXECUTIVE SUMMARY ..... 1**

**ES.1 DESCRIPTION OF PROPOSED ACTION..... 1**

**ES.2 ALTERNATIVES CONSIDERED ..... 1**

**ES.3 ENVIRONMENTAL IMPACTS OF THE PROPOSED ACTION..... 2**

**ES.4 AVOIDANCE AND MINIMIZATION MEASURES ..... 3**

**1.0 INTRODUCTION..... 1-1**

**1.1 Background..... 1-1**

**1.2 Purpose and Need for Proposed Action..... 1-4**

**1.3 The NEPA Process ..... 1-4**

        1.3.1 Related Environmental Documents ..... 1-5

**2.0 PROPOSED ACTION ..... 2-1**

**2.1 Alternatives Considered to Implement the Proposed Action..... 2-1**

        2.1.1 Alternative 1 (Preferred Alternative) ..... 2-1

        2.1.2 Alternative 2 ..... 2-4

        2.1.3 No Action Alternative ..... 2-5

**2.2 Alternatives Considered but Not Carried Forward ..... 2-5**

**3.0 EXISTING ENVIRONMENT ..... 3-1**

**3.1 Noise ..... 3-1**

**3.2 Air Quality ..... 3-1**

**3.3 Geology and Soils ..... 3-4**

**3.4 Water Resources ..... 3-5**

        3.4.1 Surface Water..... 3-5

        3.4.2 Groundwater ..... 3-5

        3.4.3 Floodplains and Wetlands ..... 3-5

**3.5 Biological Resources..... 3-6**

        3.5.1 Vegetation..... 3-6

        3.5.2 Wildlife..... 3-9

        3.5.3 Threatened and Endangered Species ..... 3-9

        3.5.4 Migratory Bird Treaty Act ..... 3-9

**3.6 Historic and Cultural Resources ..... 3-10**

        3.6.1 Area of Potential Effects ..... 3-10

        3.6.2 Archaeological Resources..... 3-13

        3.6.3 Architectural Resources ..... 3-13

**3.7 Aesthetic and Visual Resources..... 3-16**

**3.8 Land Use ..... 3-16**

**3.9 Infrastructure ..... 3-17**

        3.9.1 Utilities ..... 3-17

        3.9.2 Emergency Services ..... 3-17

3.9.3 Transportation Network..... 3-18

**3.10 Socioeconomic Resources..... 3-18**

**3.11 Human Health and Safety ..... 3-19**

3.11.1 Hazards of Electromagnetic Radiation ..... 3-19

3.11.2 Communications Tower Failure ..... 3-19

3.11.3 Hazardous Materials ..... 3-20

**4.0 ENVIRONMENTAL CONSEQUENCES.....4-1**

**4.1 Noise .....4-1**

4.1.1 Alternative 1 (Preferred Alternative) ..... 4-1

4.1.2 Alternative 2 ..... 4-2

4.1.3 No Action Alternative ..... 4-2

**4.2 Air Quality .....4-2**

4.2.1 Alternative 1 (Preferred Alternative) ..... 4-2

4.2.2 Alternative 2 ..... 4-3

4.2.3 No Action Alternative ..... 4-4

**4.3 Geology and Soils .....4-4**

4.3.1 Alternative 1 (Preferred Alternative) ..... 4-4

4.3.2 Alternative 2 ..... 4-4

4.3.3 No Action Alternative ..... 4-4

**4.4 Water Resources .....4-4**

4.4.1 Alternative 1 (Preferred Alternative) ..... 4-4

4.4.2 Alternative 2 ..... 4-5

4.4.3 No Action Alternative ..... 4-5

**4.5 Biological Resources.....4-5**

4.5.1 Alternative 1 (Preferred Alternative) ..... 4-5

4.5.2 Alternative 2 ..... 4-6

4.5.3 No Action Alternative ..... 4-6

**4.6 Historic and Cultural Resources .....4-6**

4.6.1 Alternative 1 (Preferred Alternative) ..... 4-6

4.6.2 Alternative 2 ..... 4-8

4.6.3 No Action Alternative ..... 4-10

**4.7 Aesthetic and Visual Resources.....4-11**

4.7.1 Alternative 1 (Preferred Alternative) ..... 4-11

4.7.2 Alternative 2 ..... 4-11

4.7.3 No Action Alternative ..... 4-11

**4.8 Land Use .....4-11**

4.8.1 Alternative 1 (Preferred Alternative) ..... 4-11

4.8.2 Alternative 2 ..... 4-12

4.8.3 No Action Alternative ..... 4-12

**4.9 Infrastructure .....4-12**

4.9.1 Alternative 1 (Preferred Alternative) ..... 4-12

4.9.2 Alternative 2 ..... 4-13

4.9.3 No Action Alternative ..... 4-13

**4.10 Socioeconomic Resources..... 4-14**

4.10.1 Alternative 1 (Preferred Alternative) ..... 4-14

4.10.2 Alternative 2 ..... 4-14

4.10.3 No Action Alternative ..... 4-14

**4.11 Human Health and Safety ..... 4-15**

4.11.1 Alternative 1 (Preferred Alternative) ..... 4-15

4.11.2 Alternative 2 ..... 4-15

4.11.3 No Action Alternative ..... 4-16

**5.0 FINDINGS AND CONCLUSIONS.....5-1**

**5.1 Findings.....5-1**

5.1.1 Consequences of the No Action Alternative ..... 5-1

5.1.2 Consequences of the Action Alternatives ..... 5-1

**6.0 LIST OF PREPARERS AND REVIEWERS .....6-1**

**7.0 REFERENCES.....7-1**

**APPENDICES**

Appendix A – Wetlands  
 Determination.....A-1

Appendix B – Agency  
 Coordination.....B-1

Appendix C - Air  
 Quality.....C-1

Appendix D – Section 106  
 Documentation.....D-1

**LIST OF FIGURES**

Figure 1 – Regional Location ..... 1-3  
 Figure 2 – Proposed Alternative Site Locations..... 2-2  
 Figure 3 – Typical Communications Facility ..... 2-3  
 Figure 4 – Alternative 1 (Preferred Alternative) Site Layout ..... 2-3  
 Figure 5 – Alternative 2 Site Layout..... 2-4  
 Figure 6 – Wetlands and Floodplains ..... 3-8  
 Figure 7 – Alternative 1 - APEs for Direct and Visual Effects ..... 3-11  
 Figure 8 – Alternative 2 - APEs for Direct and Visual Effects ..... 3-12

**LIST OF TABLES**

Table 1.5-1 Agency Coordination/ Approval Needs Summary ..... 1-5  
 Table 3.2-1 National Ambient Air Quality Standards ..... 3-2  
 Table 3.2-2 Federal *de minimis* Levels for Nonattainment and Maintenance Areas..... 3-3  
 Table 3.5-1 Listed Threatened and Endangered Species Known to Occur In or Near  
 Frederick County, MD..... 3-9  
 Table 3.6-1 Previously Inventoried Properties in the APE for Visual Effects for  
 Alternative 1 ..... 3-13  
 Table 3.6-2 Previously Inventoried Properties in the APE for Visual Effects for  
 Alternative 2 ..... 3-14  
 Table 3.6-3 Pre-1959 Architectural Resources in APE for Visual Effects Considered Not  
 Eligible ..... 3-16  
 Table 4.2-1 Projected Pollutant Emissions (tons/year) ..... 4-3  
 Table 4.6-1 Determination of Effects on Historic Properties for Alternative 1 ..... 4-7  
 Table 4.6-2 Determination of Effects on Historic Properties for Alternative 2 ..... 4-9  
 Table 5.1-1 Findings and Conclusions Summary Table ..... 5-1

## **EXECUTIVE SUMMARY**

The Maryland Department of Information Technology proposes to construct and operate a public health and safety communications tower and facilities in New Market, Frederick County, Maryland (MD). The new communications tower and facilities would assist in filling existing gaps in public safety interoperable communications and would improve current radio operations for the State Police, State Highway Administration, Emergency Medical Services, Department of Natural Resources Police, Military Department, and other government radio systems. In accordance with the National Environmental Policy Act of 1969, as amended and the Council on Environmental Quality regulations implementing the National Environmental Policy Act [40 Code of Federal Regulations 1500-1508], the Maryland Department of Information Technology has prepared this Environmental Assessment (EA) to ascertain potential impacts to the human and natural environment.

### **ES.1 Description of Proposed Action**

The Maryland Department of Information Technology intends to construct a public health and safety communications tower and facilities in the Route 40/I-70 and MD Route 75 interchange in New Market, Frederick County, Maryland. The proposed construction consists of one 348-foot self-supporting radio tower with a Federal Aviation Administration-approved lighting system, at least two 12-by-38-by-10-foot equipment shelters with one backup generator, one 1,000 gallon liquid propane tank, and associated site improvements to facilitate ingress/egress of the site and equipment installation. The construction of proposed facilities would require a site approximately 10,000 square feet in size. In addition, an access road, approximately 1,400 square feet would be constructed to connect the site to the interstate ramp.

### **ES.2 Alternatives Considered**

Several alternatives were considered in this EA to fulfill the purpose and need for the Proposed Action. These alternatives were assessed based on the following evaluation factors: 1) the site must be State-owned land, 2) the elevation of the site must be a minimum of 500 feet, 3) the slope of the site must be between 0-15 percent, 4) the site must be easily accessible, 5) the site must be well-drained.

Alternative 1, which is considered the preferred alternative, includes the construction and operation of a new public health and safety communications tower and facilities in the southeast quadrant of the Route 40/I-70 and MD Route 75 interchange in New Market, Frederick County, Maryland.

Under Alternative 2, a similar communications tower and facilities would be constructed and operated in the northeast quadrant of the Route 40/I-70 and MD Route 75 interchange in New Market, Frederick County, Maryland.

The No Action Alternative does not meet the purpose and need; however, it is considered as a baseline to compare impacts of the action alternatives. Under the No

Action Alternative, the new public health and safety communications tower and facilities would not be constructed in New Market, Frederick County, Maryland.

An alternative considered but dismissed was the use of existing tower infrastructure. However, the alternative of using only existing tower infrastructure was dismissed because it did not fill in existing gaps in public safety interoperable communications.

The northwest and southwest quadrants of the Route 40/I-70 and MD Route 75 interchange were considered as potential sites. However, a review of these quadrants revealed that none met all the evaluation factors necessary to construct and operate the public health and safety communications tower and facilities. Therefore, the northwest and southwest quadrants of the Route 40/I-70 and MD Route 75 interchange were therefore dismissed as potential sites for the Proposed Action.

### **ES.3 Environmental Impacts of the Proposed Action**

The action alternatives for implementing the proposed action, Alternative 1 and Alternative 2, would not result in significant adverse impacts to the environment. Implementation of either Alternative 1 or Alternative 2 would have minor, temporary air quality and noise increases due to construction activities. Alternative 1 or Alternative 2, in conjunction with past, present, or reasonably foreseeable future actions, are not anticipated to result in major adverse cumulative air quality and noise impacts.

Implementation of Alternative 1 or Alternative 2 would require excavation and grading associated with construction activities. These activities would result in minor disturbance to soils within the project sites. Proper erosion and sedimentation plans would be developed and followed during construction to minimize impacts. Therefore, there would be no significant impacts to topography and soils. With the exception of the two drainage swales, no other surface waters, wetlands, or floodplains are present within the project alternative sites; therefore, no impacts to these resources would occur as a result of the implementation of either alternative. Potential impacts to groundwater due to leaking petroleum, oil, or lubricants from construction equipment could occur and best management practices would be used during construction to minimize these potential impacts.

Under Alternative 1, impacts to biological resources would include the loss of some existing vegetation and the associated habitat provided to wildlife species. Loss of the vegetative community would have minimal impacts to wildlife due to the location and the minimal habitat the area currently provides. Additionally, coordination with United States (U.S.) Fish and Wildlife Service and Maryland Department of Natural Resources indicated no threatened and endangered species are present within the project area. Construction and operation of the public health and safety communications tower and facilities at the Alternative 1 or Alternative 2 site would have no significant impact on migratory bird populations.

For historic and cultural resources, the Area of Potential Effects for Direct Effects for Alternative 1 and Alternative 2 was previously disturbed by the construction of I-70 and the Maryland Route 75 interchange. Therefore, there are no known archaeological resources that would be impacted by the action alternatives. The proposed tower at the Alternative 1 site would have no adverse effect on the New Market Historic District or other nearby historic and cultural resources. Installation of the communications tower and facilities at the Alternative 2 site has the potential for visual impacts to the New Market Historic District and Peace and Plenty Rural Historic Landscape, which could be considered an adverse effect under Section 106 of the National Historic Preservation Act [36 Code of Federal Regulations 800.5(a)(1)].

The alternative sites are immediately surrounded by commercial development. Proposed changes to land use at the Alternative 1 or Alternative 2 site would be compatible with land uses surrounding the site. Therefore, no significant impacts to land use are anticipated under either action alternative.

Under the action alternatives, Allegheny Power would continue to supply power to Frederick County. It is likely that the existing configuration and power supply at either alternative site would be sufficient to meet the demand of the proposed communications tower operation. The installation of the communications tower and facilities would be beneficial to emergency services and would support current radio operations. Traffic would be maintained during construction of the communications facility and the only increase in traffic would be from construction vehicles. There would be no negative impacts to infrastructure as a result of the action alternatives. The construction and operation of the communications tower and facilities at the Alternative 1 or Alternative 2 site would not have significant impacts to socioeconomic characteristics of Frederick County. Moreover, low-income and minority populations would not be disproportionately affected.

It is unlikely that implementation of Alternative 1 or Alternative 2 would have any unforeseen adverse impacts to human health and safety. Radiation exposure and risk of electrocution to humans from equipment typically used would be extremely low and below harmful levels. The implementation of Alternative 1 or Alternative 2 would enable public safety agencies to improve interoperable communications and communicate more effectively in an emergency or crisis situation. This would result in an operations-related beneficial impact to human health and safety.

#### **ES.4 Avoidance and Minimization Measures**

Mitigation is undertaken to reduce the potential significance of the impact of an action. Actions taken as part of a permitting requirement, such as instituting Best Management Practices during construction to limit soil erosion, are not considered to be mitigation, as they are required as part of the permitting process.

The following actions would be taken to reduce the impacts from implementing Alternative 1 or Alternative 2:

- During construction activities, standard safety measures would be implemented, such as temporary fencing or other such measures to limit access to the area by non-construction personnel.
- During construction activities, standard noise control measures, such as equipment sound mufflers, would be implemented to reduce any potential impact from construction-related noise.
- Fugitive dust associated with construction would be handled through Best Management Practices, such as watering of exposed soils, soil stockpiling, and soil stabilization.

## 1.0 INTRODUCTION

The Maryland Department of Information Technology (DoIT) proposes to construct and operate a public health and safety communications tower and facilities in New Market, Frederick County, Maryland (MD) (**Figure 1**). The objective of the proposal is to improve current radio operations for the State Police, State Highway Administration, Emergency Medical Services, Department of Natural Resources Police, Military Department, and other government radio systems. The new communications tower and facilities would assist in providing complete statewide coverage by filling existing gaps in public safety interoperable communications. If this proposal to construct and operate a communications facility were to be implemented, construction would likely begin as early as summer 2010 and last approximately 180 days.

### 1.1 Background

The State of Maryland completed a Statewide Communications Interoperability Plan in July 2008, which stated that Maryland seeks to develop and implement a reasonable and feasible solution that provides statewide, secure, coordinated, real-time voice and data communications that can span jurisdictional and organizational boundaries (State of Maryland, July 2008).

Communications interoperability is the ability of emergency response agencies, such as law enforcement agencies, fire departments, and emergency medical service providers, to talk across disciplines and jurisdictions via radio communications systems (DoIT, November 2009). Emergency response communications and interoperability are important for the following reasons:

- Improvement in the ability of emergency responders to reduce the loss of life and property in emergency situations
- Facilitation of rapid and efficient interaction among all emergency response organizations
- Provision of immediate and coordinated assistance in day-to-day missions, task force operations, and mass-casualty incidents

Another important part of interoperability is radio spectrum, which is one of the nation's most valuable, finite resources (DoIT, November 2009). Spectrum is the highway over which voice, data, and image communications travel and is the complete range of frequencies and channels that can be used for radio communications. Without access to effective radio spectrum, emergency response personnel cannot communicate with their own agencies and with each other as needed (DoIT, November 2009).

The Public Safety Wireless Advisory Committee delivered a final report to the Federal Communications Commission (FCC) on September 11, 1996, defining the need for additional radio spectrum to meet the need for both State and local public safety communications. Since that time, public safety agencies and other interest groups have worked to obtain funding to support State and local agency future interoperable communications systems (National Telecommunications and Information

Administration [NTIA], February 2009). As a result, Congress has authorized a \$1 billion Public Safety Interoperable Communications (PSIC) Grant Program led by the NTIA, U.S. Department of Commerce and the Department of Homeland Security (DHS). The purpose of the PSIC Grant Program is to assist state, local, tribal, and nongovernmental agencies in developing the 700 megahertz (MHz) interoperable radio system.

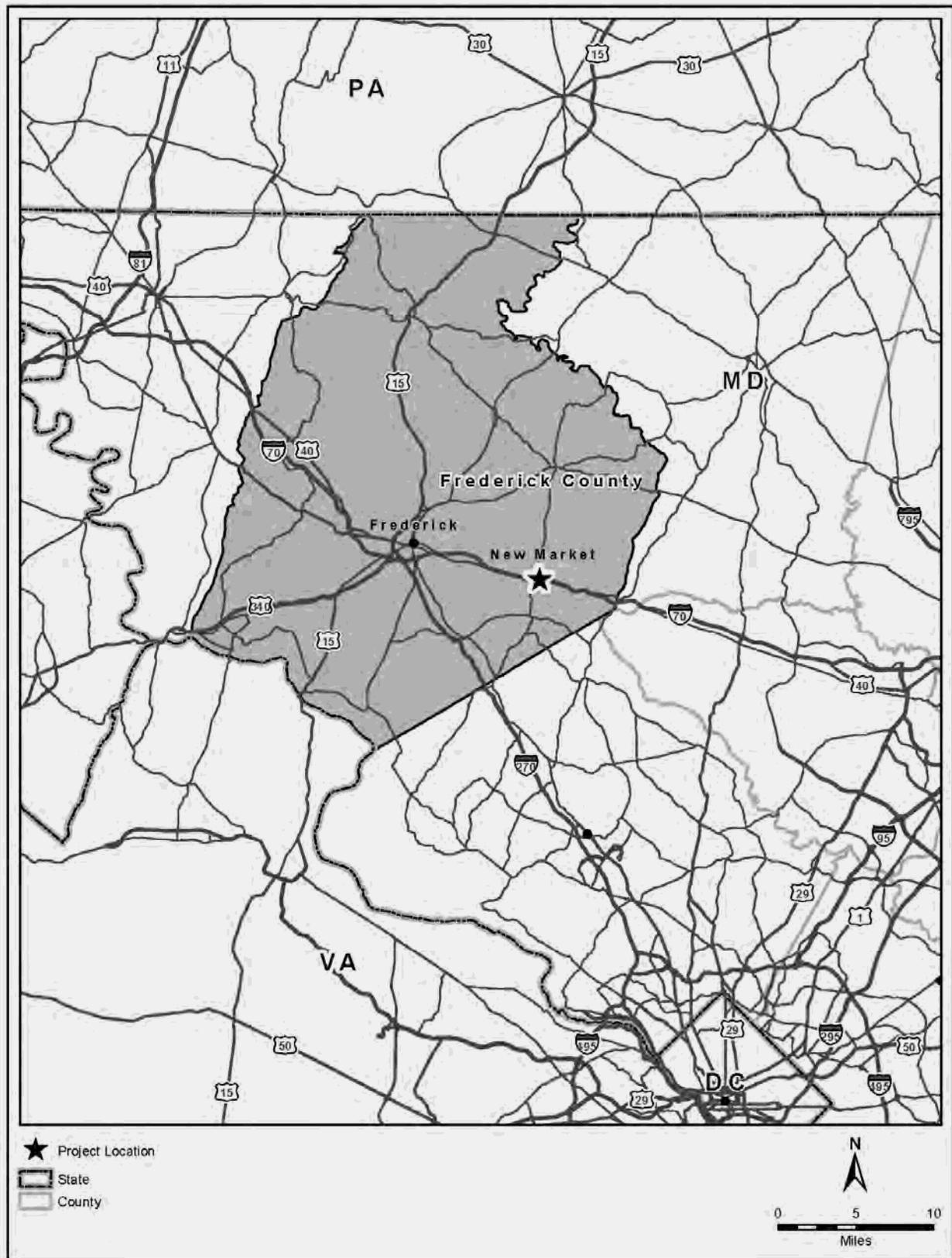


Figure 1 - Regional Location

The NTIA, in coordination with DHS, has been given authority to carry out the PSIC Grant Program to assist public safety agencies with acquisition, deployment, and training of interoperable communications systems (NTIA, February 2009). NTIA has specified that PSIC-funding must be used for projects that would improve communications on areas at high risk for natural disasters and in urban and metropolitan areas at high risk for threats of terrorism, and should include pre-positioning or securing of interoperable communications for immediate deployment during emergencies or major disasters (NTIA, February 2009). The proposed New Market public health and safety communications is eligible for PSIC Grant Program funding.

The PSIC-funded equipment plays a role in improving compliance with the Maryland Statewide Communications Interoperability Plan, by further enabling the interoperability of all agencies and jurisdictions that are awarded PSIC funding. This role is critical to the replacement of old technology that is in use at all levels of state government. Modern equipment facilitates the interagency communications which the State of Maryland seeks to standardize.

## **1.2 Purpose and Need for Proposed Action**

The DoIT proposes to construct and operate a public health and safety communications tower and facilities in New Market, Maryland as part of a network of State-owned radio towers to support current radio operations for State Police, State Highway Administration, Emergency Medical Services, Department of Natural Resources Police, Military Department, and other government radio systems. The purpose of the State-owned towers in this network is to support the State's future 700 MHz, interoperable radio system.

The need for the new public health and safety communications tower and facilities in New Market is to assist in providing complete statewide coverage by filling in existing gaps in public safety interoperable communications. This proposed communications tower and facilities in New Market, MD are just one part of the overarching PSIC Grant Program, which is to improve interoperability and reliability of the nation's communication and information systems infrastructure.

## **1.3 The NEPA Process**

As a condition of the PSIC Grant Program funding, PSIC grantees must comply with all relevant Federal legislation, including the National Environmental Policy Act.

Therefore, the DoIT is preparing this EA for the proposed construction and operation of a public health and safety communications facility at New Market, MD.

The National Environmental Policy Act (NEPA) of 1969, as amended, requires federal agencies to consider potential environmental consequences of proposed actions in their decision-making process. Under NEPA, Congress directs federal agencies to carry out actions in accordance with NEPA's policies of environmental protection. NEPA requires agencies to consider natural and social sciences for all proposed actions, develop alternative actions, and evaluate the environmental effect for each alternative. Under

NEPA, the Council on Environmental Quality (CEQ) was established as an oversight agency. In 1978 the CEQ issued regulations for implementing the procedural provisions of NEPA (40 Code of Federal Regulations [CFR] 1500–1508).

