Environmental Management Division
Fort Benning, Georgia

Final Environmental Assessment

FOR THE PROPOSED IMPLEMENTATION OF THE

INSTALLATION INFORMATION INFRASTRUCTURE MODERNIZATION PROGRAM (I3MP)

AT

FORT BENNING, GEORGIA

Printed on Recycled Paper

25 August 2010

ENVIRONMENTAL ASSESSMENT ORGANIZATION

This Environmental Assessment (EA) evaluates the potential environmental, socioeconomic, and cultural effects of the Department of the Army's Proposed Action to implement the **Installation Information Infrastructure Modernization Program (I3MP)** at the approximately 182,000-acre Fort Benning, Georgia Military Installation in Muscogee and Chattahoochee Counties, Georgia, and Russell County, Alabama.

As required by the National Environmental Policy Act of 1969 (NEPA; 42 US Code [USC] 4321 *et seq*.), the Council on Environmental Quality (CEQ) Regulations Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] Part 1500-1508), and the Army's NEPA Regulation (*Environmental Analysis of Army Actions*, Final Rule, 32 CFR Part 651), the potential effects of this Federal Proposed Action are analyzed. This EA will facilitate the Garrison Commander's decision-making process regarding the Proposed Action and its considered alternatives, and is organized as follows:

EXECUTIVE SUMMARY: Describes the Proposed Action and its considered alternatives; summarizes potential environmental, cultural, and socioeconomic effects; and compares potential effects associated with the three considered alternatives, including the No Action Alternative.

SECTION 1.0 PURPOSE, NEED, AND SCOPE: Summarizes the purpose of and need for the Proposed Action, provides relevant background information, and describes the scope of the EA.

SECTION 2.0 DESCRIPTION OF THE PROPOSED ACTION: Describes the Proposed Action to implement the I3MP at Fort Benning.

SECTION 3.0 ALTERNATIVES CONSIDERED: Presents alternatives for implementing the Proposed Action.

SECTION 4.0 AFFECTED ENVIRONMENT: Describes relevant components of the existing environmental, cultural, and socioeconomic setting of Fort Benning that may be affected by implementation of the considered I3MP alternatives.

SECTION 5.0 ENVIRONMENTAL CONSEQUENCES: Identifies individual and cumulative potential environmental, cultural, and socioeconomic effects of implementing the considered I3MP alternatives to each relevant Valued Environmental Component; and identifies proposed mitigation and management measures, as and where appropriate.

SECTION 6.0 COMPARISON OF ALTERNATIVES AND CONCLUSIONS: Compares the environmental effects of the considered alternatives and summarizes the significance of individual and expected cumulative effects from each of these alternatives.

SECTION 7.0 LIST OF INTERESTED AGENCIES AND INDIVIDUALS: Lists agencies and individuals to whom copies of the Final EA and Draft FNSI were sent.

SECTION 8.0 LIST OF PREPARERS: Identifies document preparers and their areas of expertise.

SECTION 9.0 REFERENCES: Provides bibliographical information for cited sources, including persons consulted during preparation of this EA.

APPENDICES: Presents other information pertinent to the analysis and the NEPA process.

An **ACRONYMS AND ABBREVIATIONS** list is provided immediately following the table of contents.

ENVIRONMENTAL ASSESSMENT SIGNATURE PAGE

LEAD AGENCY:	Department of the Army at Fort Benning
COOPERATING AGENCIES:	None
TITLE OF PROPOSED ACTION:	**Proposed Installation Information Infrastructure Modernization Program (I3MP)**
AFFECTED JURISDICTION:	Fort Benning, Georgia
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DATE: 9 Sep 10

DOCUMENT DESIGNATION: Final Environmental Assessment (Final EA)

ABSTRACT: This Environmental Assessment (EA) evaluates the Proposed Action of the Department of the Army to implement the I3MP at Fort Benning, Georgia.

This EA discusses three alternatives: the Modified US Army Information Systems Engineering Command (ISEC) Layout Alternative (Preferred Alternative), an Expanded ISEC Layout Alternative, and the No Action Alternative. This EA evaluates possible effects to the geographic setting and location (including aesthetics and visual resources); land use; air quality; the noise environment; geology and topography; soils (including erosion and sedimentation); water resources and wetlands; biological resources (including threatened and endangered species, wildlife, and vegetation); cultural resources; socioeconomics (including Environmental Justice and Protection of Children); utilities; transportation and traffic; airspace; and Hazardous and Toxic Materials and Wastes (HTMW).

This EA concludes there would be no significant adverse impact, either individually or cumulatively, to the local environment or quality of life associated with implementing the Preferred Alternative or Expanded ISEC Layout Alternative, provided the Environmental Protection Measures and routine management measures (e.g., soil erosion control best management practices) are implemented. This EA proposes