In accordance with NEPA and the CEQ regulations implementing NEPA (40 CFR 1500–1508), DoIT has prepared this EA to ascertain potential impacts of the Proposed Action to the human and natural environment. This EA also evaluates the potential cumulative impacts of all reasonably foreseeable actions in conjunction with the Proposed Action. Evaluation of the Proposed Action determines whether or not its implementation would result in significant impacts on the environment. If no significant impacts are identified from the Proposed Action, then a Finding of No Significant Impact (FONSI) can be issued. If significant impacts are likely, even after mitigation measures are incorporated into the plans for the Proposed Action, then a Notice of Intent to prepare an Environmental Impact Statement (EIS) is required, followed by the completion of the EIS itself.

**1.3.1 Related Environmental Documents**

The U.S. Department of Commerce NTIA developed the *Programmatic Environmental Assessment (PEA) for the Public Safety Interoperable Communications Grant Program* to provide an assessment of the expected environmental impacts associated with the proposed PSIC Grant Program (NTIA, February 2009). The implementation of the PSIC Grant Program involves a wide variety of projects designed to improve interoperable communications among public safety agencies. More specifically, the PEA evaluated five project types associated with public communication systems that are eligible for funding under the PSIC Grant Program including: transmission and receiving sites, operations and response centers, mobile infrastructure, mobile and portable equipment, and planning, training, and exercises. The PEA only evaluated impacts of the PSIC Grant Program at the national level. Therefore, each PSIC-funded project must prepare environmental impact analysis pursuant to NEPA. In accordance with CEQ regulations for implementing NEPA, the PEA for the PSIC Grant Program with material relevant to the Proposed Action is being incorporated by reference.

In addition to the NEPA process described above, the proposed action may require agency coordination and approvals. Some potentially applicable regulatory coordination summarized in Table 1.5-1.

**Table 1.5-1  
Agency Coordination/Approval Needs Summary**

Agency	Agency Coordination/Approval Type	Agency Coordination/Approval Required For
Maryland Department of Natural Resources – Environmental Review Branch	Threatened/Endangered Species Information	Provides information on the presence of threatened/endangered species within the project area.

Agency	Agency Coordination/Approval Type	Agency Coordination/Approval Required For
Maryland Department of Natural Resources – Wildlife Heritage Service	Threatened/Endangered Species Information	Provides information on the presence of rare, threatened or endangered wildlife and plant species and the natural communities that support them within the project area.
US Fish and Wildlife Service, Chesapeake Bay Field Office	Threatened/Endangered Species Information	Provides information on the presence of federally-listed threatened/endangered species within the project area.
Maryland Historic Trust, MD SHPO	Section 106 - Concurrence on cultural resource determinations	Determination of effects on architectural and archaeological resources that are listed on or eligible for listing on the NRHP

## 2.0 PROPOSED ACTION

The CEQ *Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act* establish a number of policies for federal agencies, including "...using the NEPA process to identify and assess reasonable alternatives to the proposed action that will avoid or minimize adverse effects of these actions on the quality of the human environment" (40 CFR 1500.2 [e]). The construction and operation of the proposed public health and safety communications tower and facilities is needed to assist in providing complete statewide coverage by filling existing gaps in public interoperable communications. The need for public health and safety communications facilities establishes a foundation for developing criteria by which alternatives to the Proposed Action were evaluated.

### 2.1 Alternatives Considered to Implement the Proposed Action

Factors that must be met for an alternative to be a reasonable option for fulfilling the purpose and need for the Proposed Action are shown below.

1. The site must be State-owned land.
2. The elevation of the site must be a minimum of 500 feet.
3. The slope of the site must be between 0-15 percent.
4. The site must be easily accessible.
5. The site must be well-drained.

With these factors in mind, alternatives to the Proposed Action were examined.

#### 2.1.1 Alternative 1 (Preferred Alternative)

The DoIT proposes to construct a public health and safety communications facility in the southeast quadrant of the Route 40/I-70 and MD Route 75 (Green Valley Road) interchange in New Market, Frederick County, Maryland (**Figure 2**). The latitude and longitude for this site is 39°22'50.54" North and 77°15'30.33" West, respectively.

The proposed construction consists of one 348-foot (ft) self supporting radio tower with Federal Aviation Administration (FAA)-approved lighting system, at least two 12-by-38-by-10-ft equipment shelters with one backup generator, one 1,000 gallon liquid propane tank, and associated site improvements to facilitate ingress/egress of the site and equipment installation. The communications facility would use a standard FAA-approved E1 lighting system which is a medium intensity white strobe during the day time and a red beacon with red-side markers at night. **Figure 3** depicts a typical communications facility. The construction of proposed facilities would require a site approximately 10,000 square feet (SF) in size. In addition, an access road, approximately 1,400 SF would be constructed to connect the site to the interstate ramp. The total area of ground disturbance would equal approximately 11,400 SF, or 0.26 acres. The proposed Alternative 1 site layout is depicted in **Figure 4**.

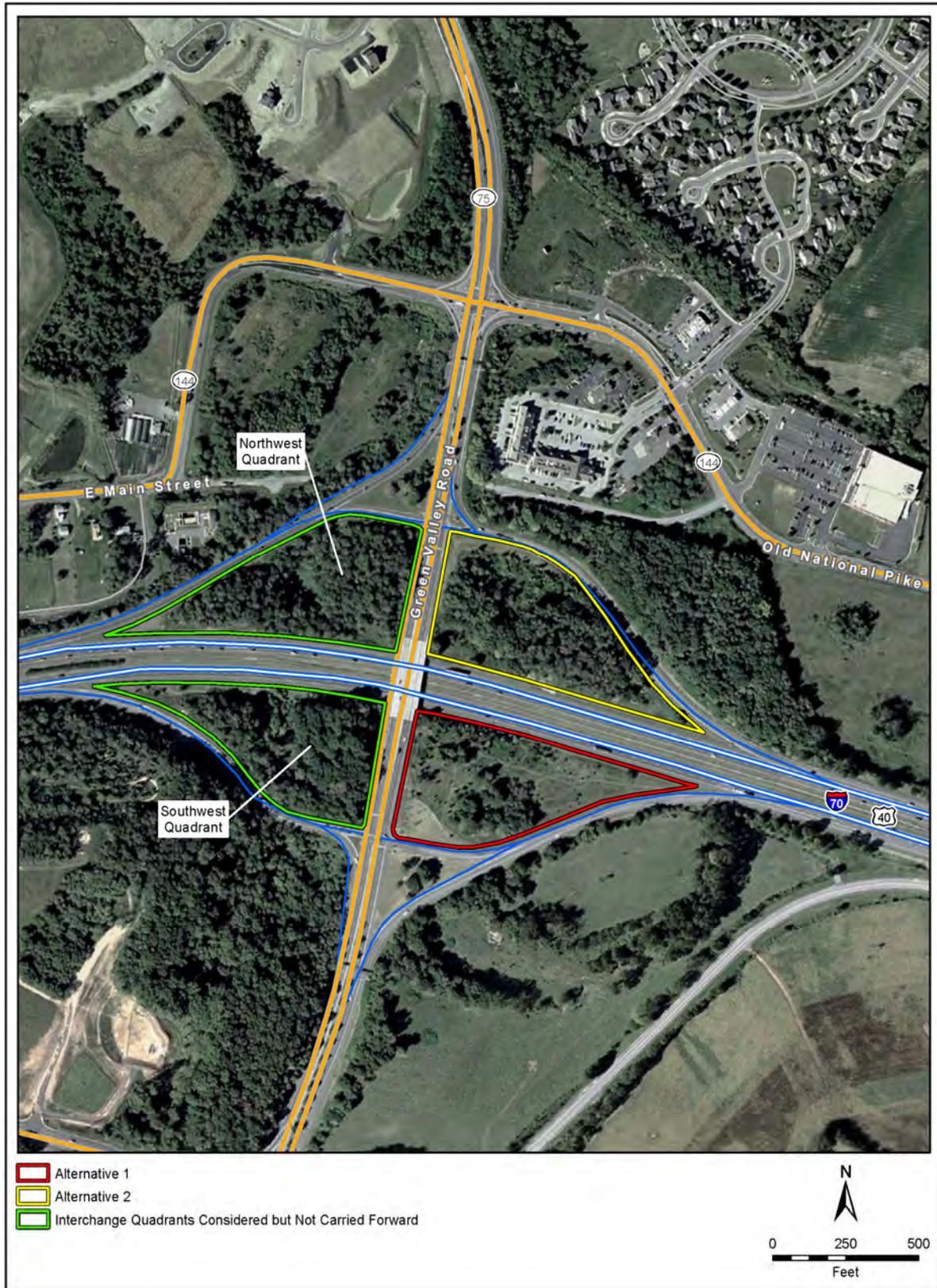


Figure 2 - Proposed Alternative Site Locations



**Figure 3 - Typical Communications Facility**



**Figure 4 - Alternative 1 (Preferred Alternative) Site Layout**

The project site is presently covered with vegetation consisting of a small forested component, shrubs, and an herbaceous layer. The south and southwest portion of the site is partially mowed and maintained with a few ornamental plantings. The southeast

site is relatively flat, sloping from north to south. Pre-construction activities would require excavation and grading.

### 2.1.2 Alternative 2

Alternative 2 also involves the construction of a public health and safety communications tower and facilities in the northeast quadrant of the Route 40/I-70 and MD Route 75 (Green Valley Road) interchange in New Market, Frederick County, Maryland (**Figure 5**). The proposed facilities and access road would be the same as described for Alternative 1. The latitude and longitude for this site is 39°22'58.4" North and 77°15'31.2" West, respectively.

The project site is presently covered with a dense amount of vegetation of mainly deciduous trees, shrubs, and ground cover. The topography rises towards the east. The elevation is slightly higher than that of the Alternative 1- southeast quadrant site. Pre-construction activities would require clearing of trees and vegetation, along with excavation and grading.



**Figure 5 - Alternative 2 Site Layout**

### **2.1.3 No Action Alternative**

Under the No Action Alternative, the new public health and safety communications tower and facilities would not be constructed. The No Action Alternative fails to meet the purpose and need. Ultimately, it cannot support the needs for improving interoperable communications. For these reasons, it is not considered a reasonable solution for satisfying the purpose and need for the Proposed Action as stated in Subchapter 1.2. However, it does provide a baseline against which to measure the potential impacts of the Proposed Action. Therefore, the No Action Alternative is evaluated in subsequent sections of this EA.

## **2.2 Alternatives Considered but Not Carried Forward**

Other alternatives for fulfilling the purpose and need of the Proposed Action were considered but dismissed from further study. For example, the use of existing tower infrastructure was considered. This was actually the starting point for developing the 700 MHz, interoperable radio system. However, it was determined that additional communication towers and infrastructure were needed to provide complete statewide coverage (State of Maryland, July 2008). As a result, the alternative of using only existing tower infrastructure was dismissed because it did not fill in existing gaps in public safety interoperable communications.

As depicted in Figure 2, two other quadrants of the Route 40/I-70 and MD Route 75 interchange were considered as potential sites for the Proposed Action. However, a review of these quadrants revealed that none met all the evaluation criteria necessary to construct and operate the public health and safety communications tower and facilities. In addition, according to the Maryland Department of Natural Resources GeoSpatial Data Center, the northwest and southwest quadrants contain wetlands and the construction of a communication tower and facilities would result in impacts to wetlands that are unavoidable. Therefore, the remaining quadrants of the Route 40/I-70 and MD Route 75 interchange were dismissed as potential sites for the Proposed Action.

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### **3.0 EXISTING ENVIRONMENT**

This section describes the existing environment that may be affected by implementing the Proposed Action and serves as a baseline from which to identify and evaluate potential impacts. The description of the affected environment focuses on those resource areas that are potentially subject to impacts resulting from the Proposed Action. Aspects of the existing environment described in this section focus on 11 major resources areas that encompass the natural, human, and built environments.

This section defines each resource area to establish its context and general characteristics. It also includes a discussion of existing conditions and applicable regulations to define the relevant considerations applicable to this EA.

#### **3.1 Noise**

Typically, levels of noise are measured in units called decibels (dB). Since the human ear cannot perceive all pitches or frequencies equally well, these measures are adjusted or weighted to compensate for the human lack of sensitivity to low-pitched and high-pitched sounds. This adjusted unit is known as the A-weighted decibel, or dBA.

Transportation noise resulting from aircraft and vehicle activities is expressed in terms of dBA. The dBA is therefore used for evaluating noise sources related to traffic, small boats, and aircraft. The A-weighting scale closely resembles the frequency response of the human ear and therefore is considered to provide a good indication of the impact of noise produced by transportation activities.

For a typical suburban area with associated traffic conditions, background noise levels are normally about 50 dBA and about 70 dBA near areas directly adjacent to traffic routes such as the proposed project area.

#### **3.2 Air Quality**

Air quality is defined as the ambient air concentrations of specific criteria pollutants determined by the U.S. Environmental Protection Agency (USEPA) to be of concern to the health and welfare of the general public. These criteria pollutants include ozone (O<sub>3</sub>), carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), particulate matter (PM) [less than or equal to 10 and 2.5 microns in diameter, PM<sub>10</sub> and PM<sub>2.5</sub>], and lead (Pb). Two types of National Ambient Air Quality Standards (NAAQS) have been established by the USEPA for these criteria air pollutants. Primary ambient air quality standards are designed to protect public health with an adequate margin of safety.

Secondary ambient air quality standards are designed to protect public welfare-related values including property, materials, and plant and animal life. The maximum primary and secondary standards (concentrations) of criteria pollutants are listed in Table 3.2-1 and apply throughout the U.S.

**Table 3.2-1  
National Ambient Air Quality Standards**

Pollutant <sup>a</sup>	Averaging Time	Primary	Secondary
O <sub>3</sub>	8 Hours	0.075 ppm <sup>b</sup>	Same as Primary
CO	8 Hours	9.0 ppm	None
	1 Hour	35 ppm	
NO <sub>2</sub>	Annual Arithmetic Mean	0.053 ppm	Same as Primary
SO <sub>2</sub>	Annual Arithmetic Mean	0.03 ppm	None
	24 Hours	0.14 ppm	
	3 Hours	---	0.5 ppm
	1 Hour	75 ppb <sup>b</sup>	
PM <sub>10</sub>	24 Hours	150 µg/m <sup>3</sup> <sup>b</sup>	Same as Primary
PM <sub>2.5</sub>	Annual	15 µg/m <sup>3</sup>	Same as Primary
	24 Hours	35 µg/m <sup>3</sup>	---
Pb	Quarterly Arithmetic Mean	0.15 µg/m <sup>3</sup>	Same as Primary
Notes: a: These standards, other than for O <sub>3</sub> and those based on annual averages, must not be exceeded more than once per year. The O <sub>3</sub> standard is attained when the expected number of days per calendar year with a maximum hourly average concentration above the standard is equal to or less than one. b: ppm = parts per million by volume, ppb = parts per billion, µg/m <sup>3</sup> = micrograms per cubic meter. Source: USEPA, June 2010.			

**Criteria Air Pollutants**

Criteria pollutants affecting air quality in a given region can be characterized as being emitted from either stationary or mobile sources. Stationary sources of emissions are typified by emissions from smokestacks, turbine engines, and refinery and chemical processing operations. Mobile sources of emissions include emissions from cars, airplanes, ships, and boats.

Areas that comply with NAAQS are designated as attainment areas. Areas that violate ambient air quality standards are designated as non-attainment areas. Areas that have improved air quality from non-attainment to attainment are designated as attainment/maintenance areas. Areas that lack monitoring data to demonstrate attainment or non-attainment status are designated as unclassified and are treated as attainment areas for regulatory purposes.

The region of influence for air quality for the site, defined by the USEPA, is designated as the Washington Metropolitan Region, which is a nonattainment area. This area includes the regulatory boundary of the National Capital Interstate Air Quality Control Region (40 CFR 81.12), which consists of the territorial area encompassed by the boundaries of Washington, DC; and in the State of Maryland: Montgomery and Prince George’s Counties; and in the Commonwealth of Virginia: Arlington County, Fairfax County, Loudoun County, Prince William County, the City of Alexandria, the City of Fairfax, and the City of Falls Church. Additionally, for ozone nonattainment it includes the Maryland counties Calvert, Charles, and Frederick; for the particulate matter less than 2.5 microns (PM<sub>2.5</sub>) nonattainment area it includes Charles and Frederick Counties; and for the carbon monoxide maintenance area it includes portions of Montgomery and Prince George’s Counties.

**Federal Requirements**

Section 176(c) of the Clean Air Act (CAA), as amended, requires federal agencies to ensure that actions undertaken in non-attainment or maintenance areas are consistent with the CAA and with federally enforceable air quality management plans. The CAA places responsibility on individual states to achieve and maintain the NAAQS through USEPA-approved State Implementation Plans (SIP).

The CAA general conformity requirements apply to Federal actions occurring in non-attainment or maintenance areas when the total direct and indirect emissions of non-attainment pollutants (or their precursors) exceed specified thresholds, referred to as *de minimis* levels. *De minimis* levels (in tons per year) vary from pollutant to pollutant and are also subject to the severity of the non-attainment status. The USEPA conformity rule establishes a process that is intended to demonstrate that a proposed Federal action would: (1) not cause or contribute to new violations of Federal air quality standards; (2) not increase the frequency or severity of existing violations of Federal air quality standards; and (3) not delay the timely attainment of Federal air quality standards. Compliance is presumed if the net increase in direct and indirect emissions from a Federal action would be less than the relevant *de minimis* level. However, if the increase in emissions for a non-attainment pollutant exceeds *de minimis* levels, a formal conformity determination process must be implemented. Federal *de minimis* levels for nonattainment and maintenance areas are summarized in Table 3.2-2.

**Table 3.2-2  
Federal *de minimis* Levels for Nonattainment and Maintenance Areas**

Pollutant	Area Type	Tons/year
Ozone (VOC's or NO <sub>x</sub> )	Serious nonattainment	50
	Severe nonattainment	25
	Extreme nonattainment	10
	Other areas outside an ozone transport region	100
Other ozone nonattainment inside an ozone transport region	VOC	50
	NO <sub>x</sub>	100
Carbon Monoxide (CO), SO <sub>2</sub> , and NO <sub>2</sub>	All nonattainment and maintenance	100
PM <sub>10</sub>	Moderate nonattainment and maintenance	100
	Serious nonattainment	70
PM <sub>2.5</sub>	Direct Emissions	100
	SO <sub>2</sub>	100
	NO <sub>x</sub> (Unless determined not to be a significant precursor)	100
	VOC or ammonia (if determined to be significant precursors)	100
Pb	All nonattainment and maintenance	25
Source: USEPA, July 2006.		

## **Regulatory Requirements - New Source Review and Prevention of Significant Deterioration**

As part of the Clean Air Act Amendment (CAAA) of 1977, Congress established the New Source Review (NSR) program. This program is designed to ensure that air quality is not significantly degraded from the addition of new and modified factories, industrial boilers, and power plants. In areas with unhealthy air, NSR assures that new emissions do not slow progress toward cleaner air. In areas with clean air, especially pristine areas like designated Class I areas, NSR assures that new emissions do not significantly worsen air quality.

The CAAA also established a national goal of preventing degradation or impairment in any federally designated Class I area. As part of the Prevention of Significant Deterioration (PSD) program, mandatory Class I status was assigned by Congress to all international parks, national wilderness areas, memorial parks greater than 5,000 ac and national parks greater than 6,000 ac in existence in 1977. In Class I areas, visibility impairment is defined as a reduction in visual range and atmospheric discoloration. Stationary sources, such as industrial complexes, are typically an issue for visibility within a Class I PSD area.

There are no PSD Class I areas within the vicinity of the proposed sites.

## **State Requirements**

The CAA requires each state to develop, adopt, and implement a SIP to achieve, maintain, and enforce federal air quality standards throughout the state. SIPs are developed on a pollutant-by-pollutant basis whenever one or more air quality standards are being violated. The Maryland Department of the Environment is responsible for the preservation, protection, and improvement of the State's air resources.

### **3.3 Geology and Soils**

The project is located within the Upland Region of the Piedmont Physiographic Province. The Piedmont Province is composed of hard crystalline metamorphic and igneous rock consisting of phyllite, slate, marble, and moderately to slightly metamorphosed volcanic rock in the western region of the province (Maryland Geological Survey [MGS], January 2001).

The topography of the area consists of rolling hills with scattered areas of flat terrain. The New Market Region rises gradually in elevation above sea level and the project location is at approximately 520 feet above mean sea level (U.S. Geological Survey [USGS], 1953 [Revised 1993]).

The soils in the New Market Region are similar to those found in the Urbana and Walkersville Planning Regions of eastern Frederick County. These soils are related to the geology found in the Upland Region of the Piedmont. In general, soils in this part of the Piedmont are well drained and of variable fertility and productivity. The primary soils within the New Market Region are from the Glenelg-Mt. Airy, Linganore-Hyattstown, Brinklow-Blocktown series (Frederick County Planning Commission,

September 2008). Review of the Soil Survey for Frederick County, Maryland indicates the soils within the project area consist of Catoctin-Spoolsville complex, 3 to 8 percent slopes, Udorthents, smooth, 0 to 8 percent slopes and Udorthents, smooth 8 to 15 percent slopes (Natural Resources Conservation Service [NRCS], January 2007). These soils are not considered prime farmland soils or hydric soils.

### **3.4 Water Resources**

#### **3.4.1 Surface Water**

The Town of New Market is located near Wood Run, School Run, and Davis Branch, all of which are tributaries of Bush Creek. The Lake Linganore and Spring Ridge planned unit developments are located along Linganore Creek. The boundaries of the New Market Region are formed almost entirely by the Monocacy River to the west, Linganore Creek to the north, and Bush Creek to the south (Frederick County Planning Commission, September 2008). New Market is located in the lower Bush Creek watershed (Frederick County, Maryland, 2004).

A site visit for the Alternative 1 project location was conducted on April 12, 2010 to evaluate site conditions. Two drainage swales were located on the site along the southern and western boundaries. The drainage swales carry highway drainage west from the subject site under MD Route 75 where the drainage is collected in a concrete lined drainage swale. The drainage is carried to the floodplain of Bush Creek. The drainage does not empty directly into Bush Creek. No hydrology was present during the site visit and no other surface waters were identified.

A site visit for the Alternative 2 project location was conducted on October 15, 2009 to evaluate site conditions. During the site visit no surface waters were identified in or near the project area. Two drainage swales were located on the northern and southern boundaries of the site. The northern drainage swale is located between the I-70 off-ramp and the project area, and the southern drainage swale is located between I-70 and the project area. The northern drainage swale is grass and the southern drainage swale is concrete. The northern drainage swale does not drain into nearby surface waters. However, the southern drainage swale drains to an unnamed tributary to Bush Creek.

#### **3.4.2 Groundwater**

Groundwater within Frederick County primarily occurs under unconfined and semi-confined conditions in fractures in metamorphic and sedimentary rock (MGS, 1987). Review of the USGS National Water Information System indicated no wells occur within the project area (USGS, November 2009).

#### **3.4.3 Floodplains and Wetlands**

Review of Federal Emergency Management Agency (FEMA) Floodplain mapping did not indicate the presence of floodplains within the project area (FEMA, November 2002). Additionally, review of Maryland Department of Natural Resources (MDNR) GeoSpatial Data Center did not indicate the presence of wetlands within the project site (MDNR, November 2005) (See **Figure 6**). Based on review of NRCS Soil Survey of

Frederick County, Maryland, no hydric soils were present at the project site, (NRCS, January 2007).

A field survey was conducted on April 12, 2010 to evaluate the existing conditions associated with the Alternative 1 project location. No wetland vegetation, hydric soils, or hydrology indicative of a wetland was observed during the site visit. Based on the field survey, it was concluded that no wetlands are present within the project area. During a field survey conducted October 15, 2009 to evaluate the existing conditions associated with the Alternative 2 project location, a review of site conditions was conducted to determine if any wetland vegetation, hydric soils, or wetland hydrologic indicators were present. Based on the results of this field survey, it was concluded that no wetlands are present within the project area. **Appendix A** contains the field memos regarding the site visits on April 12, 2010 and October 15, 2009, respectively.

### 3.5 Biological Resources

#### 3.5.1 Vegetation

Presently the major forested areas of Frederick County lie in the mountainous areas and in the eastern regions; approximately 29 percent of the county is currently covered by forested land. The mountainous areas include the rolling intermountain land north of Myersville and the immediate vicinity of Sugarloaf Mountain. The eastern county area, including the New Market Region, is non-contiguous forest and the forested areas are found primarily where the land is not suited for development or farming. Minor forested areas lie in the floodplains of the Monocacy and Potomac Rivers and their tributaries. Within the New Market Region, approximately 18 percent of the land area is forested (Frederick County Planning Commission, September 2008).

The site visit for the Alternative 1 project location, conducted on April 12, 2010, identified vegetation consisting of a small forested component with mature black cherry (*Prunus serotina*) and red maple (*Acer rubrum*), a shrub layer of multiflora rose (*Rosa multiflora*), and an herbaceous layer of wild mustard (*Synapis arvensis*), wild onion (*Allium canadense*), and poison ivy (*Toxicodendron radicans*). The remainder of the site is early- to mid-successional consisting of scattered tulip poplar (*Liriodendron tulipifera*), box elder (*Acer negundo*), red maple (*Acer rubrum*), staghorn sumac (*Rhus typhina*), red panicle dogwood (*Cornus racemosa*), red maple saplings, multi flora rose, and several douglas fir (*Pseudotsuga menziesii*) and white pines (*Pinus strobus*) that have been planted and an herbaceous layer of wild mustard (*Synapis arvensis*), wild onion (*Allium canadense*), crown vetch (*Securigera varia*), japanese honeysuckle (*Lonicera japonica*), and poison ivy (*Toxicodendron radicans*).

The south and southwest portion of the site was partially mowed and maintained with a few ornamental plantings. Vegetation specific to the Alternative 2 project site was identified during the October 15, 2009 site visit consisted of a canopy of green ash (*Fraxinus pennsylvanica*), black cherry (*Prunus serotina*), black walnut (*Juglans nigra*), with red maple and black cherry being the dominant species. The understory was very dense and consisted of autumn olive (*Elaeagnus umbellata*), multiflora rose, arrow tearthumb

(*Polygonum arifolium*), summer grape (*Vitis aestivalis*), and poison ivy. The northern portion of the site was not forested and contained the understory identified above as well as grasses and golden rod (*Solidago spp.*).

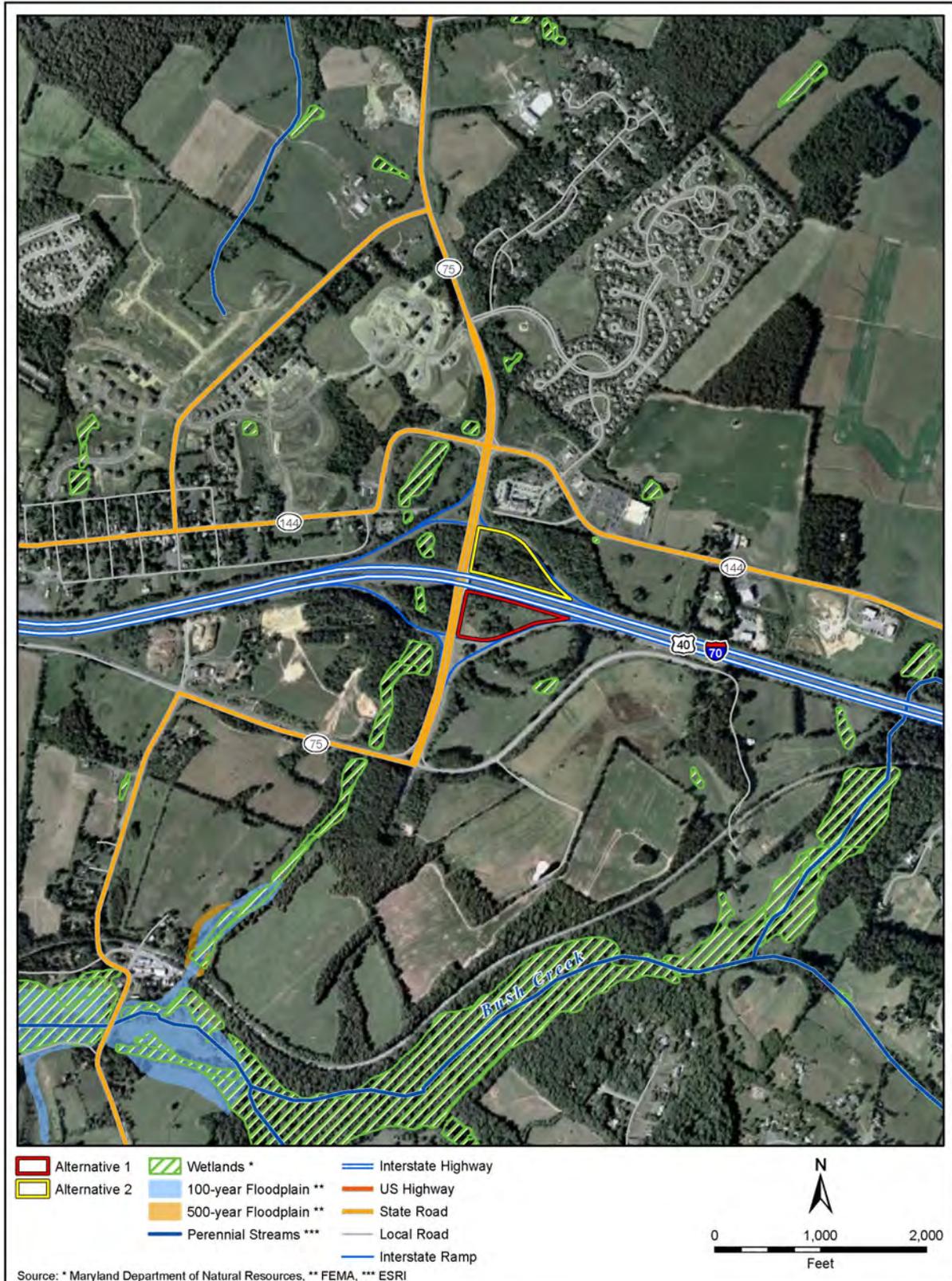


Figure 6 - Wetlands and Floodplains

**3.5.2 Wildlife**

No wildlife was observed during the site visits conducted on October 15, 2009 for the northeast site and on April 12, 2010 for the southeast site. However, it is likely that common species such as white-tailed deer, opossum, raccoons, gray squirrels, and skunks may use the area.

**3.5.3 Threatened and Endangered Species**

Table 3.5-1 lists threatened and endangered species known to occur within Frederick County, Maryland. Coordination with the U.S. Fish and Wildlife Service (USFWS) indicated that no threatened or endangered species are known to exist within the southeast or northeast project sites (**Appendix B**). In addition, coordination with MDNR, Wildlife and Heritage Service and the Environmental Review Branch was completed. MDNR Wildlife and Heritage Service indicated that there are no State or Federal records for rare, threatened or endangered species within the boundaries of the southeast or northeast project sites as delineated (**Appendix B**). MDNR Environmental Review Branch indicated that because there are no streams or wetlands present on the project sites, there would be no fisheries concerns and no further consultation is necessary (Golden, June 2010).

**Table 3.5-1  
Listed Threatened and Endangered Species Known to Occur In or Near Frederick County, MD**

Common Name	Scientific Name	Federal Status
Animals		
Indiana Bat	<i>Myotis sodalis</i>	E
Maryland Darter	<i>Etheostoma sellare</i>	E
Eastern Puma	<i>Puma concolor cougar</i>	E
Shortnose Sturgeon	<i>Acipenser brevirostrum</i>	E
Northeastern Beach Tiger Beetle	<i>Cicindela dorsalis dorsalis</i>	T
Puritan Tiger Beetle	<i>Cicindela puritana</i>	T
Northern Bog Turtle	<i>Clemmys muhlenbergii</i>	T
Dwarf Wedgemussel	<i>Alasmidonta heterdon</i>	E
Plants		
Northeastern Bulrush	<i>Scirpus ancistrochaetus</i>	E
Canby's Dropwort	<i>Oxypolis canbyi</i>	E
Sandplain Gerardia	<i>Agalinis acuta</i>	E
Harperella	<i>Ptilimnium nodosum</i>	E
Sensitive Joint-Vetch	<i>Aeschynomene virginica</i>	T
Swamp Pink	<i>Helonias bullata</i>	T
Source: USFWS, November 2008; T= Threatened; E= Endangered		

**3.5.4 Migratory Bird Treaty Act**

Migratory and most native-resident bird species are protected under the Migratory Bird Treaty Act, and their conservation by federal agencies is mandated by Executive Order (EO) 13186. The Migratory Bird Treaty Act prohibits the taking, killing, or possessing of migratory birds unless permitted by regulation. Maryland sees a wide array of migratory birds because it is part of the Atlantic Flyway. Additionally, in Maryland

there are five National Wildlife Refuges aimed to preserve and protect the natural environment. The nearest National Wildlife Refuge, Patuxent, is 33 miles from the project area for Alternative 1 and 2. Blackwater National Wildlife Refuge is 81 miles from the project area, Eastern Neck is located 60 miles away, Martin is located 114 miles from the project area, and Susquehanna National Wildlife Refuge is 63 miles away from the project area.

### **3.6 Historic and Cultural Resources**

Section 106 of the National Historic Preservation Act of 1966, as amended, requires that projects using federal funds, permits, or licenses take into account any potential adverse effects on historic properties, i.e., any prehistoric or historic building, site, structure, district, or object listed, or eligible for listing, on the National Register of Historic Places (NRHP). The construction of the New Market tower is being funded under the PSIC Grant Program led by NTIA, the U.S. Department of Commerce and the Department of Homeland Security. Because this project will use federal funds, it is necessary to identify historic properties within the project's Area of Potential Effects (APE), assess the effects of the project on historic properties, and consult with the Maryland Historical Trust (MHT), which serves as the Maryland State Historic Preservation Office, regarding the findings. The following sections present the results of these efforts.

#### **3.6.1 Area of Potential Effects**

The APE for Direct Effects is the area within which potential ground disturbance associated with the construction of the proposed New Market communications tower and facilities would occur. The APE for Visual Effects takes into account possible visual changes to significant features of a historic property's setting. The Nationwide Programmatic Agreement (NPA) executed in September 2004 between the Federal Communications Commission, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers on undertakings involving construction of communications towers and antennas provided a guide for delineating the APE for Visual Effects for the Maryland DoIT tower in New Market. Procedures set forth in the NPA specify the APE for visual effects of a tower between 200 and 400 ft tall is 0.75-mile-radius from the tower site. A 0.75-mile-radius APE for Visual Effects was deemed sufficient for this project since the emergency services communications (transmit/receive) tower would be 348 ft in height. Therefore, the APE for Visual Effects for Alternative 1 is a 0.75-mile radius area centered on the proposed southeast quadrant tower location (**Figure 7**), and the APE for Visual Effects for Alternative 2 is a 0.75-mile radius area centered on the proposed northeast quadrant tower location (**Figure 8**).



**Figure 7 - Alternative 1 - APEs for Direct and Visual Effects**



**Figure 8 - Alternative 2 - APEs for Direct and Visual Effects**

### 3.6.2 Archaeological Resources

An archaeological field survey was not performed because the APEs for Direct Effects for Alternative 1 and Alternative 2 were previously disturbed by the construction of the I-70/MD 75 interchange. I-70 was constructed in the late 1950s and the interchange as presently configured was built sometime after 1971. A Phase I archaeological survey conducted in 2004 in a 30-ft-wide corridor along Bush Creek included the western quadrants of the I-70/MD 75 interchange. This survey indicated the area within the interchange was disturbed (Fischler and Comer, 2004).

Auger tests done within the southeast quadrant of the interchange confirm that the APE for Alternative 1 is generally disturbed. A small patch of mature trees that appears to represent an undisturbed portion of the interchange is located near the south edge along the on-ramp for I-70. Maryland DoIT was advised of the potentially undisturbed area and the tower site was positioned to avoid this area. If, for any reason it becomes necessary to move the proposed location of the tower within this undisturbed area of the Alternative 1 site, a Phase I archaeological survey would likely be necessary.

No Indian Tribes that may attach religious or cultural significance to historic properties that may be affected by this undertaking within the APEs for direct and visual effects for either alternative have been identified. There are no state or federally recognized Indian tribes in Maryland (MHT, January 2010).

### 3.6.3 Architectural Resources

A search of the files at the MHT Library identified thirteen previously inventoried properties in the APE for Visual Effects for Alternative 1. These properties are listed in Table 3.6-1. No previously inventoried properties were identified in the APE for Direct Effects for Alternative 1. On April 12, 2010, a site visit was conducted at the proposed tower site and each known historic property in the APE for Visual Effects for Alternative 1.

**Table 3.6-1  
Previously Inventoried Properties in the APE for Visual Effects for Alternative 1**

Property Name	MIHP No.	Address	NRHP Status
National Road	F-3-224	National Road (MD 144/U.S. 40/ I-70) Frederick to Mt. Airy, MD	Not Evaluated; Designated an All-American Road and Maryland Scenic Byway
Monrovia Survey District	F-5-14	4900 block of Green Valley Road Monrovia, MD 21770	Not Evaluated
Marly Farms	F-5-24	West side of Old New Market Road New Market, MD 21774	Determined Not Eligible, July 1997
Monrovia Bank	F-5-52	North side of Route 75 Monrovia, MD 21770	Not Evaluated
Monrovia General Store	F-5-53	West side of Route 75 Monrovia, MD 21770	Not Evaluated
New Market Historic District	F-5-59	Main Street (MD 144) New Market, MD 21774	Listed, 12/6/1975
Ursula Plummer House	F-5-60	North side of Main St. at Fifth Alley New Market, MD 21774	Listed, Contributing Resource in New Market Historic District
Old National Pike Milestone 36	F-5-66	Old National Pike (MD 144) Mt. Airy, MD 21771	Listed, 3/27/1975
Old National Pike Milestone 37	F-5-67	Main Street (MD 144) New Market, MD 21774	Listed, 3/27/1975

Property Name	MIHP No.	Address	NRHP Status
John S. Watkins House	F-5-86	5020A Green Valley Road Monrovia, MD 21770	Not Evaluated
Henry Smith Farmstead	F-5-118	11928 East Baldwin Road Monrovia, MD 21770	Not Evaluated
Peace and Plenty Rural Historic Landscape	F-5-124	Ben's Branch Valley New Market, MD 21774	Not Evaluated
New Market Grange Hall	F-5-128	1 Eighth Alley New Market, MD 21774	Listed, Contributing Resource in New Market Historic District
MIHP = Maryland Inventory of Historic Properties			

A search of the files at the MHT Library identified nine previously inventoried properties in the APE for Visual Effects for Alternative 2. These properties are listed in Table 3.6-2. No previously inventoried properties were identified in the APE for Direct Effects for Alternative 2. On October 15, 2009, a site visit was conducted at the proposed tower site and each known historic property in the APE for Visual Effects for Alternative 2.

**Table 3.6-2  
Previously Inventoried Properties in the APE for Visual Effects for Alternative 2**

Property Name	MIHP No.	Address	NRHP Status
National Road	F-3-224	National Road (MD 144/U.S. 40/ I-70) Frederick to Mt. Airy, MD	Not Evaluated; Designated an All- American Road and Maryland Scenic Byway
Marly Farms	F-5-24	West side of Old New Market Road New Market, MD 21774	Determined Not Eligible, July 1997
New Market Historic District	F-5-59	Main Street (MD 144) New Market, MD 21774	Listed, 12/6/1975
Ursula Plummer House	F-5-60	North side of Main St. at Fifth Alley New Market, MD 21774	Listed, Contributing Resource in New Market Historic District
Old National Pike Milestone 36	F-5-66	Old National Pike (MD 144) Mt. Airy, MD 21771	Listed, 3/27/1975
Old National Pike Milestone 37	F-5-67	Main Street (MD 144) New Market, MD 21774	Listed, 3/27/1975
Henry Smith Farmstead	F-5-118	11928 East Baldwin Road Monrovia, MD 21770	Not Evaluated
Peace and Plenty Rural Historic Landscape	F-5-124	Ben's Branch Valley New Market, MD 21774	Not Evaluated
New Market Grange Hall	F-5-128	1 Eighth Alley New Market, MD 21774	Listed, Contributing Resource in New Market Historic District
MIHP = Maryland Inventory of Historic Properties			

The New Market Historic District (F-5-59) and Old National Pike Milestones 36 and 37 (F-5-66 and -67) are historic properties. Two of the more than 80 contributing resources in the New Market Historic District, the Ursula Plummer House (F-5-60) and New Market Grange Hall (F-5-128), have been individually inventoried. They are contributing resources in the district and thus, are historic properties. Another contributing resource in the New Market Historic District is the 0.66-mile segment of the National Road through New Market, which is designated Main Street (MD 144). The road itself was not described or considered as a contributing resource in the 1975 NRHP nomination form of the district. However, a recent inventory and evaluation of the road recommended it as a contributing resource of the historic district, and the MHT concurred with the recommendation in 2006.

The segment of the National Road (MD 144/U.S. 40/I-70) between Frederick and Mt. Airy, Maryland has been inventoried in the Maryland Inventory of Historic Properties (MIHP) (F-3-224), but it has not been evaluated for inclusion in the NRHP. However, the entire National Road between Baltimore and Vandalia, Illinois, 824 miles through six states, was designated an All-American Road on June 13, 2002. An All-American Road is a public road that possesses characteristics of national importance based on at least two of the six following intrinsic qualities: archaeological, cultural, historic, natural, recreational, and scenic (Federal Highway Administration, 2007). For the purposes of the Section 106 review for this project, the National Road was considered a historic property.

The Peace and Plenty Rural Historic Landscape was surveyed in 1996 and inventoried in the MIHP in 1997 (F-5-124). The rural historic landscape comprises 12 farms and one agricultural lime plant within 1,542 acres of land in Ben's Branch Valley in southwestern Frederick County. The rural historic landscape was recommended eligible as a historic district under criteria A, C, and D; however, there is no formal determination of eligibility on the district. The Peace and Plenty Rural Historic Landscape was considered a historic property for the purposes of the Section 106 review for this project. Site visits determined that the recommended district has a high degree of integrity.

Monrovia Survey District has been inventoried in the MIHP (F-5-14) but has not been formally evaluated for inclusion in the NRHP. The survey district encompasses 12 resources and approximately 8 acres of land in the town of Monrovia. Two resources, the Monrovia Bank (F-5-52) and the Monrovia General Store (F-5-53), have been individually surveyed, but have not been formally evaluated. The John S. Watkins House (F-5-86) is located just north of the Monrovia Survey District. This building has not been formally evaluated for listing on the NRHP. The Henry Smith Farmstead (F-5-118) is located east of the town of Monrovia and has not been formally evaluated for listing on the NRHP. Access to the property was not available during the field reconnaissance. For purposes of the Section 106 review for this project, these properties have been considered eligible.

In addition to the site visits to the alternative tower sites and each previously identified historic property, a reconnaissance survey was conducted to identify whether the APE for Visual Effects for either alternative includes any properties that are not currently recorded and on file in the MIHP, but that may be considered eligible for listing on the NRHP.

Properties that may possibly meet the NRHP Criteria for Evaluation (36 CFR 60.4) were not identified in the APE for Visual Effects for either alternative during the reconnaissance survey. Besides the New Market Historic District, only a handful of architectural resources dating from the mid-nineteenth to early-twentieth century are present in the APE for Visual Effects. Table 3.6-3 lists these resources and identifies why they were not treated as historic properties.

**Table 3.6-3  
Pre-1959 Architectural Resources in APE for Visual Effects Considered Not Eligible**

Address	Description	Associated Historic Theme	Integrity?	Tower Site Visible?
5639 Old New Market Rd	Mid-19 <sup>th</sup> cen. I-House, early-20 <sup>th</sup> cen. Dairy barn, several modern outbuildings	Agriculture	No; windows, doors, and porch altered; several modern outbuildings	No; ranch house across the street, hilly topography, and stands of dense trees obscure view of site
East side of Old New Market Rd, 175 ft north of North Alley, New Market	Cemetery	Mortuary art; typical examples of headstones	Compromised by new subdivision development on north and east sides	No; subdivision and hilly topography obscure view of site
Old New Market Rd and North Alley, New Market	2.5-story brick church (New Market United Methodist Church), ca. 1821	Architecture; excluded from New Market Historic District	Inconclusive; new roof shingles only visible alteration	No; buildings in New Market Historic District block view of site
11834 Old National Pike	Turn of the 20 <sup>th</sup> cen. brick Foursquare; mid-20 <sup>th</sup> cen. outbuildings	Agriculture	Compromised by front porch addition and new roof cladding; new roof on older Italianate?	No; wide, dense area of trees east of exit ramp obscures view of site
East side of Green Valley Road, 380 ft south of Baldwin Rd	Mid-19 <sup>th</sup> cen. I-House w/ rear ell, 20 <sup>th</sup> cen. outbuilding	Architecture; typical representative of an I-House	Yes, only minor alterations visible	No; deep, dense area of trees on west side of Green Valley Road obscures view of site

### 3.7 Aesthetic and Visual Resources

Aesthetic integrity can be an important environmental component of a site, particularly if the site is in a historic or wilderness setting. This is not the case for the New Market alternative project sites. The aesthetic environment in and around the proposed alternative sites is a transportation route that is of recent construction and the immediate vicinity is characterized by recent commercial development.

It is important to note that aesthetic quality is subjective; what is visually pleasing to one person may not be pleasing to another. For example, someone who has an interest in communication facilities may find the proposed communication facility to be aesthetically pleasing, while others who do not have a passion for these operations may not.

### 3.8 Land Use

The Board of County Commissioners adopted a revised New Market Region Plan on September 2, 2008. The Plan is a long-range guide for land use, and development decisions in the New Market Region. It is also a guide for other decisions that are related to growth and development and will help the County determine when and where new public facilities and improvements are needed (Frederick County Planning Commission, September 2008).

The New Market Planning Region is located in eastern Frederick County along the I-70 corridor and consists of approximately 47,000 acres. The northern boundary of the New

Market Region is defined by Gashouse Pike from the Monocacy River to Linganore Creek, the western boundary by the Monocacy River, the southern boundary by Bush Creek and Church Branch, and the eastern boundary by the Frederick-Carroll County Line. Interstate-70 bisects the Region east/west, whereas MD 75 crosses the Region north/south. These two roads create a crossroads where most of the Region's potential industrial and commercial growth, outside of the incorporated communities, is to be located. Of the eight Planning Regions, the New Market Region is expected to receive one of the largest proportions of the growth projected for Frederick County-second only to the Frederick Region. The Region's relatively large land area, access to I-70 and MD 75, and its proximity to Carroll, Howard, and Montgomery Counties and the cities of Baltimore, Maryland and Washington, DC provide an attractive market for residential development and contribute to the Region's projected growth. The New Market Region includes two municipalities, the towns of Mount Airy and New Market, which exercise their own planning and zoning authority. The New Market area was first settled in 1747 while the town itself was laid out along Main Street (now MD 144) in 1788 with 170 lots recorded in the County land records in 1793. New Market's primary feature is its historic district focused along MD 144 with a significant concentration of antique shops. The area immediately surrounding the proposed alternative sites is zoned as General Commercial which provides for general retail, small scale office and business/personal service uses (Frederick County Planning Commission, September 2008). Two residential subdivisions are north of the alternative sites and one that is still being developed is northwest of the alternative sites. Recently-built commercial properties, including a strip mall, fast food establishment, gas station, and grocery store, are immediately north of the alternative sites on Old National Pike (MD 144). A group of modern light industrial and commercial properties are located on the south side of Old National Pike. The New Market alternative sites are State-owned land and therefore exempt from local zoning.

### **3.9 Infrastructure**

#### **3.9.1 Utilities**

The New Market area is supplied with electricity from Allegheny Power. The proposed communications tower and facilities alternative sites are capable of being connected to existing Allegheny Power lines.

#### **3.9.2 Emergency Services**

The New Market Region is currently served by a combination of career and volunteer fire and rescue stations in the Town of New Market and a recently opened station in Spring Ridge (United Fire Company). Other stations located outside of the Region but whose service areas extend into the New Market Region include Mount Airy, Green Valley (New Market Substation), Urbana, Frederick (United), and Libertytown (Frederick County Planning Commission, September 2008).

The Spring Ridge Fire Station, located on Spring Ridge Parkway near MD 144 is under the direction of the United Fire Company and provides both fire and emergency

medical services (EMS). This new station provides additional services to the western vicinity of the New Market Region and specifically to the Spring Ridge community. This station also provides additional services to the areas west of the existing New Market District Volunteer Fire Department, in addition to providing second coverage to much of the Lake Linganore area (Frederick County Planning Commission, September 2008).

The Mt. Airy Volunteer Fire Company, in Carroll County, provides fire and EMS service along the eastern border of Frederick County (Frederick County Planning Commission, September 2008).

### **3.9.3 Transportation Network**

Two major highways divide the New Market Region: I-70 extending east-west from the Carroll County line to the Monocacy River and MD 75 (Green Valley Road) running north-south bisecting the region. The Alternative sites are both located in the interchange of Route 40/I-70 and Route 75 (Green Valley Road).

### **3.10 Socioeconomic Resources**

Socioeconomics comprise the basic attributes of population and economic activity within a particular area and typically encompass population, employment and income, and housing. Impacts on these fundamental socioeconomic resources can influence other components such as provisions of public services.

EO 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," directs federal agencies to incorporate environmental justice into its mission and activities. Federal agencies are to accomplish this by conducting programs, policies, and activities that substantially affect human health or the environment in a manner that does not exclude communities from participation in, deny communities the benefits of, or subject communities to discrimination under such actions, because of their race, color, or national origin.

EO 13045, "Protection of Children from Environmental Health Risks and Safety Risks," requires each federal agency to identify and assess environmental health and safety risks to children. "Environmental health and safety risks" are defined as "risks to health or to safety that are attributable to products or substances that the child is likely to come in contact with or ingest."

The 2000 population for New Market (the latest year for which consistent data are available) was 427 and for Frederick County was 195,277 (U.S. Census Bureau, October 2009). The 2007 population for the Town of New Market was 600 persons (Frederick County Planning Commission, September 2008).

Minorities make up approximately 6 percent and 16.3 percent of New Market and Frederick County, respectively. Minorities make up 39 percent of the state of Maryland population (U.S. Census Bureau, October 2009). In 2000, the total number of children under the age of 18 years was 134 (31.4 percent of the population) in New Market and 64,266 (28.9 percent) in Frederick County. Children less than 18 years old made up 24 percent of the state of Maryland population in 2000 (US Census Bureau, October 2009).

Total housing units in New Market were 170 in 2000 and in Frederick County, were 84,746. Of these, approximately 6.5 percent and 5.2 percent were vacant in New Market and Frederick County, respectively (U.S. Census Bureau, October 2009).

### **3.11 Human Health and Safety**

Human health and safety issues linked with communications facilities are generally associated with workers' health and safety, and public safety during construction-related activities and during subsequent operations of those facilities. More specifically though, are issues related to the effects of electromagnetic radiation (or radio frequency [RF]) as well as tower failure. In addition, hazardous materials, often characterized as hazardous substances or hazardous wastes, must also be considered.

#### **3.11.1 Hazards of Electromagnetic Radiation**

In the U.S., the FCC authorizes or licenses most RF telecommunication services, facilities, and devices used by the public, industry and state and local government organizations. The FCC's RF emissions rules are designed to protect public health by limiting the maximum amount of RF emissions to which a licensee's facilities, in combination with other sources of RF emissions, may cause workers and the general public to be exposed. These rules are based on standards developed by the Institute of Electrical and Electronics Engineers, Inc. (IEEE) and adopted by the American National Standards Institute, as well as guidelines recommended by the National Council on Radiation Protection and Measurements. The rules were coordinated with and are supported by federal agencies with health and safety responsibilities, including the USEPA, the Food and Drug Administration, the National Institute for Occupational Safety and Health, and the Occupational Safety and Health Administration.

Current RF safety standards establish recommended permissible exposure limits (PELs) for personnel. PELs are also referred to as maximum permissible exposure (MPE) limits. These limits are based on the IEEE C95.1-1991, which serves as a consensus standard developed by representatives of industry, government agencies, scientific communities and the public.

Present MPE limits are based on thermal effects (i.e., the actual heating of human tissue due to the absorption of RF energy). MPE limits have been set for controlled and uncontrolled environments. Controlled environments are locations where exposure may be incurred by persons who are aware of the potential for exposure. Uncontrolled environments are locations where exposure may be incurred by individuals who have no knowledge or control of their exposure.

#### **3.11.2 Communications Tower Failure**

Communications towers, more specifically Nello towers, are designed to meet or exceed industry standards defined by ANSI/TIA/EIA-22-F, "Structural Standards for Steel Antenna Towers and Antenna supporting Structures." This is the design standard that is referenced by national and state building codes. Tower failures are very rare and, because of the conservative nature of tower design, those caused by extreme wind

speeds are even rarer. The few failures that do occur are typically due to improper installation, vandalism, or an act of God such as a tornado (Nello Inc., January 2009).

### **3.11.3 Hazardous Materials**

An Environmental Data Resources (EDR) Inc. records search was conducted for the project area. The EDR report is designed to assist parties seeking to meet the search requirements of USEPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-05), or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

There is no evidence or record of Comprehensive Environmental Response, Compensation Liability Act (CERCLA) related contamination reported for the alternative New Market sites or within a 0.50 mile radius of the sites. In addition, during the site visits conducted October 15, 2009 for the northeast site and on April 12, 2010 for the southeast site, no areas of stained soil or other contaminated areas were observed.

## **4.0 ENVIRONMENTAL CONSEQUENCES**

This chapter presents an analysis of the potential impacts upon various components of the environment that could result from the Proposed Action. Action alternatives involve the construction and operation of a new public health and safety communications tower and facilities in New Market, Frederick County, MD. Following a format similar to Chapter 3, Chapter 4 discusses Alternative 1, Alternative 2, and the No Action Alternative.

### **4.1 Noise**

#### **4.1.1 Alternative 1 (Preferred Alternative)**

If Alternative 1 were implemented, minor, temporary impacts to the noise environment in the vicinity of the site would occur. There are no residences or other noise sensitive receptors near the Alternative 1 site.

#### **Construction Related Activities**

The use of heavy equipment for site preparation and development (e.g., vegetation removal, grading, and back fill) would generate noise levels above average ambient noise levels. However, noise levels would be typical of standard construction activities, are expected to occur during normal working hours (i.e., between 7:00 A.M. and 5:00 P.M., Monday through Friday). Temporary noise impacts would cease with the completion of proposed construction activities.

#### **Operations**

Operation of the communications tower would require a generator to supply power during times when the main electric power may be non-operational. The generator unit would be an additional source of noise when it is operational. Since this unit would only be used during times of emergency outages, it is not considered a permanent noise impact. Noise reduction measures such as proper maintenance and installation of the unit inside an equipment shelter would reduce the noise impacts produced by this temporary source.

Due to its proximity to a busy interstate, the Alternative site already experiences noise levels that are likely to be in the 70 dBA range. Noise from operations activities would not substantially increase existing noise levels. Therefore, no significant noise impacts would occur under Alternative 1.

Although temporary noise impacts related to construction activities would occur, Alternative 1 in conjunction with past, present, or reasonably foreseeable future actions, is not anticipated to result in major adverse cumulative noise impacts.

#### **4.1.2 Alternative 2**

##### **Construction Related Activities**

The noise generated by construction activities under Alternative 2 would be similar to those described for Alternative 2. Noise levels would temporarily increase during the construction phase. However, noise levels would be expected to return to current levels with completion of construction activities. No significant impacts to noise would occur.

##### **Operations**

Similar to Alternative 1, Alternative 2 would have no significant impacts to noise as a result of operations of the communications tower and facilities. The Alternative 2 site is adjacent to a busy interstate with noise levels around 70 dBA.

Alternative 2 in conjunction with past, present, or reasonably foreseeable future actions, is not anticipated to result in major adverse cumulative noise impacts.

#### **4.1.3 No Action Alternative**

Under the No Action Alternative, the proposed construction activities at the New Market site would not occur and there would be no changes to current noise levels. The No Action Alternative would not increase noise levels; therefore, in conjunction with past, present, or reasonably foreseeable future actions, there would be no cumulative noise impacts.

### **4.2 Air Quality**

#### **4.2.1 Alternative 1 (Preferred Alternative)**

Air emissions resulting from Alternative 1 were evaluated in accordance with federal, state, and local air pollution standards and regulations. According to the USEPA, air quality impacts from a proposed activity or action would be significant if they:

- Increase ambient air pollution concentrations above any NAAQS
- Contribute to an existing violation of any NAAQS
- Interfere with or delay timely attainment of any NAAQS
- Impair visibility within any federally-mandated Federal Class I area

According to USEPA General Conformity Rule in 40 CFR Part 51, Subpart W, any proposed federal action that has the potential to cause violations in a NAAQS nonattainment area must undergo a conformity analysis. Since the Alternative 1 project site is in a maintenance area for CO and in nonattainment status for ozone and PM<sub>2.5</sub>, a conformity determination must be performed if the Proposed Action emissions exceed the applicable thresholds for these pollutants and their precursors.

The analysis calculated changes in air emissions in the region of influence as a result of Alternative 1 (see **Appendix C**). All construction emission sources associated with Alternative 1 were assessed. Because construction personnel would very likely come from the local area where they already drive, their commute to the Alternative 1 project site would not contribute additional emissions and so were not further evaluated as part of this EA.

## Construction-Related Activities

Emissions from construction-related activities involve contributions from engine exhaust emissions (i.e., construction equipment, and material handling) and fugitive dust stirred up during ground-disturbing activities. Emissions would occur over the duration of the construction period, which is not expected to exceed a 12-month period, and are provided in Table 4.2-1 and **Appendix C**.

**Table 4.2-1**  
**Projected Pollutant Emissions (tons/year)**

	VOCs	CO	NOx	SOx	PM <sub>10</sub>	PM <sub>2.5</sub>
Alternative 1	0.09	0.32	0.70	0.08	1.17	0.99
De <i>minimis</i> Threshold – Nonattainment	50	100	100	100	70	100
De <i>minimis</i> Threshold – Maintenance	100	100	100	100	100	100

Alternative 1 does not exceed any of the applicable *de minimis* standards. Specific construction activity assumptions and acreages are provided in **Appendix C**. In general, combustive emissions would produce localized, short-term elevated air pollutant concentrations. These short-term impacts could be further reduced or mitigated through the use of Best Management Practices (BMPs). BMPs for dust control include but are not limited to watering exposed soils to minimize dust and limiting the area of uncovered soil to the minimum needed for each activity.

In addition, there are no PSD Class I areas within the vicinity of the Alternative 1 project site. Therefore, the temporary, construction-related emissions of PM are not expected to significantly impact visibility.

## Operation

After the construction activities have concluded, the ambient air quality level would return to its normal level. The use of a backup generator would not be expected to cause the ambient air quality levels to increase due to its limited operation as an emergency power source. The use of a backup generator is not expected to result in increases in criteria pollutants greater than exceedance levels as defined in Table 3.2-2.

Overall, implementation of Alternative 1 would not result in long-term operation of significant emission-generating sources, nor would it significantly increase or alter the existing levels of ambient air quality levels.

Although temporary air quality impacts related to construction activities would occur, Alternative 1 in conjunction with past, present, or reasonably foreseeable future actions, is not anticipated to result in major adverse cumulative air quality impacts.

### 4.2.2 Alternative 2

Impacts to air quality under Alternative 2 would be similar to those described for Alternative 1. Alternative 2 is not expected to have significant impacts on air quality. In addition, Alternative 2 in conjunction with past, present, or reasonably foreseeable future actions, is not anticipated to result in major adverse cumulative air quality impacts.

### **4.2.3 No Action Alternative**

Under the No Action Alternative, a public health and safety communications tower and facilities would not be constructed at either of the alternative sites. There would be no changes to the air emissions that occur at present. In addition, the No Action Alternative in conjunction with past, present, or reasonably foreseeable future actions, would not cause cumulative air quality impacts.

## **4.3 Geology and Soils**

### **4.3.1 Alternative 1 (Preferred Alternative)**

Implementation of Alternative 1 would require excavation and grading associated with construction activities. These activities would result in minor disturbance to soils within the Alternative 1 project site. Construction activities would have no direct impacts on geological formations at New Market. Proper erosion and sedimentation plans would be developed and followed during construction to minimize impacts to soils. Therefore, there would be no significant impacts to topography and soils. Additionally, no hydric or prime farmland soils were identified. Therefore, there would be no impacts to these soil types. Although minor impacts to soils would occur due to construction, Alternative 1 in conjunction with past, present, or reasonably foreseeable future actions, is not anticipated to result in major adverse cumulative impacts to soils.

### **4.3.2 Alternative 2**

Impacts under Alternative 2 would be the same as those described for Alternative 1. No significant impacts to topography and soils would occur. Geological formations would not be affected. Alternative 2 in conjunction with past, present, or reasonably foreseeable future actions, is not anticipated to result in major adverse cumulative impacts to soils.

### **4.3.3 No Action Alternative**

Under the No Action Alternative, the geology, topography, and soils would remain the same as they are today and construction of the public health and safety communications tower and facilities would not take place at either of the alternative sites. Therefore, no changes or impacts to geology, topography or soils at either alternative site would occur. The No Action Alternative, in conjunction with past, present, or reasonably foreseeable future actions, would have no cumulative impacts to geology, topography, and soils.

## **4.4 Water Resources**

### **4.4.1 Alternative 1 (Preferred Alternative)**

With the exception of the two drainage swales, no other surface waters, wetlands, or floodplains are present within the Alternative 1 project site; therefore, no impacts to these resources would occur as a result of the implementation of Alternative 1. The drainage swales likely discharge to Bush Creek and therefore BMPs, such as placement of sediment fencing, should be implemented to prevent sediment from the project site

being discharged into Bush Creek. The potential for groundwater impacts is minimal, but could occur due to leaking petroleum, oil, and lubricants from construction equipment. BMPs would be used during construction to minimize potential impacts.

No significant impacts to water resources would occur under Alternative 1.

Alternative 1 in conjunction with past, present, or reasonably foreseeable future actions, is not anticipated to result in adverse cumulative impacts to water resources.

#### **4.4.2 Alternative 2**

Impacts under Alternative 2 would be the similar to those described for Alternative 1.

No significant impacts to surface waters, wetlands, or floodplains would occur.

Alternative 2 in conjunction with past, present, or reasonably foreseeable future actions, is not anticipated to result in adverse cumulative impacts to water resources.

#### **4.4.3 No Action Alternative**

Under the No Action Alternative, the communications tower and facilities would not be constructed. Therefore, there would be no change or impacts to water resources at either of the alternative sites. Additionally, the No Action Alternative, in conjunction with past, present, or reasonably foreseeable future actions would not result in cumulative impacts to water resources.

### **4.5 Biological Resources**

#### **4.5.1 Alternative 1 (Preferred Alternative)**

Under Alternative 1, impacts to biological resources would include the loss of some of the existing vegetation and the associated habitat provided to wildlife species. Loss of the vegetative community would have minimal impacts to wildlife due to the location and the minimal habitat the area currently provides. No wildlife was observed during the April 12, 2010 site visit; however, small animals such as skunks, rabbits, squirrels, and chipmunks, as well as birds, are likely to inhabit the area or use it to transition from one area to another. Based on the location of the habitat within a highway interchange and that no wildlife was observed during the site visit, it is anticipated that impacts to these resources would not be significant. Additionally, coordination with USFWS and MDNR, Wildlife and Heritage Service and the Environmental Review Branch indicated that no threatened and endangered species are known to exist within the project area. Therefore, there would be no effect to protected species.

Construction and operation of the public health and safety communications tower and facilities at the Alternative 1 site would have no significant impact on migratory bird populations. There are five National Wildlife Refuges in the state of Maryland.

However, the proposed communications tower and facilities would be sited away from those National Wildlife Refuges. Should birds come in contact with the communications tower, there is a potential for collision. However, it is unlikely that an entire flock would collide simultaneously. For the most part, birds are able to see and recognize the presence of the tower and would be able to avoid moving parts. During nighttime flight, it is possible that birds would not see the tower; thus the potential for collision

would increase. Stationary components of the tower may be used as temporary resting areas. The strength of the radio frequency radiation emissions would be extremely low, so no significant impact to migratory birds is anticipated as a result of Alternative 1. Alternative 1 in conjunction with past, present, or reasonably foreseeable future actions, is not anticipated to result in cumulative impacts to biological resources.

#### **4.5.2 Alternative 2**

Impacts under Alternative 2 would be the same as those described for Alternative 1. Loss of the vegetative community would have minimal impacts to wildlife due to the location and the minimal habitat the area currently provides. Additionally, coordination with USFWS and MDNR, Wildlife and Heritage Service and the Environmental Review Branch indicated that no threatened and endangered species are known to exist within the project area. No significant impacts to vegetation, wildlife, threatened and endangered, or migratory bird species would occur. In addition, Alternative 2 in conjunction with past, present, or reasonably foreseeable future actions, is not anticipated to result in cumulative impacts to biological resources.

#### **4.5.3 No Action Alternative**

Under the No Action Alternative, biological resources at either of the alternative sites and in Frederick County, MD would remain in their present conditions because the communications tower and facilities would not be installed. Additionally, the No Action Alternative, in conjunction with past, present, or reasonably foreseeable future actions would not result in cumulative impacts to biological resources.

### **4.6 Historic and Cultural Resources**

#### **4.6.1 Alternative 1 (Preferred Alternative)**

##### **Archaeological Resources**

The APE for Direct Effects was previously disturbed by the construction of I-70 and the MD 75 interchange. Therefore, there are no known archaeological resources that would be impacted by Alternative 1.

##### **Architectural Resources**

Implementation of Alternative 1 would have no adverse effect on historic properties. The Maryland Historical Trust concurred with this determination by letter dated May 24, 2010, included in **Appendix D**. On April 12, 2010, a site visit was conducted at the Alternative 1 site of the tower and each known historic property in the APE for Visual Effects. Views from the Alternative 1 tower site and from the known historic properties in the APE for Visual Effects to the Alternative 1 tower site were photographed. These efforts aided the assessment of project effects, which applied the criteria of adverse effect [36 CFR 800.5(a)(2)]. Table 4.6-1 below lists the determination of effects on historic properties in the APE for Visual Effects for Alternative 1.

**Table 4.6-1  
Determination of Effects on Historic Properties for Alternative 1**

Property Name	MIHP No.	Address	NRHP Status	Direct Effect?	Visual Effect?
National Road	F-3-224	National Road (MD 144/U.S. 40/I-70) Frederick to Mt. Airy, MD	Considered Eligible	No	No Adverse Effect
Monrovia Survey District	F-5-14	4900 block of Green Valley Road	Considered Eligible	No	No Adverse Effect
Monrovia Bank	F-5-52	North side of Route 75 Monrovia, MD 21770	Considered Eligible	No	No Adverse Effect
Monrovia General Store	F-5-53	West side of Route 75 Monrovia, MD 21770	Considered Eligible	No	No Adverse Effect
New Market Historic District	F-5-59	Main Street (MD 144) New Market, MD 21774	Listed	No	No Adverse Effect
Old National Pike Milestone 36	F-5-66	Old National Pike (MD 144) Mt. Airy, MD 21771	Listed	No	No Effect
Old National Pike Milestone 37	F-5-67	Main Street (MD 144) New Market, MD 21774	Listed	No	No Effect
John S. Watkins House	F-5-86	5020A Green Valley Road Monrovia, MD 21770	Considered Eligible	No	No Adverse Effect
Henry Smith Farmstead	F-5-118	11928 East Baldwin Road Monrovia, MD 21770	Considered Eligible	No	No Adverse Effect
Peace and Plenty Rural Historic Landscape	F-5-124	Ben's Branch Valley New Market, MD 21774	Considered Eligible	No	No Adverse Effect

The NRHP-listed New Market Historic District (F-5-59) is located approximately 0.35 miles southeast of the proposed tower site. The top of the tower from the proposed site in Alternative 1 may be visible from portions of the New Market Historic District; however, the tower would have no adverse effect on the historic district. In addition, an existing tower and the eastbound lanes of I-70 are located just south of the historic district. The existing tower is visible from locations along Main Street as well as from side streets and the south elevations of buildings in the southwest end of the historic district. The eastbound lanes of I-70 run parallel to the historic district and are visible from side streets and alleys and the south elevation of buildings in the district. Therefore, there would be no adverse effect to the New Market Historic District from the tower at the proposed site in Alternative 1.

At its closest, the National Road (F-3-224) is located approximately 1,050 ft from the tower site. The proposed emergency services tower would have no adverse effect on the National Road. The tower would not impact the route or configuration of the National Road, which are integral to its integrity. It would be located in an area of the transportation route that is of recent construction. The presence of the tower would not change the physical features within the setting, as the immediate vicinity is characterized by recent commercial development. Therefore, the proposed tower would have no adverse effect on the National Road.

Both Old National Pike Milestones 36 (F-5-66) and 37 (F-5-67) were not located. The recorded locations of the two milestones were visited but a milestone was not found at

either site. As neither of these historic properties is extant, the proposed project would have no effect.

The proposed tower site in Alternative 1 would have no adverse effect on the Peace and Plenty Rural Historic Landscape (F-5-124). The top of the tower may be visible from the southern end of the rural landscape; however, the intervening topography and vegetation, as well as the distance to the proposed tower would cause it to appear as a small element in the landscape. In addition, two existing cell or emergency towers are currently visible from the south end of the Peace and Plenty Rural Historic Landscape as minor intrusions in the landscape.

The APE for Visual Effects for Alternative 1 is adjacent to the north edge of the Monrovia Survey District (F-5-14). The tower would not be visible from the majority of the district due to topography, distance, and intervening vegetation; therefore, the tower, at the proposed Alternative 1 site, would have no adverse effect on the Monrovia Survey District.

Adjacent to the northwest of the Monrovia Survey District is the John S. Watkins House (F-5-86). Access to the house was restricted as No Trespassing signs were posted at the driveway entrance and the entire house was not visible due to vegetation. A high ridge to the east would block views to the proposed tower site. In addition, an existing tower located approximately 0.5-mile north along the same ridgeline where the house sits is likely currently visible from this resource. Therefore, the tower at the proposed Alternative 1 site would have no adverse effect on the John S. Watkins House.

The Henry Smith Farmstead (F-5-118) is located approximately 0.5-mile southeast of the proposed Alternative 1 tower site. Currently, the farmstead is inaccessible due to a private road closure of Baldwin Road approximately 1,500 feet north of the resource. The farm is blocked from the north by a high ridgeline and it is located at the base of the slope between the railroad tracks and Bush Creek. Due to hilly topography, distance, and intervening vegetation, it is likely that the proposed tower would not be visible from the farm. Therefore, there would be no adverse effect on the Henry Smith Farmstead from the tower at the proposed Alternative 1 site. Alternative 1 in conjunction with past, present, or reasonably foreseeable future actions, is not anticipated to result in cumulative impacts to historic and cultural resources.

#### **4.6.2 Alternative 2**

##### **Archaeological Resources**

The APE for Direct Effects was previously disturbed by the construction of I-70 and the MD 75 interchange. Therefore, there are no known archaeological resources that would be impacted by Alternative 2.

##### **Architectural Resources**

Implementation of Alternative 2 has the potential to adversely affect architectural resources. On October 15, 2009, a site visit was conducted at the Alternative 2 site of the tower and each known historic property in the APE for Visual Effects. Views from the Alternative 2 tower site and from the known historic properties in the APE for Visual

Effects to the Alternative 2 tower site were photographed. Table 4.6-2 below lists the determination of effects on historic properties in the APE for visual effects for Alternative 2.

The tower site is 0.25 mile west of the east end of the New Market Historic District (F-5-59). Large, dense areas of trees are within the northwest clover leaf and between the district and the Alternative 2 tower site. The substantial tree cover would effectively obscure views of the lower half of the tower from within the district. The top half of the tower, however, would likely be visible above the trees at the east end of the district. During Section 106 consultation, MHT requested further information in the form of a balloon test study from vantage points within the district toward the site of the tower to better determine visual effects (Apple, November 2009) (**Appendix D**). A balloon test would have to be conducted to determine if the tower would be a noticeable intrusive element that would diminish the integrity of the district’s setting by altering its rural character. Therefore, Alternative 2 has the potential for visual impacts on the New Market Historic District, which could be considered a potential adverse effect under Section 106 of the NHPA [36 CFR 800.5(a)(1)].

**Table 4.6-2  
Determination of Effects on Historic Properties for Alternative 2**

Property Name	MIHP No.	Address	NRHP Status	Direct Effect?	Visual Effect?
National Road	F-3-224	National Road (MD 144/U.S. 40/I-70) Frederick to Mt. Airy, MD	Considered Eligible	No	No Adverse Effect
New Market Historic District	F-5-59	Main Street (MD 144) New Market, MD 21774	Listed	No	Potential Adverse Effect
Old National Pike Milestone 36	F-5-66	Old National Pike (MD 144) Mt. Airy, MD 21771	Listed	No	No Effect
Old National Pike Milestone 37	F-5-67	Main Street (MD 144) New Market, MD 21774	Listed	No	No Effect
Henry Smith Farmstead	F-5-118	11928 East Baldwin Road Monrovia, MD 21770	Considered Eligible	No	No Adverse Effect
Peace and Plenty Rural Historic Landscape	F-5-124	Ben’s Branch Valley New Market, MD 21774	Considered Eligible	No	Potential Adverse Effect

At its closest point, the National Road (F-3-224) is approximately 650 ft from the tower site. When the present interchange was built sometime after 1971, the original section of the National Road was abandoned and bypassed and this segment of the road was built to the north. The bypassed portion of the National Road is approximately 220 ft north of the tower site. The proposed emergency services tower would have no adverse effect on the National Road. The tower would not impact the route or configuration of the National Road, which are integral to its integrity. It would be located in an area of the transportation route that is of recent construction. The presence of the tower would not change the physical features within the setting, as the immediate vicinity is

characterized by recent commercial development. Therefore, the proposed tower would have no effect on the National Road.

Both Old National Pike Milestones 36 (F-5-66) and 37 (F-5-67) were not located. The recorded locations of the two milestones were visited but a milestone was not found at either site. As neither of these historic properties is extant, the proposed project would have no effect.

The tower site is 0.4 mile southwest of the southernmost portion of the Peace and Plenty Rural Historic Landscape (F-5-124). This portion of the district encompasses an agricultural field and woodlot. The closest farmstead is approximately 1.0 mile to the northeast. The base of the tower and the associated equipment shelters would not be visible from the historic district due to the distance, the rolling, hilly topography, and a wooded area between the two properties. The top of the tower might be visible above the hills and tree line, and could appear as an intrusive element in the landscape.

During Section 106 consultation, MHT requested further information in the form of a balloon test study from vantage points within the historic landscape district toward the site of the tower to better determine visual effects (Apple, November 2009) (**Appendix D**). A balloon test would have to be conducted to determine if the tower would be detrimental to the qualities of the rural historic landscape that likely qualify it for listing on the NRHP. Sight of the top segment of the emergency services tower could alter the character of the district's rural setting. Therefore, Alternative 2 has the potential for an adverse effect on the Peace and Plenty Rural Historic Landscape.

The Henry Smith Farmstead (F-5-118) is located approximately 0.65-mile southeast of the Alternative 1 site. Currently, the farmstead is inaccessible due to a private road closure of Baldwin Road approximately 1,500 feet north of the resource. The farm is blocked from the north by a high ridgeline and it is located at the base of the slope between the railroad tracks and Bush Creek. Due to hilly topography, distance, and intervening vegetation, it is likely that the proposed tower would not be visible from the farm. Therefore, there would be no adverse effect to the Henry Smith Farmstead from the tower at the proposed Alternative 2 site.

Alternative 2 has the potential to adversely affect the New Market Historic District and the Peace and Plenty Rural Historic Landscape. Therefore, Alternative 2, in conjunction with past, present, or reasonably foreseeable future actions has the potential for a cumulative adverse effect to historic and cultural resources.

#### **4.6.3 No Action Alternative**

Under the No Action Alternative, the New Market site would remain the same. If the proposed communications tower and facilities was not constructed, no historic or cultural resources would be impacted. Thus, historic and cultural resources would be the same as described under baseline conditions in Subchapter 3.6. Additionally, the No Action Alternative, in conjunction with past, present, or reasonably foreseeable future actions would not result in cumulative impacts to historic and cultural resources.

## **4.7 Aesthetic and Visual Resources**

### **4.7.1 Alternative 1 (Preferred Alternative)**

Installation of the communications tower and facilities at the Alternative 1 site would result in a change in the view of the site. However, this is not anticipated to have significant negative visual impacts. The conversion of this site would require the clearing of vegetation to prepare and construct the communications tower and facilities. Turf grasses would be planted and some native vegetation would return to the area after completion of the site. The presence of the tower would not change the physical features within the setting, as the immediate vicinity is characterized by recent commercial development. Alternative 1, in conjunction with past, present, or reasonably foreseeable future actions would not result in adverse cumulative impacts to aesthetic and visual resources.

### **4.7.2 Alternative 2**

Similar to Alternative 1, implementation of Alternative 2 would not result in significant negative visual impacts. Although Alternative 2 would result in a change in the view of the site, the presence of the tower would not change the physical features within the setting, as the immediate vicinity is characterized by recent commercial development. Alternative 2, in conjunction with past, present, or reasonably foreseeable future actions would not result in adverse cumulative impacts to aesthetic and visual resources.

### **4.7.3 No Action Alternative**

There would be no aesthetic or visual impact as a result of the No Action Alternative. Additionally, the No Action Alternative, in conjunction with past, present, or reasonably foreseeable future actions would not result in cumulative impacts to aesthetic and visual resources.

## **4.8 Land Use**

### **4.8.1 Alternative 1 (Preferred Alternative)**

If Alternative 1 were implemented, land use would change from a vegetated site to developed land with a communications tower and facilities. The communications tower and facilities, which would encompass approximately 10,000 square feet and an access road, would comprise one 348-ft self supporting radio tower with FAA-approved lighting system, at least two 12-by-38-by-10-ft equipment shelters with one backup generator, one liquid propane tank, and associated site improvements to facilitate ingress/egress of the site and equipment installation. Because the Alternative 1 site is State-owned land, it is exempt from the zoning regulations of Frederick County. However, the site is immediately surrounded by commercial development. Proposed changes in land use at the Alternative 1 site, from a vegetated site to developed land with a communications tower and facilities, would be compatible with land use surrounding the site. Therefore, no significant impacts to land use are anticipated under

Alternative 1. Alternative 1, in conjunction with past, present, or reasonably foreseeable future actions would not result in cumulative impacts to land use.

#### **4.8.2 Alternative 2**

Alternative 2 would result in impacts to land use similar to those described for Alternative 1. Under Alternative 2, the communications tower and facilities would be constructed within the northeast quadrant of the Route 40/I-70 and MD Route 75 interchange. However, as in Alternative 1, the activities associated with Alternative 2 would be compatible with existing land use surrounding the site. Alternative 2, in conjunction with past, present, or reasonably foreseeable future actions would not result in cumulative impacts to land use.

#### **4.8.3 No Action Alternative**

Under the No Action Alternative, the communications facilities would not be constructed. Therefore, there would be no change in land use. Additionally, the No Action Alternative, in conjunction with past, present, or reasonably foreseeable future actions would not result in cumulative impacts to land use.

### **4.9 Infrastructure**

#### **4.9.1 Alternative 1 (Preferred Alternative)**

##### **Utilities**

Under Alternative 1, Allegheny Power would continue to supply power to Frederick County. It is likely that the existing configuration and power supply at the Alternative 1 site would be sufficient to meet the demand of the proposed communications tower and facilities operation. Short-term adverse impacts to electricity would occur because of interference with availability during construction-related activities. Therefore, there would be no significant impacts to electricity supply and capacity if the communications tower were installed at the Alternative 1 site. Alternative 1, in conjunction with past, present, or reasonably foreseeable actions would not result in cumulative impacts to utilities.

##### **Emergency Services**

The work required to install the communications tower and facilities at the Alternative 1 site would not impact existing emergency services or health care facilities because the Alternative 1 site is not located within any established emergency routes, safety zones, or within emergency operational areas. In fact, the installation of the communications facility would be beneficial to emergency services and would support current radio operations for State Police, State Highway Administration, Emergency Medical Services, Department of Natural Resources Police, Military Department, and other government radio systems. Alternative 1, in conjunction with past, present, or reasonably foreseeable actions would result in positive cumulative impacts to emergency services by providing additional coverage for emergency communications.

## **Transportation and Traffic**

Under Alternative 1, traffic would be maintained during construction of the communications tower and facilities and there would be a temporary increase in traffic due to construction vehicles. Any lane closures would likely be limited to the off ramp to get equipment in and out of the construction site. Lane closures would be signed appropriately to give notice to motorists. Therefore, no significant impacts to traffic are anticipated under Alternative 1. Alternative 1, in conjunction with past, present, or reasonably foreseeable actions would not result in cumulative impacts to transportation and traffic.

### **4.9.2 Alternative 2**

#### **Utilities**

Similar to Alternative 1, no significant impacts to electrical service are expected under Alternative 2. Allegheny Power would continue to supply power to Frederick County. The demand for electricity from the proposed communications tower and facilities operation would be met without difficulty. Alternative 2, in conjunction with past, present, or reasonably foreseeable actions would not result in cumulative impacts to utilities.

#### **Emergency Services**

Similar to Alternative 1, no significant impacts to emergency services are expected under Alternative 2. The installation of the communications facility would be beneficial to emergency services and would support current radio operations for State Police, State Highway Administration, Emergency Medical Services, Department of Natural Resources Police, Military Department, and other government radio systems. Alternative 2, in conjunction with past, present, or reasonably foreseeable actions would result in positive cumulative impacts to emergency services by providing additional coverage for emergency communications.

## **Transportation and Traffic**

If Alternative 2 were implemented, traffic would be maintained during construction of the communications tower and facilities and there would be a temporary increase in traffic due to construction vehicles. Similar to Alternative 1, no significant impacts to transportation and traffic area expected. Alternative 2, in conjunction with past, present, or reasonably foreseeable actions would not result in cumulative impacts to transportation and traffic.

### **4.9.3 No Action Alternative**

Under the No Action Alternative, there would be no construction or operation of a communications tower and facilities. Consequently, infrastructure would remain the same with no change to quality, capacity, or demand. Additionally, the No Action Alternative, in conjunction with past, present, or reasonably foreseeable future actions would not result in cumulative impacts to infrastructure.

## **4.10 Socioeconomic Resources**

### **4.10.1 Alternative 1 (Preferred Alternative)**

The construction and operation of the communications tower and facilities at the Alternative 1 site would not have significant impacts to socioeconomic characteristics of Frederick County. The unmanned facility would be maintained by the State and would not require relocation of any personnel to perform necessary maintenance tasks. Therefore, no impact to the population would occur.

Construction of the proposed communications tower and facilities would result in short-term economic benefits for the contractors who would construct the facility. In addition, the tower, equipment structure, generator, propane tank, electricity cables, fence, and access road would remain within the boundaries of the parcel and would not require disturbance of surrounding areas. Likewise, the nearest household is approximately 0.25 miles from the Alternative 1 site, and would not be physically disturbed by the construction and operation of the proposed communications tower and facilities. As evaluated in accordance with Executive Orders 12898 and 13045, the direct and indirect effects of Alternative 1 would not result in any disproportionately high adverse human health or environmental effects on low-income and minority populations or any disproportionate health or safety risks to children. Furthermore, no one would be displaced as a result of implementation of Alternative 1. As a result, Alternative 1 would not result in significant impacts socioeconomic resources.

Alternative 1, in conjunction with past, present, or reasonably foreseeable actions would not result in cumulative impacts to socioeconomic resources and environmental justice.

### **4.10.2 Alternative 2**

Similar to Alternative 1, Alternative 2 would not have significant impacts to socioeconomic characteristics of Frederick County. If Alternative 2 were implemented, there would be a short-term economic benefit for the contractors who would construct the facility. The direct and indirect effects of Alternative 2 would not result in any disproportionately high adverse human health or environmental effects on low-income and minority populations or any disproportionate health or safety risks to children. Alternative 2, in conjunction with past, present, or reasonably foreseeable actions would not result in cumulative impacts to socioeconomic resources.

### **4.10.3 No Action Alternative**

The No Action Alternative would maintain the status quo in New Market, MD. No changes would occur that would affect socioeconomic resources or minority populations, low-income populations, or children. Thus, no impacts to socioeconomic or low-income and minority populations would occur under the No Action Alternative. Additionally, the No Action Alternative, in conjunction with past, present, or reasonably foreseeable future actions would not result in cumulative impacts to socioeconomic resources.

## **4.11 Human Health and Safety**

### **4.11.1 Alternative 1 (Preferred Alternative)**

It is unlikely that the implementation of Alternative 1 would have any unforeseen adverse impacts to human health and safety. The communications tower and facilities would be fenced to prevent unauthorized access of the general public. Radiation exposure and risk of electrocution to humans from equipment typically used would be extremely low and below harmful levels. RF electromagnetic fields would be well within permissible limits as per the FCC, Office of Engineering and Technology, Bulletin 65 of August 1997 (Drew, November 2009). There would be no significant adverse impacts to human health and safety resulting from operation of the communications tower and facilities under Alternative 1.

Impacts associated with tower failure are possible. In the unlikely event that a tower were to fail due to excessive wind speeds, it would probably occur by the tower buckling. If there were a total collapse of a tower it would likely fall within a distance less than or equal to the height of the tower. However, because of many different factors involved in the engineering of these structures, it would be impossible to predict the exact failure method or position of a fallen tower (Nello Inc., January 2009).

For construction-related activities associated with PSIC-funded projects, any waste contaminated with hazardous waste or other undesirable components would be disposed of following appropriate hazardous waste management procedures.

Operation of the communications tower and facilities at the Alternative 1 site would include a 1,000 gallon above ground propane storage tank (with all proper containment features). Also, hazardous materials and waste would likely be used and generated during the communications tower operation, including: equipment fuel, engine oil, hydraulic oil, grease, and other equipment operation and maintenance material. All hazardous waste would be used and disposed of in accordance with applicable regulations and policies.

The implementation of Alternative 1 would enable public safety agencies to improve interoperable communications and communicate more effectively in an emergency or crisis situation. This would result in an operations-related beneficial impact to human health and safety.

Alternative 1, in conjunction with past, present, or reasonably foreseeable actions would result in positive cumulative impacts to emergency services by providing additional coverage for emergency radio communications.

### **4.11.2 Alternative 2**

Impacts under Alternative 2 would be similar to those described for Alternative 1. No significant impacts to human health and safety would occur. Alternative 2, in conjunction with past, present, or reasonably foreseeable actions would result in positive cumulative impacts to emergency services by providing additional coverage for emergency radio communications.

#### **4.11.3 No Action Alternative**

Under the No Action Alternative, the construction of the public health and safety communications tower and facilities would not occur. Existing gaps in public safety interoperable communications would persist, resulting in adverse impact to human health and safety. Additionally, the No Action Alternative, in conjunction with past, present, or reasonably foreseeable future actions would not result in cumulative impacts to human health and safety.

**5.0 FINDINGS AND CONCLUSIONS**

**5.1 Findings**

None of the predicted effects of Alternative 1 (Preferred Alternative) or Alternative 2 would result in significant impacts. However, Alternative 2 would have potential adverse effects on historical and cultural resources. In addition, the No Action Alternative would result in adverse impacts to human health and safety.

**5.1.1 Consequences of the No Action Alternative**

Under the No Action Alternative, the proposed public health and safety communications tower and facilities would not be constructed at either of the alternative sites. Existing gaps in public safety interoperable communications would persist, resulting in an adverse impact to human health and safety.

**5.1.2 Consequences of the Action Alternatives**

Alternative 1 (Preferred Alternative) would not have a significant impact on any resource areas. The Preferred Alternative would have beneficial impact on human health and safety, because it would enable nationwide improvements to public safety interoperable communications. Alternative 2 would have similar impacts to Alternative 1. However, Alternative 2 would have potential adverse effects on historical and cultural resources.

Table 5.1-1 summarizes the beneficial and adverse impacts of the three alternatives considered, Alternative 1, Alternative 2, and the No Action Alternative.

**Table 5.1-1  
Findings and Conclusions Summary Table**

Impact	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2
Noise	No impacts	Minor, temporary noise impacts from construction-related activities; noise impacts are expected primarily in daytime hours. No significant operation-related impacts.	Alternative 2 would result in impacts to noise similar to those described for Alternative 1.
Air Quality	No impacts	Short-term air quality emissions increase due to construction-related activities. No long-term or significant operation-related impacts.	Impacts similar to Alternative 1
Geology and Soils	No impacts	Minor disturbance to topography and soils from excavation and grading of site; BMPs would be implemented and no significant impacts.	Impacts similar to Alternative 1
Water Resources	No impacts	No wetlands and/or floodplains exist within the project area. No significant impacts to surface water or groundwater resources.	Impacts similar to Alternative 1

Impact	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2
Biological Resources	No impacts	Loss of vegetation would occur; construction-related impacts would cause short-term habitat disturbance; however, no significant impacts to wildlife, migratory birds, or threatened and endangered species from construction or operation-related impacts would occur.	Impacts similar to Alternative 1
Historic and Cultural Resources	No impacts	No adverse effect on architectural or archaeological resources.	Alternative 2 has the potential for an adverse effect on the New Market Historic District and the Peace and Plenty Rural Historic Landscape.
Aesthetic and Visual Resources	No impacts	Change in view of site; however, no significant visual impacts.	Impacts similar to Alternative 1
Land Use	No impacts	Proposed changes in land use would be compatible with surrounding land uses. Therefore, there would be no significant impacts to land use under Alternative 1.	Alternative 2 would result in impacts to land use similar to those described for Alternative 1. No significant impacts to land use would occur.
Infrastructure	No impacts to utilities or traffic. Existing gaps in public safety interoperable communications would persist, resulting in adverse impact to emergency services.	Short-term adverse construction-related impacts to utilities, because of interference with availability; Construction related vehicles would cause temporary interference at MD Route 75 and the on-ramp to I-70 East. Operations-related beneficial impacts to emergency services. No significant impacts to utilities or traffic and transportation.	Impacts similar to Alternative 1
Socioeconomic Resources	No impacts	No significant impacts to socioeconomics; No significant impacts expected to low-income and minority populations.	Impacts similar to Alternative 1.
Human Health and Safety	Existing gaps in public safety interoperable communications would persist, resulting in adverse impacts	Operations-related beneficial impacts to human health and safety.	Similar to Alternative 1, Alternative 2 would have operations-related beneficial impacts to human health and safety.

## 6.0 LIST OF PREPARERS AND REVIEWERS

This Environmental Assessment was prepared by:

**TEC Inc.  
619 Severn Avenue, Suite 202  
Annapolis, MD 21403**

Key Personnel included:

**CRISTINA AILES, ENVIRONMENTAL SCIENTIST:** 3 years experience in environmental toxicology, environmental policy and regulations, and monitoring conservation easements. 2006/B.S. Environment Science and Ecology/B.A. International Studies/Lock Haven University of Pennsylvania.

**ERIKA FUERY, ENVIRONMENTAL SCIENTIST:** 10 years experience in NEPA analysis, remedial investigations and documentation, air emissions calculations, and Geographical Information Systems analysis. 2004/M.S. Environmental Science/University of New Haven.

**DEBORAH HENSON, SENIOR ENVIRONMENTAL SCIENTIST:** 13 years experience in NEPA, natural resource studies, socioeconomic studies, cultural resource studies, and public involvement. 1997/M.S. Geoenvironmental Studies/Shippensburg University; 1993/B.S. General Science/Seattle University.

**JACLYN M. JOHNSON, PROJECT MANAGER:** 10 years experience in environmental planning, impact analysis, public involvement, permitting, regulatory compliance issues, and management of NEPA projects. 2000/B.S./Ecology/Juniata College.

**KATHLEEN RIEK, PROJECT DIRECTOR:** 20 years experience in environmental impact analysis, natural resource planning, and preparing environmental impact statements. 1987/B.S./Biology/Indiana University of Pennsylvania.

**KIMBERLY SEBESTYEN, SENIOR ARCHAEOLOGIST:** 17 years experience in archaeology, history, historic structures, NEPA, and public involvement. 2005/M.A. American Studies/Pennsylvania State University; 1993/B.A. Anthropology/Kutztown University.

**MEREDITH SHERRILL, GIS SPECIALIST:** 1 year experience in GIS support for all branches of the DoD as well as numerous private sector and municipal clients. 2008/B.A./Environmental Science/University of Virginia.

**LORI O. THURSBY, SENIOR ARCHITECTURAL HISTORIAN:** 13 years of experience in historical/architectural surveys and evaluations, cultural resources management, and the Section 106 process. 1999/M.A.H./Master of Architectural History/University of Virginia; 1993/B.E.D/Bachelor of Environmental Design in Architecture/Miami University.

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**APPENDIX A**  
**WETLANDS DETERMINATION**

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18 S. George Street

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York, Pennsylvania 17401

(717) 848-8850 FAX (717) 848-8852

**From: Deborah Henson, Environmental Scientist, TEC, Inc.****Date: January 26, 2010****Subject: DoIT New Market**

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On October 15, 2009 a site visit was conducted to evaluate the proposed DoIT New Market communications tower and facilities site located in the northeast quadrant of Route 40/I-70 and MD Route 75 (Green Valley Road) interchange in New Market, Frederick County, Maryland. The weather included heavy rain fall and a high of approximately 55 degrees. The purpose of the site visit was to determine the presence or absence of wetlands on or adjacent to the project site.

The site was walked and observed for hydrology and vegetation indicative of wetlands. The topography of the site is sloping north to south, and as such water drains from north to south into a concrete lined swale that runs along I-70 eventually draining into an unnamed tributary and Bush Creek.

During the site visit no evidence of hydrologic conditions necessary to support hydrophytic vegetation and for hydric soil development were observed. Evidence of hydrologic conditions could include, ponding water, water stained leaves, sediment deposits, morphological plant adaptations, and drift lines. None of these conditions were found to exist on the site.

The site was also evaluated for the presence of hydrophytic vegetation that would be indicative of possible wetlands. Upland species comprised the dominant vegetation on-site. Vegetative species included: black cherry (*Prunus serotina*), black walnut (*Juglans nigra*), red maple (*Acer rubrum*) with red maple and black cherry being the dominant species. The understory was very dense and consisted of autumn olive (*Elaeagnus umbellata*), multiflora rose (*Rosa multiflora*), summer grape (*Vitis aestivalis*), and poison ivy (*Toxicodendron radicans*). The northern portion of the site was not forested and contained the understory identified above as well as grasses and golden rod (*Solidago spp.*).

Based on review of the Frederick County Soil Survey, the soils on the site were not classified as hydric soils. Additionally, during the site visit soil samples were taken at various locations and soils were determined to be 10 Y/R 4/4 and not considered to be hydric. Additionally, oxidized root channels, concretions, mineral streaking, and other evidence of anaerobic soil conditions (associated with long periods of inundation) were not present.

Based on these findings, we conclude that wetlands are not present on, or immediately adjacent to the proposed project site.

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18 S. George Street

Suite 400

York, Pennsylvania 17401

(717) 848-8850 FAX (717) 848-8852

**From: Deborah Henson, Environmental Scientist, TEC, Inc.****Date: April 13, 2010****Subject: DoIT New Market, MD**

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On April 12, 2010 a site visit was conducted to evaluate the alternative DoIT New Market communications tower and facilities site located in the southeast quadrant of Route 40/I-70 and MD Route 75 (Green Valley Road) interchange in New Market, Frederick County, Maryland. The weather at the time of the site visit was sunny, clear, and approximately 70 degrees. The purpose of the site visit was to determine the presence or absence of wetlands on or adjacent to the alternative project site.

The site was walked and observed for hydrology and vegetation indicative of wetlands. The topography of the site is sloping north to south, and as such water drains from north to south. There were two upland/highway drainage swales (Figure 1). Drainage Swale A received drainage from a culvert in the northwest quadrant of the site. The swale drained south to a culvert at the southwest corner of the site where it was carried west under MD Route 75 to a concrete lined drainage swale. The swale emptied into the flood plain of Bush Creek. Drainage Swale B drained the site from east to west where it empties into the same culvert that crosses under MD Route 75 as Drainage Swale A. At the end of the concrete lined swale west of MD Route 75 there was a small flow coming from the base of the drainage swale. There was no water in the drainage swale and it is assumed that there may be a small spring seep in this area. The small flow ended in a small pool of stagnant water, but did not flow directly into Bush Creek. Additionally, no hydrology or hydrophytic vegetation was associated with Drainage Swales A and B at the time of the site visit. These swales were determined to be upland drainage swales providing highway drainage and are not considered Waters of the United States.

During the site visit no evidence of hydrologic conditions necessary to support hydrophytic vegetation and for hydric soil development were observed. Evidence of hydrologic conditions could include, ponding water, water stained leaves, sediment deposits, morphological plant adaptations, and drift lines. None of these conditions were found to exist on the site.

The site was also evaluated for the presence of hydrophytic vegetation that would be indicative of wetlands. The site consisted of an early to mid-successional component and a mature forested component. Species in the early successional habitat consisted of young tulip poplars (*Liriodendron tulipifera*), young box elder (*Acer negundo*), young staghorn sumac (*Rhus typhina*), planted douglas fir (*Pseudotsuga menziesii*) and white pines (*Pinus strobus*), red maple (*Acer rubrum*) saplings, red panicle dogwood (*Cornus racemosa*), and an herbaceous layer of wild mustard (*Synapis arvensis*), wild onion (*Allium canadense*), crown vetch (*Securigera varia*), japanese honeysuckle (*Lonicera japonica*), multiflora rose (*Rosa multiflora*), and poison ivy (*Toxicodendron radicans*). These species are considered

to be upland species, and were therefore not indicative of wetland vegetation. The forested component of the site included a canopy of mature black cherry, (*Prunus serotina*) red maple, and box elder. The shrub layer contained multiflora rose (*Rosa multiflora*), red panicle dogwood, Japanese honeysuckle, and poison ivy. These species are considered upland species and are therefore not indicative of wetland vegetation.

Based on review of the Frederick County Soil Survey, the soils on the site were not classified as hydric soils. Additionally, during the site visit soil samples were taken at various locations and soils were determined to be 10 Y/R 4/4 and not considered to be hydric. Additionally, oxidized root channels, concretions, mineral streaking, and other evidence of anaerobic soil conditions (associated with long periods of inundation) were not present.

Based on these findings, we conclude that wetlands are not present on, or immediately adjacent to the alternative project site.

**APPENDIX B**  
**AGENCY COORDINATION**

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*Martin O'Malley, Governor*  
*Anthony G. Brown, Lt. Governor*  
*John R. Griffin, Secretary*  
*Eric Schwaab, Deputy Secretary*

November 2, 2009

Jaclyn Johnson  
TEC Engineering, Inc.  
619 Severn Ave., Suite 202  
Annapolis, MD 21403

**RE: Environmental Review for Construction and Operation of Communications Facility – MD Department of Information Technology – New Market at Intersection of Route 40/I-70 and Route 75 (Green Valley Rd.) Frederick County, MD.**

Dear Ms. Johnson:

The Wildlife and Heritage Service has determined that there are no State or Federal records for rare, threatened or endangered species within the boundaries of the project site as delineated. As a result, we have no specific comments or requirements pertaining to protection measures at this time. This statement should not be interpreted however as meaning that rare, threatened or endangered species are not in fact present. If appropriate habitat is available, certain species could be present without documentation because adequate surveys have not been conducted.

Thank you for allowing us the opportunity to review this project. If you should have any further questions regarding this information, please contact me at (410) 260-8573.

Sincerely,

A handwritten signature in cursive script that reads "Lori A. Byrne".

Lori A. Byrne,  
Environmental Review Coordinator  
Wildlife and Heritage Service  
MD Dept. of Natural Resources

ER# 2009.1808

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**United States Department of the Interior**

FISH AND WILDLIFE SERVICE  
Chesapeake Bay Field Office  
177 Admiral Cochrane Drive  
Annapolis, MD 21401  
410/573-4575



October 27, 2009

TEC Engineering  
619 Severn Avenue, Suite 202  
Annapolis, MD 21403

*RE: Endangered Species List Review for the Environmental Assessment for the Construction and Operation of Communications Facilities – New Market, MD*

Dear: Jaclyn M. Johnson

This responds to your letter, received October 13, 2009, requesting information on the presence of species which are federally listed or proposed for listing as endangered or threatened within the vicinity of the above reference project area. We have reviewed the information you enclosed and are providing comments in accordance with section 7 of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*).

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

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

An additional concern of the Service is wetlands protection. Federal and state partners of the Chesapeake Bay Program have adopted an interim goal of no overall net loss of the Basin's remaining wetlands, and the long term goal of increasing the quality and quantity of the Basin's wetlands resource base. Because of this policy and the functions and values wetlands perform, the Service recommends avoiding wetland impacts. All wetlands within the project area should

be identified, and if construction in wetlands is proposed, the U.S. Army Corps of Engineers, Baltimore District, should be contacted for permit requirements. They can be reached at (410) 962-3670.

A final concern of the Service is the potential impact of communications towers on migratory birds. Communications towers may not be visible to migrating birds in poor weather conditions (e.g., low cloud ceiling, fog, rain, or poor visibility), and have caused massive bird kills when nocturnal migrating species are attracted by the lights of the towers. Wire strikes by diurnal species such as large wading birds, waterfowl, and raptors have also been documented. Communications towers with guy wires and/or lights are therefore known threats to migratory birds, which are Federal trust resources that the Service is authorized to protect. The “take” (i.e., killing) of migratory birds by any person without authorization may constitute a violation of the Migratory Bird Treaty Act of 1918.

The Service does have a migratory bird policy and offers recommendations on reducing migratory bird collisions with communications towers. Towers that are over 200 feet high and have lights or guy wires are more likely to cause death or injury to migratory birds than shorter structures. We encourage you to reference these materials at <http://migratorybirds.fws.gov/issues/towers/comtow.html> and incorporate as many of the design recommendations as possible. A hard copy of the policy and recommendations is also available upon request. Enclosed are the Chesapeake Bay Field Office Recommendations to Reduce Migratory Bird Collisions with Communications Towers, and a Migratory Bird Fact Sheet.

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

Sincerely,



Leopoldo Miranda  
Field Supervisor

Enclosures

### **Migratory Birds**

All native migratory birds (e.g., waterfowl, shorebirds, passerines, hawks, owls, vultures, falcons) are afforded protection under the Migratory Bird Treaty Act of 1918 (40 Stat. 755; 16 U.S.C. 703-712). Migratory Birds are a federal trust resource responsibility, and the U.S. Fish and Wildlife Service (Service) considers migratory bird concentration areas as environmentally significant.

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Occurrences of mortality from birds colliding with towers under foggy daytime conditions are documented in scientific literature. Occurrences are also documented of birds congregating around towers with aviation warning lights while migrating at night during inclement weather. During these events, birds circling the towers have been killed from colliding with guy wires, other birds, and the ground, and have died from exhaustion. Therefore, to protect migrating birds, communication towers and associated facilities should be sited away from bird concentration areas, which include: traditional migratory flight corridors (e.g., ridges, shorelines, river valleys); stopover or resting areas (e.g., land bounding large bodies of water, wetlands, forests, and natural grasslands); bird reserves (e.g., National Wildlife Refuges, State Wildlife Management Areas, private sanctuaries); and seasonal flight paths (e.g., between feeding and nesting or roosting areas). Some of the primary bird concentration areas of concern in the Maryland/ Delaware/ District of Columbia area include the Chesapeake Bay and coast, Potomac River corridor, Delaware Bay and coast, Delaware River corridor, and the Atlantic Coast. Also, the Service maintains five National Wildlife Refuges in Maryland (Chesapeake Marshlands, Eastern Neck, Martin, Susquehanna, Patuxent Research Refuge) and two National Wildlife Refuges in Delaware (Bombay Hook, Prime Hook). More information about National Wildlife Refuges is provided below.

Birds, other than nocturnal birds such as owls, generally have poor night vision. To allow birds to detect and avoid tower guy wires, the Service recommends increasing the visibility of tower guy wires to birds, particularly at night. Increased visibility should be accomplished without the use of artificial lighting (i.e., through manufacturing, the use of reflective paint or other materials, attaching large balls, or the use of other available technology).

As communication technology advances and tower-based technology becomes obsolete, the Service recommends decommissioning those towers that are no longer needed, particularly towers within bird concentration areas. Tower decommissioning, including removal, should be provided for in any application for license submitted to the FCC.

Information on tower kills, including mechanisms, studies, literature, bibliographies, legislation, links, and summaries by state, is provided on the following website: <http://www.towerkill.com>. Information regarding the affects of lighted structures on migrating birds can be found in the 1996 publication by the World Wildlife Fund and the Fatal Light Awareness Program, entitled; *Collision Course: the hazard of lighted structures and windows to migrating birds*. In addition, the Service's Office of Migratory Bird Management maintains a partial bibliography of over 125 citations (1960-1998) on bird kills at towers and other man-made structures. The bibliography may be accessed at the following website: <http://www.fws.gov/r9mbmo/issues/tower.html>.

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The Service administers a national system of wildlife refuges. Seven National Wildlife Refuges have been established within Maryland and Delaware, each with a role in protecting the diversity of our Nation's flora and fauna and the natural habitats upon which our native species depend. The National Wildlife Refuge System Administration Act of 1966 (80 Stat. 927; 16 U.S.C. 668dd-668ee) provides guidelines and directives for administration and management of all areas in the refuge system. In order for a commercial cellular tower or antenna facility to be constructed within a National Wildlife Refuge ( i.e., Bombay Hook [DE], Prime Hook [DE], Chesapeake Marshlands, Eastern Neck, Martin, Susquehanna, and Patuxent Research Refuge), a compatibility determination would be required before a Special Use Permit from the Service's Division of Refuges and Wildlife could be granted.

For further information, please contact: U.S. Fish and Wildlife Service  
Chesapeake Bay Field Office  
177 Admiral Cochrane Drive  
Annapolis, Maryland 21401  
Phone:(410) 573-4550  
Fax:(410) 269-0832

**Chesapeake Bay Field Office (USFWS) Recommendations to Reduce Migratory Bird Collisions with Communications Towers**

1. Entities proposing to construct a new communications tower are strongly encouraged to co-locate the equipment on an existing tower or structure (e.g., church steeples, flagpoles, bell and clock towers, road signs, silos, water towers, billboards, light poles, bridges, electrical transmission poles, or buildings).
2. If co-location on existing structures is not feasible, then unlit, unguyed structures, with minimal vertical and aerial cross-sectional dimensions are encouraged. To date, this has been accomplished using unguyed monopoles or a lattice structure (preferably with the smallest aerial cross section practical) less than 200 feet above ground level (AGL).
3. If possible, new towers should be located within existing "antenna farms" (clusters of towers). Towers should not be sited in or near wetlands, other known migratory bird concentration areas (e.g., state or Federal refuges, staging areas, rookeries), in known migratory or daily movement flyways, or in habitat of threatened or endangered species. Towers should not be sited in areas with a high incidence of fog, mist, and low ceilings.
4. If the Federal Aviation Administration (FAA) requires that a tower must be lit for reasons of aviation safety, then the minimum required amount of pilot warning and obstruction avoidance lighting should be used. Unless otherwise required by the FAA only white strobe lights should be used at night, and these should be the minimum number, intensity, and flashes per minute (longest duration between flashes) allowable by the FAA. The use of solid red or pulsating red warning lights at night should be avoided. Current research indicates that solid or pulsating (beacon) red lights adversely affect night-migrating birds at a much higher rate than white strobe lights.

If a proposed tower less than 200 ft AGL is required to be lit for aviation safety reasons (e.g., near an airport or along a flight corridor for emergency aircraft), then alternative sites should be sought, unless the alternative sites would have substantially greater environmental impacts than the proposed site.

5. Tower designs using guy wires for support which are proposed to be located in known raptor or waterbird concentration areas or daily movement routes, or in major diurnal migratory bird movement routes or stopover sites, should have daytime visual markers on the wires to prevent collisions by these diurnally moving species. (For guidance on markers, see *Avian Power Line Interaction Committee (APLIC). 1994. Mitigating Bird Collisions with Power Lines: The State of the Art in 1994. Edison Electric Institute, Washington, D.C., 78 pp*, and *Avian Power Line Interaction Committee (APLIC). 1996. Suggested Practices for Raptor Protection on Power Lines. Edison Electric Institute/Raptor Research Foundation, Washington, D.C., 128 pp*. Copies can be obtained via the Internet at <http://www.eei.org/resources/pubcat/enviro/>, or by calling 1-800/334-5453).

6. Towers and appendant facilities should be sited, designed, and constructed so as to avoid or minimize habitat loss within and adjacent to the tower “footprint.” Road access and fencing should be minimized to reduce or prevent habitat fragmentation and disturbance, and to reduce above ground obstacles to birds in flight. However, a larger tower footprint is preferable to the use of guy wires in construction.
7. If substantial numbers of breeding, feeding, or roosting birds are known to occur within the proposed footprint of the tower construction, then the tower should be relocated to an alternative site with lower wildlife activity. Seasonal restrictions should be adopted to avoid “taking” of birds, eggs, or active nests, in those cases where no alternative site is possible.
8. To reduce the number of towers needed in the future, new towers should be designed structurally and electrically to accommodate the applicant’s antennas and comparable antennas for at least three additional users, unless this design would require the addition of lights or guy wires to an otherwise unlighted and/or unguyed tower or would increase the footprint of appendant structures.
9. Security lighting for on-ground facilities and equipment should be down-shielded to keep light within the boundaries of the site.
10. If a tower is constructed, or proposed for construction, Service personnel and/or researchers from the Communications Towers Working Group or their designees should be allowed access to the site to evaluate bird use, to conduct dead-bird searches, to place net catchments below the towers, or to place radar, infrared, thermal imagery, or acoustical monitoring equipment as necessary to assess and verify bird presence, mortality, or migration near the site and to gain information on the impacts of various tower sizes, configurations, and lighting systems.
11. Towers no longer in use or determined to be obsolete should be removed within 12 months of cessation of use. Tower removal should be bonded or covered by revenues put aside during the first ten years or less after licensing.



619 Severn Avenue • Suite 202  
Annapolis, Maryland 21403  
410.990.0299 • 410.990.0455 fax  
www.tecinc.com

April 7, 2010

Attn: Devin Ray, Biologist  
U.S. Fish and Wildlife Service  
Chesapeake Bay Field Office  
177 Admiral Cochrane Drive  
Annapolis, Maryland 21401

**RE: Endangered Species List Review for the Environmental Assessment for the Construction and Operation of Communications Facilities - New Market, Maryland**

To Whom It May Concern:

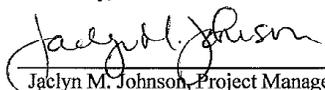
As you are aware, the Maryland Department of Information Technology (DoIT) has been preparing an Environmental Assessment for the proposed construction and operation of communications facilities in New Market, Maryland as part of the Public Safety Interoperable Communications (PSIC) Grant Program, administered by the National Telecommunications and Information Administration (NTIA) of the US Department of Commerce. DoIT originally planned to construct the communications facilities in the northeast quadrant of the interchange of Route 40/I-70 and Route 75 (Green Valley Road), New Market, Frederick County, Maryland.

In a letter dated October 13, 2009, we requested your office's concurrence that there was no known presence of any federally-listed threatened or endangered species within the project location. Your office responded, in a letter dated October 27, 2009, that except for occasional transient individuals, no federally proposed or listed endangered or threatened species are known to exist within the project impact area. Therefore, no Biological Assessment or further section 7 coordination with the U.S. Fish and Wildlife Service is required. Should project plans change, or if additional information on the distribution of listed or proposed species becomes available, this determination may be reconsidered.

DoIT has a new alternative location for the proposed communications tower and facilities; the southeast quadrant of the interchange of Route 40/I-70 and Route 75. We are requesting your written response as to the presence of any federally-listed threatened or endangered species in the proposed alternative project area. Enclosed is the current topographic map with the site boundaries and latitude/longitude coordinates of the proposed alternative project area (Alternative 1).

Should you have any questions, please do not hesitate to contact me at 410-990-0299. We appreciate your assistance with this information.

Sincerely,

  
Jaelyn M. Johnson, Project Manager

Encl: Project Location Map





**MARYLAND**  
DEPARTMENT OF  
NATURAL RESOURCES

*Martin O'Malley, Governor*  
*Anthony G. Brown, Lt. Governor*  
*John R. Griffin, Secretary*  
*Joseph P. Gill, Deputy Secretary*

---

May 10, 2010

Jaclyn Johnson  
TEC, Inc.  
619 Severn Ave., Suite 202  
Annapolis, MD 21403

**RE: Environmental Review for MD DoIT proposed construction and operation of communications facility in New Market, new alternate location at southeast quadrant of interchange Route 40/I-70 and Route 75, Frederick County, MD.**

Dear Ms. Johnson:

The Wildlife and Heritage Service has determined that there are no State or Federal records for rare, threatened or endangered species within the boundaries of the project site as delineated. As a result, we have no specific comments or requirements pertaining to protection measures at this time. This statement should not be interpreted however as meaning that rare, threatened or endangered species are not in fact present. If appropriate habitat is available, certain species could be present without documentation because adequate surveys have not been conducted.

Thank you for allowing us the opportunity to review this project. If you should have any further questions regarding this information, please contact me at (410) 260-8573.

Sincerely,

A handwritten signature in cursive script that reads 'Lori A. Byrne'.

Lori A. Byrne,  
Environmental Review Coordinator  
Wildlife and Heritage Service  
MD Dept. of Natural Resources

ER# 2010.0477.fr



## United States Department of the Interior

### FISH AND WILDLIFE SERVICE

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



May 19, 2010

Jaclyn M. Johnson  
TEC Inc.  
619 Severn Avenue, Ste 202  
Annapolis, MD 21403

*RE: Construction and Operation of Communications Facilities – New Market, MD*

Dear Ms. Johnson:

This responds to your letter, received, April 9, 2010, requesting information on the presence of species which are federally listed or proposed for listing as endangered or threatened within the vicinity of the above reference project area. We have reviewed the information you enclosed and are providing comments in accordance with section 7 of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*).

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A final concern of the Service is the potential impact of communications towers on migratory



birds. Communications towers may not be visible to migrating birds in poor weather conditions (e.g., low cloud ceiling, fog, rain, or poor visibility), and have caused massive bird kills when nocturnal migrating species are attracted by the lights of the towers. Wire strikes by diurnal species such as large wading birds, waterfowl, and raptors have also been documented. Communications towers with guy wires and/or lights are therefore known threats to migratory birds, which are Federal trust resources that the Service is authorized to protect. The "take" (i.e., killing) of migratory birds by any person without authorization may constitute a violation of the Migratory Bird Treaty Act of 1918.

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Leopoldo Miranda  
Field Supervisor

Enclosures

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6. Towers and appendant facilities should be sited, designed, and constructed so as to avoid or minimize habitat loss within and adjacent to the tower “footprint.” Road access and fencing

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**APPENDIX C**  
**AIR QUALITY**

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## GENERAL CONFORMITY APPLICABILITY ANALYSIS: AIR QUALITY CALCULATIONS

Air quality impacts were estimated for Alternative 1 and Alternative 2. The construction activities associated with the Alternatives were calculated. The following is a discussion of the assumptions, references, and methods used to perform the air emission estimate calculations.

### Construction

Air quality impacts from proposed construction activities were estimated from (1) combustion emissions due to the use of fossil fuel-powered equipment; (2) fugitive dust emissions (PM<sub>10</sub> and PM<sub>2.5</sub>) during earth-moving activities, earth-moving activities, and the operation of equipment on bare soil; and (3) VOC emissions from application of asphalt materials during paving operations.

Factors needed to derive the construction source emission rates were obtained from *Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling* (USEPA, April 2004a); *Exhaust and Crankcase Emission Factors for Nonroad Engine Modeling—Compression-Ignition* (USEPA, April 2004b); *Nonroad Engine and Vehicle Emission Study—Report* (USEPA, November 1991); *Exhaust Emission Factors for Nonroad Engine Modeling—Spark-Ignition* (USEPA, December 2008); *Conversion Factors for Hydrocarbon Emission Components* (USEPA, December 2005); *Western Regional Air Partnership (WRAP) Fugitive Dust Handbook* (WRAP, September 2006); and *Analysis of the Fine Fraction of Particulate Matter in Fugitive Dust* (Midwest Research Institute [MRI], October 2005).

The analysis assumed that all construction equipment was manufactured before 2000. This approach is based on the well-known longevity of diesel engines, although use of 100 percent Tier 0 equipment may be somewhat conservative. The analysis also inherently reduced PM<sub>10</sub> fugitive dust emissions from earth-moving activities by 50 percent as this control level is included in the emission factor itself.

### Off-Road Equipment Emissions

The NONROAD model (USEPA, December 2008) is used for preparing emission inventories for mobile sources that are not classified as being related to on-road traffic, railroads, air traffic, or water-going vessels. As such, it is the starting place for quantifying emissions from construction-related equipment. The NONROAD model uses the following general equation to estimate emissions separately for CO, NO<sub>x</sub>, PM (essentially all of which is PM<sub>2.5</sub> from construction sources), and total hydrocarbons, nearly all of which are NMHC1:

$$EMS = EF * HP * LF * Act * DF$$

**Where:**

*EMS* = estimated emissions

*EF* = emissions factor in grams per horsepower hours

*HP* = peak horsepower

*LF* = load factor (assumed percentage of peak horsepower)

*Act* = activity in hours of operation per period of operation

*DF* = deterioration factor

The emissions factor is specific to the equipment type, engine size, and technology type. The technology type for diesel equipment can be “base” (before 1988), “tier 0” (1988 to 1999), or “tier 1” (2000 to 2005). Tier 2 emissions factors could be applied to equipment that satisfies 2006 national standards (or slightly earlier California standards).

The technology type for two-stroke gasoline equipment can be “base” (before 1997), “phase 1” (1997 to 2001), or “phase 2” (2002 to 2007). Equipment for phases 1 and 2 can have catalytic converters. For this study, all diesel equipment was assumed to be either tier 0 or tier 1 and all two-stroke diesel equipment was assumed to be phase 1 without catalytic converters.

The load factor is specific to the equipment type in the NONROAD model regardless of engine size or technology type, and it represents the average fraction of peak horsepower at which the engine is assumed to operate. NONROAD model default values were used in all cases. Because Tier 0 equipment was conservatively used throughout the analysis period (2010 to 2011), deterioration factors were not used to estimate increased emissions due to engine age. Based on the methodology described, it is possible to make a conservative estimate of emissions from off-road equipment if the types of equipment and durations of use are known.

Construction calculations were performed for the year 2011.

### **Fugitive Dust**

Emission rates for fugitive dust were estimated using guidelines outlined in the WRAP fugitive dust handbook (WRAP, September 2006). Although these guidelines were developed for use in western states, they assume standard dust mitigation best practices activities of 50 percent from wetting; therefore, they were deemed applicable but conservative for the Eastern U.S. The WRAP handbook offers several options for selecting factors for  $PM_{10}$  (coarse PM) depending on what information is known.

After  $PM_{10}$  is estimated, the fraction of fugitive dust emitted as  $PM_{2.5}$  is estimated, the most recent WRAP study (MRI, October 2005) recommends the use of a fractional factor of 0.10 to estimate the  $PM_{2.5}$  portion of the  $PM_{10}$ .

For site preparation activities, the emission factor was obtained from Table 3-2 of the WRAP Fugitive Dust Handbook. The areas of disturbance and approximate durations were used in conjunction with the large scale of land-disturbing activities occurring, resulting in the selection of the first factor with worst-case conditions for use in the analysis.

### **$PM_{10}$ , $PM_{2.5}$ , and Mobile Sources**

Diesel exhaust is a primary, well-documented source of  $PM_{2.5}$  emissions. The vast majority of PM emissions in diesel exhaust is  $PM_{2.5}$ . Therefore, all calculated PM is assumed to be  $PM_{2.5}$ . A corollary result of this is that the  $PM_{10}$  fraction of diesel exhaust is estimated very conservatively as only a small fraction of  $PM_{10}$  is present in the exhaust. However, ratios of  $PM_{10}$  to  $PM_{2.5}$  in diesel exhaust are not yet published and therefore for the purposes of the EA calculations, all PM emissions are equally distributed as  $PM_{10}$  and  $PM_{2.5}$ .

**REFERENCES**

- Midwest Research Institute (MRI). October 2005. *Analysis of the Fine Fraction of Particulate Matter in Fugitive Dust*. MRI Project No. 110397. Conducted for the Western Governors Association Western Regional Air Partnership (WRAP).
- U.S. Environmental Protection Agency (USEPA). 1991. EPA 460/3-91-02, *Nonroad Engine and Vehicle Emission Study—Report*.
- USEPA. April 2004a. EPA Report No. NR-005c, *Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling*
- USEPA. April 2004b. EPA Report No. NR-009c, *Exhaust and Crankcase Emission Factors for Nonroad Engine Modeling—Compression-Ignition*
- USEPA. December 2005. EPA 420-P-04-001, NR-002b, *Conversion Factors for Hydrocarbon Emission Components*.
- USEPA. December 2008. EPA Report No. NR-010d, *Exhaust Emission Factors for Nonroad Engine Modeling—Spark-Ignition*.
- Western Regional Air Partnership (WRAP). September 2006. WRAP Fugitive Dust Handbook.

**New Market EA, MD**

**Alternative 1 and Alternative 2  
Site Preparation Activities**

Site Clearing 15 workers

<i>Equipment</i>	<i>Number</i>	<i>Hr/day</i>	<i># days</i>	<i>Hp</i>	<i>LF</i>	<b>VOC</b> g/hp-hr	<b>CO</b> g/hp-hr	<b>NOx</b> g/hp-hr	<b>SO2</b> g/hp-hr	<b>PM</b> g/hp-hr	<b>VOC</b> lb	<b>CO</b> lb	<b>NOx</b> lb	<b>SO2</b> lb	<b>PM</b> lb
Crane	1	8	10	170	0.21	0.68	2.7	8.38	0.89	0.402	4	17	53	6	3
Excavator	1	8	3	169	0.21	0.68	2.7	8.38	0.89	0.402	1	5	16	2	1
Dump truck	2	8	10	90	0.21	0.68	2.7	8.38	0.89	0.402	5	18	56	6	3
Dozer	1	8	3	90	0.59	0.99	3.49	6.9	0.93	0.722	3	10	19	3	2
Loader	1	8	10	98	0.21	0.99	3.49	6.9	0.85	0.722	4	13	25	3	3
<b>Subtotal</b>											16	63	169	19	11

Land Grading/Prep 6 workers

<i>Equipment</i>	<i>Number</i>	<i>Hr/day</i>	<i># days</i>	<i>Hp</i>	<i>LF</i>	<b>VOC</b> g/hp-hr	<b>CO</b> g/hp-hr	<b>NOx</b> g/hp-hr	<b>SO2</b> g/hp-hr	<b>PM</b> g/hp-hr	<b>VOC</b> lb	<b>CO</b> lb	<b>NOx</b> lb	<b>SO2</b> lb	<b>PM</b> lb
Dump truck	2	8	8	275	0.21	0.68	2.7	8.38	0.89	0.402	11	44	137	15	7
Dozer	1	8	2	90	0.59	0.99	3.49	6.9	0.93	0.722	2	7	13	2	1
Grader	1	8	2	150	0.59	0.68	2.7	8.38	0.93	0.402	2	8	26	3	1
Excavator	1	8	2	169	0.21	0.68	2.7	8.38	0.89	0.402	1	3	10	1	1
<b>Subtotal</b>											16	62	186	20	10

**Site Development**

Construction 20 workers

<i>Equipment</i>	<i>Number</i>	<i>Hr/day</i>	<i># days</i>	<i>Hp</i>	<i>LF</i>	<b>VOC</b> g/hp-hr	<b>CO</b> g/hp-hr	<b>NOx</b> g/hp-hr	<b>SO2</b> g/hp-hr	<b>PM</b> g/hp-hr	<b>VOC</b> lb	<b>CO</b> lb	<b>NOx</b> lb	<b>SO2</b> lb	<b>PM</b> lb
Crane	2	8	20	170	0.21	0.68	2.7	8.38	0.89	0.402	17	68	211	22	10
Roller	2	4	2	30	0.59	1.8	5	6.9	1	0.8	1	3	4	1	0
Mixer	1	8	4	275	0.59	0.68	2.7	8.38	0.93	0.402	8	31	96	11	5
Small diesel engines	5	8	60	25	0.43	1.7	5	8.5	0.93	0.9	97	284	483	53	51
Delivery truck	2	1	60	180	0.21	0.68	2.7	8.38	0.89	0.402	7	27	84	9	4
Backhoe/loader	1	6	60	98	0.21	0.99	3.49	6.9	0.85	0.722	16	57	113	14	12
Small generator	2	8	60	10	0.43	0.7628	4.1127	5.2298	0.93	0.4474	7	37	48	8	1847
<b>Subtotal</b>											153	508	1039	118	1929

**Fugitive Dust Emissions:**

<b>PM<sub>10</sub></b> tons/acre/mo	acres	days of disturbance	<b>PM<sub>10</sub></b> Total	<b>PM<sub>2.5</sub>/PM<sub>10</sub></b> Ratio	<b>PM<sub>2.5</sub></b> Total
0.42	0.2	70	0.2	0.1	0.02

<b>Grand total in tons/year</b>	<b>VOC</b>	<b>CO</b>	<b>NOx</b>	<b>SO2</b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>
	0.09	0.32	0.70	0.08	1.17	0.99

## APPENDIX D

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*Maryland Department of Planning  
Maryland Historical Trust*

*Martin O'Malley  
Governor*

*Anthony G. Brown  
Lt. Governor*

*Richard Eberhart Hall  
Secretary*

*Matthew J. Power  
Deputy Secretary*

November 30, 2009

William Drew, Project Manager  
Maryland Department of Information Technology  
Wireless Communications Services  
301 W. Preston Street, Room 1304  
Baltimore, MD 21201

Re: Proposed New Public Health and Safety Communication Facilities  
Green Valley Road, New Market  
Frederick County, Maryland

Dear Mr. Drew:

On October 23, 2009, the Maryland Historical Trust (Trust) received a submittal that TEC inc. prepared and submitted on behalf of Maryland Department of Information Technology (DoIT) for the above-referenced project, for review and comment. The Trust, Maryland's State Historic Preservation Office, reviewed the submitted documentation to assess the project's effects on historic properties, in accordance with Section 106 of the National Historic Preservation Act and the Maryland Historical Trust Act of 1985, as amended (State Finance and Procurement Article § 5A-325 of the Annotated Code of Maryland). We understand DoIT is proposing to construct a 348-foot tall 3 legged tower, an equipment compound off Green Valley Road. We are writing to express our comments and concerns regarding the effect this tower might have on historic properties, including the National Road (F-3-224), the New Market National Register Historic District (F-5-59) and the Peace and Plenty Rural Historic Landscape (F-5-124).

The proposed tower site is situated between the following resources: National Road (F-3-224), the New Market National Register Historic District (F-5-59) and the Peace and Plenty Rural Historic Landscape (F-5-124), which are considered eligible or listed in the National Register. These historic properties are located within the project's Area of Potential Effects for visual effects. The tower might be visible from many of the district's contributing resources and could introduce a substantial visual intrusion not in keeping with the character of the district's rural setting.

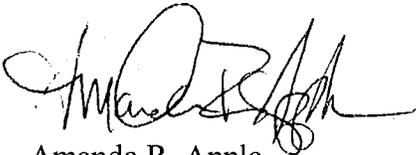
In order for the Trust to make an informed decision, we request more detailed information to support TEC Inc's determination that the proposed undertaking will have no adverse effect on historic properties. The additional information should include a balloon test study from all the vantage points highlighted in the submitted documentation and a line of sight rendering. When the balloon test is scheduled please contact me so I can participate in the site visit. Once the Trust has received the requested information, we will complete our review and provide appropriate comments.



William Drew  
Proposed New Public Health and Safety Communication Facilities  
Green Valley Road, New Market  
November 30, 2009  
Page 2 of 2

The Trust looks forward to working with all interested parties to successfully complete the Section 106 requirements for this undertaking. If you have any questions or require further information, please do not hesitate to contact either Beth Cole (for inquiries regarding archeological resources) at 410-514-7631 \ [bcole@mdp.state.md.us](mailto:bcole@mdp.state.md.us) or me (for inquiries regarding the historic built environment) at 410-514-7630 \ [aapple@mdp.state.md.us](mailto:aapple@mdp.state.md.us).

Sincerely,

A handwritten signature in black ink, appearing to read "Amanda R. Apple". The signature is fluid and cursive, with the first name being the most prominent.

Amanda R. Apple  
Preservation Officer  
Maryland Historical Trust

EJC/ARA / 200904130

cc: Lori Thursby (TEC inc.)



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York, Pennsylvania 17401  
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Amanda Apple, Preservation Officer  
Maryland Historical Trust  
100 Community Place  
Crownsville, MD 21032

April 23, 2010

RE: Additional Section 106 Documentation  
Public Health and Safety Communications Facility  
New Market, MD

Dear Ms. Apple:

In accordance with Section 106 of the National Historic Preservation Act of 1966, as amended, additional research and field reconnaissance was conducted to determine the effects of the proposed New Market public health and safety communications facility on historic properties. The Maryland Department of Information Technology (DoIT) intends to construct a 348-foot-tall self supporting radio tower, at least two equipment shelters, and associated site improvements. Section 106 documentation dated October 22, 2009, was submitted to your office for review and comment for construction of the facility in the northeast quadrant of the MD 75 interchange from Interstate-70 (I-70) in New Market (Alternative 2). Upon consultation with your office, DoIT added a second alternative location for the site of the tower. This additional alternative (Alternative 1) is located in the southeast quadrant of the existing I-70 and MD 75 Interchange (Figure 1).

The APE for Direct Effects for Alternative 1 is located near the southeast end of the quadrant. It consists of the slightly southeast sloping portion of a partially wooded hilltop between the eastbound on-ramp from MD 75 and the eastbound lanes of I-70 (Plates 1-6). Most of this area appears to have been disturbed by construction activities relating to I-70, MD 75, and the on-ramp. Vegetation consists of brush, greenbrier and raspberry bushes, thistle, and poison ivy as well as small evergreen and flowering trees planted by the Maryland State Highway Administration. A patch of mature maple, locust, and cherry trees is located near the south edge of the project area and may represent an undisturbed area within the loop (Plate 7). DoIT has been advised of this undisturbed area and current site plans of the tower location show that it would be avoided during construction of the tower. Should the proposed tower site in Alternative 1 shift to the west, it may be necessary to perform archaeological investigations of this area.



**Figure 1. Aerial map showing the original alternative site (Alternative 2), the present alternative site (Alternative 1), and the proposed tower site layout**



**Plate 1. View of terrain from west edge of proposed site (Alternative 1), facing east**



**Plate 2. View of proposed Alternative 1 site from center, facing north**



**Plate 3. View of proposed Alternative 1 site from center, facing west**



**Plate 4. View of proposed Alternative 1 site from center, facing south**



**Plate 5. View of proposed Alternative 1 site from center, facing west**



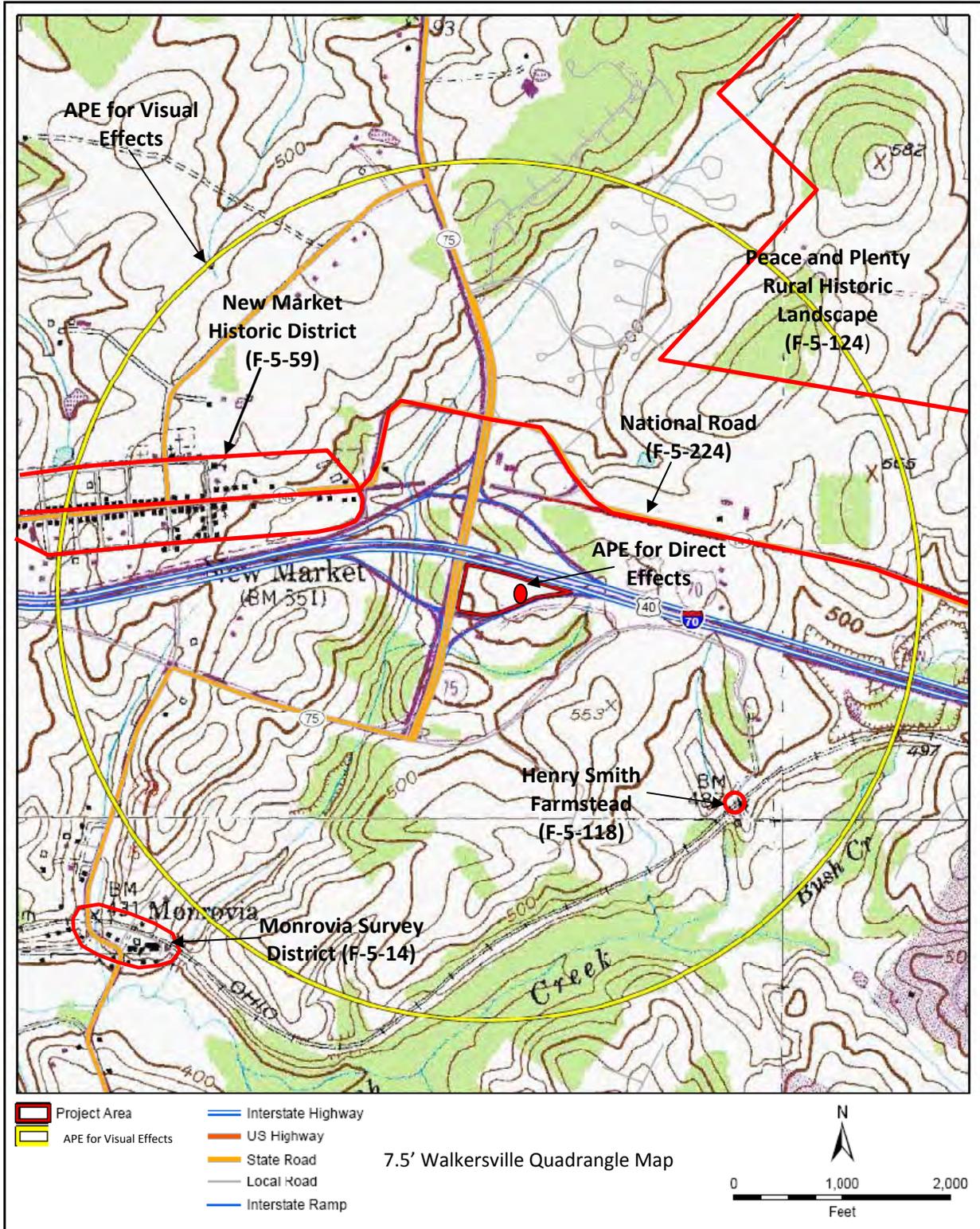
**Plate 6. View of proposed Alternative 1 site from east end, facing west**



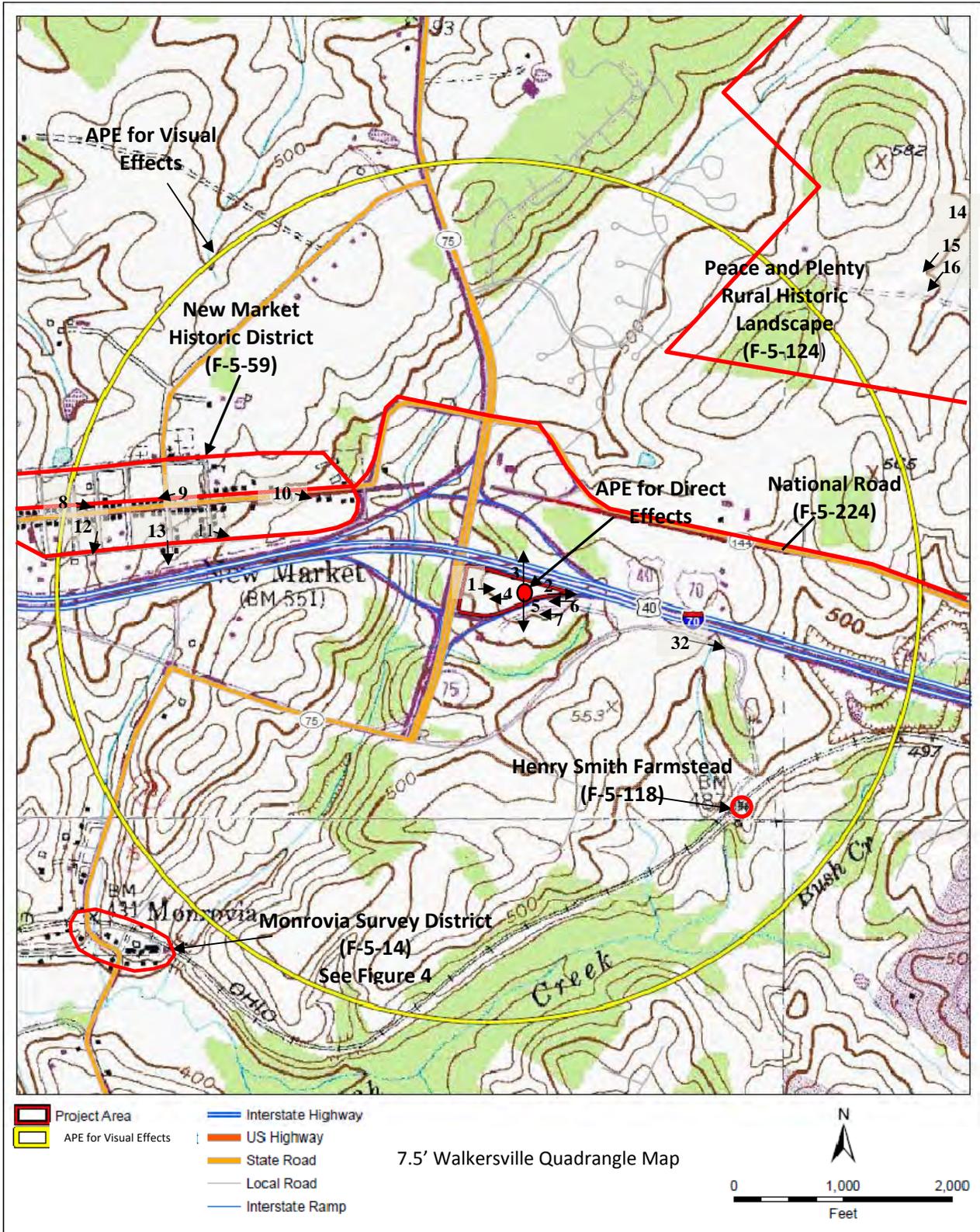
**Plate 7. Possibly undisturbed portion of the south side of the loop, facing northeast**

The APE for Visual Effects for Alternative 1 is a 0.75-mile radius area centered on the proposed tower location (Figure 2). This APE takes into account possible visual changes to significant features of a setting of a historic property, i.e., a property listed on or eligible for listing on the National Register of Historic Places (NRHP). The APE for Visual Effects includes the National Road, the New Market Historic District, and the Peace and Plenty Rural Historic Landscape. Refer to the October 2009 Section 106 Documentation (FCC Form 620) for more information on these properties.

Due to the addition of Alternative 1, photographs were taken toward the site of the proposed tower in Alternative 1 from the NRHP-listed New Market Historic District (MIHP# F-5-59) and the NRHP-eligible Peace and Plenty Rural Historic Landscape (MIHP# F-5-124), which were previously investigated in the FCC Form 620 for the Alternative 1 tower site (Figure 3). The top of the tower from the proposed site in Alternative 1 may be visible from portions of the New Market Historic District (Plates 8-9); however, the tower would have no adverse effect on the historic district (Plates 10-11). In addition, an existing tower and the eastbound lanes of I-70 are located just south of the historic district. The existing tower is visible from locations along Main Street as well as from side streets and the south elevations of buildings in the southwest end of the historic district (Plate 12). The eastbound lanes of I-70 run parallel to the historic district and are visible from side streets and alleys and the south elevation of buildings in the district (Plate 13). It is TEC's opinion that there would be No Adverse Effect to the New Market Historic District from the tower at the proposed site in Alternative 1.



**Figure 2. Previously Inventoried Architectural Resources**



**Figure 3. Photo Location Map**



**Plate 8. View of New Market Historic District (F-5-59) along Main Street,  
facing northeast**



**Plate 9. View of New Market Historic District (F-5-59) along Main Street,  
facing northwest**



**Plate 10. View toward proposed tower site from east end of New Market Historic District (F-5-59) along Main Street, facing southeast**



**Plate 11. View toward proposed tower site from New Market Historic District (F-5-59) along South Alley, facing southeast**



**Plate 12. View toward existing tower from New Market Historic District (F-5-59) from Main Street at 4<sup>th</sup> Alley, facing south**



**Plate 13. View toward I-70 from New Market Historic District (F-5-59) from South Alley and 8<sup>th</sup> Alley, facing south**

The proposed tower site in Alternative 1 would have no adverse effect on the Peace and Plenty Rural Historic Landscape. The top of the tower may be visible from the southern end of the rural landscape (Plate 14); however, the intervening topography and vegetation, as well as the distance to the proposed tower would cause it to appear as a small element in the landscape (Plate 15). In addition, two existing cell or emergency towers are currently visible from the south end of the Peace and Plenty Rural Historic Landscape (Plates 15-16) as minor intrusions in the landscape. It is TEC's opinion that there would be No Adverse Effect to the Peace and Plenty Rural Historic Landscape from the tower at the proposed site in Alternative 1.



**Plate 14. View of Dorsey Farm at south end of Peace and Plenty Rural Historic Landscape (F-5-124), facing northwest**



**Plate 15. View from Dorsey Farm toward proposed tower site, facing southwest  
(note two existing towers)**



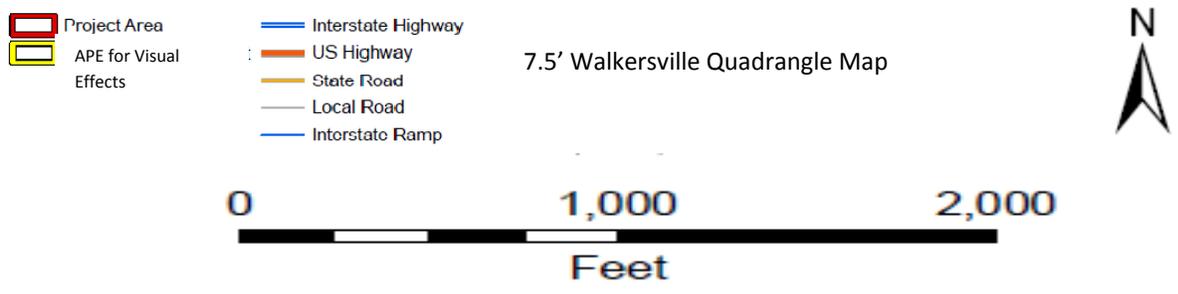
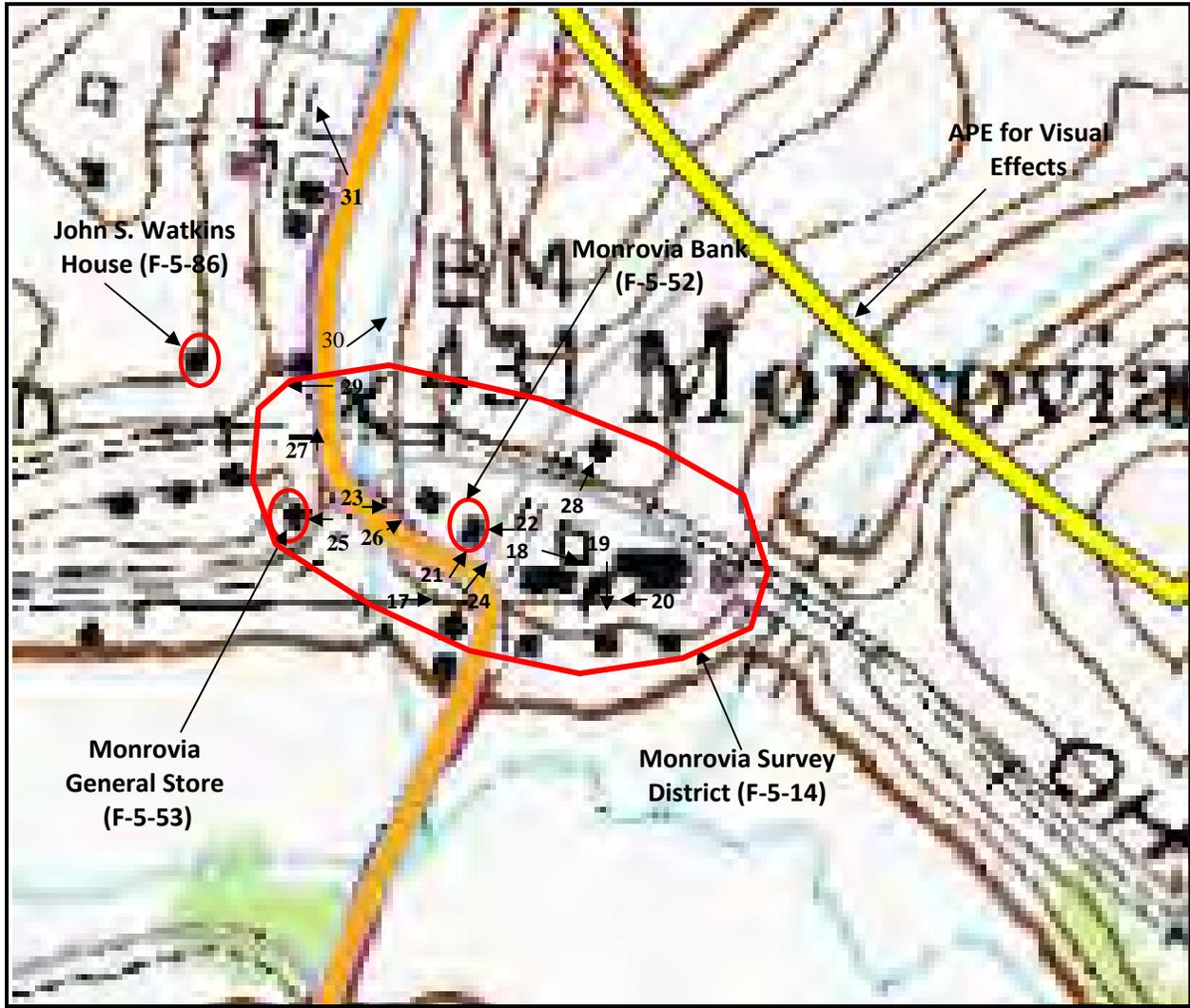
**Plate 16. Close-up view from Dorsey Farm toward existing tower, facing southwest**

The APE for Visual Effects for Alternative 1 is adjacent to the north edge of the Monrovia Survey District (F-5-14). The Monrovia Survey District is currently an unevaluated resource. The district centers around a small village that was bolstered by the introduction of a rail station for the B&O Railroad in 1831 (MIHP form). Resources within the survey district include a bank, a general store, a mill, a railroad bridge, houses, and associated mill structures (the Cannery Buildings) (Plates 17-20).

Individually surveyed resources within the district include the Monrovia Bank (F-5-52) and the Monrovia General Store (F-5-53) (Figure 4). The Monrovia Bank is located in the center of the district, just south of the railroad tracks (Plates 21-22). This one-story square hipped-roof brick structure was constructed circa 1880 (MIHP form). The building is currently in good condition but has had its windows and doors replaced and the upper portions of the windows blocked off (Plate 22). A modern rear addition appended on the northwest side of the building is unsympathetic and disproportionate and the former slate roof has been replaced with asphalt shingles (Plates 22-23). It is TEC's opinion that the Monrovia Bank would not be individually eligible for listing on the NRHP because of a lack of integrity. Regardless, the proposed tower would not be visible from the bank due to topography, distance, and intervening vegetation (Plate 24); therefore, the tower at the proposed Alternative 1 site would have No Adverse Effect on the Monrovia Bank.

The Monrovia General Store is located on the west edge of the survey district near the railroad bridge (Plate 25). This two-story building was constructed circa 1850 and is significant for its association with the Battle of Monocacy in 1864 (MIHP form). This structure has not been evaluated for its NRHP status. According to the MIHP form, the store has undergone significant alterations from its original form. The building is currently in an extreme state of disrepair and is missing windows and doors, as well as portions of siding and roof materials. Due to holes in the roof where water is leaking in, it is likely there is structural damage to the building. Due to its diminished integrity, it is TEC's opinion that the Monrovia Store would not be individually eligible for listing on the NRHP. Nonetheless, the proposed tower would not be visible from the store due to topography, distance, intervening vegetation, and the elevated rail bridge (Plates 26-27); therefore, the tower at the proposed site in Alternative 1 would have No Adverse Effect on the Monrovia Store.

The only building in the district that may have a clear view of the proposed tower is the Plummer House, which is located north of the railroad tracks along the north edge of the district boundary (Plate 28). This resource has not been surveyed individually and has not had its NRHP status evaluated. The house is likely not individually eligible for listing on the NRHP due to the replacement of its windows and the application of vinyl siding. Nevertheless, the distance to the proposed tower would likely make this a minor intrusion in the viewshed. Therefore, it is TEC's opinion that the tower at the proposed Alternative 1 site would have No Adverse Effect on the Plummer House.



**Figure 4. Monrovia Survey District showing photo locations**



**Plate 17. Portion of Monrovia Survey District (F-5-14), Cannery Buildings and barn, facing east**



**Plate 18. Portion of Monrovia Survey District (F-5-14), Cannery Buildings, facing east**



**Plate 19. House in Monrovia Survey District (F-5-14), facing south**



**Plate 20. Former Nicodemus Mill structure, facing west, with the Hammond House in foreground**



**Plate 21. South and east elevation of Monrovia Bank (F-5-52) in Monrovia Survey District, facing northwest**



**Plate 22. East elevation of Monrovia Bank (F-5-52) in Monrovia Survey District, facing west**



**Plate 23. West elevation of Monrovia Bank (F-5-52) in Monrovia Survey District, facing west**



**Plate 24. Looking toward proposed tower site from Monrovia Bank (F-5-52), facing northeast**



**Plate 25. Monrovia General Store (F-5-53) at west end of Monrovia Survey District, facing west**



**Plate 26. Looking toward proposed tower site from Monrovia General Store (F-5-53), facing northeast (note demolished house in foreground)**



**Plate 27. Railroad bridge to north of Monrovia General Store, facing north**



**Plate 28. Plummer House, located north of the B&O RR tracks, facing north**

In general, the Monrovia Survey District has not maintained a high degree of integrity. Many of the buildings are heavily deteriorated and falling down or have had significant changes to the original materials, such as vinyl and aluminum siding, replacement windows and doors, aluminum shutters, asphalt shingles, and unsympathetic additions and renovations. One house on the west side of the bank building has recently been demolished (Plate 26) and the Monrovia General Store (Plate 25) and the Nicodemus Mill (Plate 20) appear to be uninhabited and significantly deteriorated. In addition, an existing cell or emergency tower is already visible from the northwest corner of the survey district. It is TEC's opinion that the Monrovia Survey District no longer retains sufficient integrity to be considered eligible for listing on the NRHP. Regardless, the tower would not be visible from the majority of the district due to topography, distance, and intervening vegetation; therefore, the tower, at the proposed Alternative 1 site, would have No Adverse Effect on the Monrovia Survey District.

Adjacent to the northwest of the Monrovia Survey District is the John S. Watkins House (F-5-86). Located on the north side of the railroad tracks, this two-story Queen Anne house was constructed circa 1908 (MIHP form) (Plate 29). This building has not been evaluated for its NRHP status. Access to the house was restricted as No Trespassing signs were posted at the driveway entrance and the entire house was not visible due to vegetation. The house currently appears to be in the midst of a renovation. It is unclear whether the house would be considered individually eligible for listing in the NRHP; however, a high ridge to the east would block views to the proposed tower site (Plate 20). In addition, an existing tower located approximately ½-mile north along the same ridgeline where the house sits is likely currently visible from this resource (Plate 31). Therefore, it is TEC's opinion that the tower at the proposed Alternative 1 site would have No Adverse Effect on the John S. Watkins House.



**Plate 29. Partial view of John S. Watkins House (F-5-86) from Route 75, facing west (access restricted)**



**Plate 30. View toward proposed tower site from John S. Watkins House (F-5-86), facing northeast**



**Plate 31. Existing tower near edge of Monrovia Survey District (F-5-14), facing northwest**

The Henry Smith Farmstead, F-5-118, is a two-story stone house located at 11928 East Baldwin Road approximately ½-mile southeast of the proposed tower site. This farmhouse was constructed circa 1815 with an 1895 bank barn (MIHP form). Currently, the farmstead is inaccessible due to a private road closure of Baldwin Road approximately 1,500 feet north of the resource (Plate 32). The farm is not visible from the location of the road closure and it is unclear whether the farm is still extant. 2010 Google maps show house and barn structures in this location, so it is likely they are still standing. The farm is blocked from the north by a high ridgeline and it is located at the base of the slope between the railroad tracks and Bush Creek. Due to hilly topography, distance, and intervening vegetation, it is likely that the proposed tower would not be visible from the farm. It is TEC's opinion that there would be No Adverse Effect to the Henry Smith Farmstead from the tower at the proposed Alternative 1 site.



**Plate 32. View of road closure leading to Henry Smith Farmstead (F-5-118), facing east (chain across road in background)**

It is TEC's opinion that the emergency services tower at the proposed site in Alternative 1 would have No Adverse Effect to historic resources that are eligible, listed, or potentially eligible for listing on the National Register of Historic Places. Therefore, no further work is recommended.

In January 2010, DoIT identified three local organizations that may have an interest in the proposed undertaking and its effects on historic properties. The Historical Society of Frederick County, the New Market Historical District Committee, and the New Market Historical Society were notified of the proposed public health and safety communications facility project in New Market and invited to be a consulting party on the project, as per 36 CFR 800.2(c)(5). None of the organizations responded to the invitation.

In accordance with 36 CFR 800, the determination of effect for Alternative 1 is: No Historic Properties are in the APE for Direct Effects and No Adverse Effect on historic properties in the APE for Visual Effects. DoIT respectfully requests your concurrence on this finding of effect for the Public Health and Safety Communications Facility project in New Market.

If you should have any questions regarding the information in this letter, please contact Ms. Kimberly Sebestyen at (717) 848-8850 or kmsebestyen@tecinc.com, or Ms. Lori Thursby at (614) 754-8961 or lothursby@tecinc.com.

Sincerely,

A handwritten signature in cursive script that reads "Kimberly M. Sebestyen". The signature is written in black ink and is positioned above the printed name.

Kimberly Sebestyen

Cc: Mr. William Drew, DoIT

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DoIT  
ARA

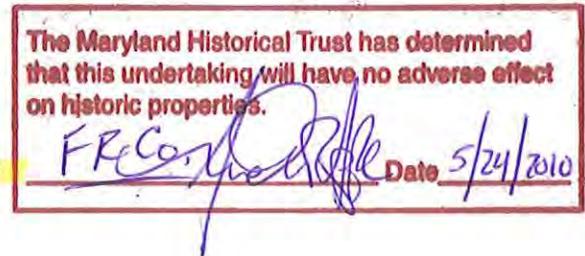
18 S. George Street  
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York, Pennsylvania 17401  
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www.tecinc.com

Amanda Apple, Preservation Officer  
Maryland Historical Trust  
100 Community Place  
Crownsville, MD 21032

201002192

April 23, 2010

RE: Additional Section 106 Documentation  
Public Health and Safety Communications Facility  
New Market, MD



Dear Ms. Apple:

In accordance with Section 106 of the National Historic Preservation Act of 1966, as amended, additional research and field reconnaissance was conducted to determine the effects of the proposed New Market public health and safety communications facility on historic properties. The Maryland Department of Information Technology (DoIT) intends to construct a 348-foot-tall self supporting radio tower, at least two equipment shelters, and associated site improvements. Section 106 documentation dated October 22, 2009, was submitted to your office for review and comment for construction of the facility in the northeast quadrant of the MD 75 interchange from Interstate-70 (I-70) in New Market (Alternative 2). Upon consultation with your office, DoIT added a second alternative location for the site of the tower. This additional alternative (Alternative 1) is located in the southeast quadrant of the existing I-70 and MD 75 Interchange (Figure 1).

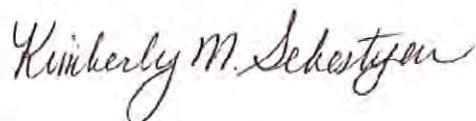
The APE for Direct Effects for Alternative 1 is located near the southeast end of the quadrant. It consists of the slightly southeast sloping portion of a partially wooded hilltop between the eastbound on-ramp from MD 75 and the eastbound lanes of I-70 (Plates 1-6). Most of this area appears to have been disturbed by construction activities relating to I-70, MD 75, and the on-ramp. Vegetation consists of brush, greenbrier and raspberry bushes, thistle, and poison ivy as well as small evergreen and flowering trees planted by the Maryland State Highway Administration. A patch of mature maple, locust, and cherry trees is located near the south edge of the project area and may represent an undisturbed area within the loop (Plate 7). DoIT has been advised of this undisturbed area and current site plans of the tower location show that it would be avoided during construction of the tower. Should the proposed tower site in Alternative 1 shift to the west, it may be necessary to perform archaeological investigations of this area.

5/24/2010  
2010  
ARA

In accordance with 36 CFR 800, the determination of effect for Alternative 1 is: No Historic Properties are in the APE for Direct Effects and No Adverse Effect on historic properties in the APE for Visual Effects. DoIT respectfully requests your concurrence on this finding of effect for the Public Health and Safety Communications Facility project in New Market.

If you should have any questions regarding the information in this letter, please contact Ms. Kimberly Sebestyen at (717) 848-8850 or [kmsebestyen@tecinc.com](mailto:kmsebestyen@tecinc.com), or Ms. Lori Thursby at (614) 754-8961 or [lothursby@tecinc.com](mailto:lothursby@tecinc.com).

Sincerely,

A handwritten signature in cursive script that reads "Kimberly M. Sebestyen".

Kimberly Sebestyen

Cc: Mr. William Drew, DoIT



Federal Aviation Administration  
 Air Traffic Airspace Branch, ASW-520  
 2601 Meacham Blvd.  
 Fort Worth, TX 76137-0520

Aeronautical Study No.  
 2010-AEA-2591-OE

Issued Date: 07/28/2010

William E. Adams  
 Frederick, County of  
 Division of Emergency Management  
 110 Airport Drive, East  
 Frederick, MD 21701

**\*\* DETERMINATION OF NO HAZARD TO AIR NAVIGATION \*\***

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:               Antenna Tower (New Market)  
 Location:               New Market, MD  
 Latitude:                39-22-50.60N NAD 83  
 Longitude:              77-15-29.50W  
 Heights:                348 feet above ground level (AGL)  
                               873 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked and/or lighted in accordance with FAA Advisory circular 70/7460-1 K Change 2, Obstruction Marking and Lighting, a med-dual system - Chapters 4,8(M-Dual),&12.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be completed and returned to this office any time the project is abandoned or:

- \_\_\_\_\_ At least 10 days prior to start of construction (7460-2, Part I)
- X   Within 5 days after the construction reaches its greatest height (7460-2, Part II)

This determination expires on 01/28/2012 unless:

- (a) extended, revised or terminated by the issuing office.
- (b) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

**NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO**

SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates , heights, frequency(ies) and power . Any changes in coordinates , heights, and frequencies or use of greater power will void this determination. Any future construction or alteration , including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Communications Commission (FCC) because the structure is subject to their licensing authority.

If we can be of further assistance, please contact our office at (781) 238-7522. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2010-AEA-2591-OE.

**Signature Control No: 713538-128707063**

( DNE )

Suzanne Dempsey  
Technician

Attachment(s)  
Frequency Data

cc: FCC

**Frequency Data for ASN 2010-AEA-2591-OE**

<b>LOW FREQUENCY</b>	<b>HIGH FREQUENCY</b>	<b>FREQUENCY UNIT</b>	<b>ERP</b>	<b>ERP UNIT</b>
806	824	MHz	500	W
824	849	MHz	500	W
851	866	MHz	500	W
869	894	MHz	500	W
896	901	MHz	500	W
901	902	MHz	7	W
930	931	MHz	3500	W
931	932	MHz	3500	W
932	932.5	MHz	17	dBW
935	940	MHz	1000	W
940	941	MHz	3500	W
1850	1910	MHz	1640	W
1930	1990	MHz	1640	W
2305	2310	MHz	2000	W
2345	2360	MHz	2000	W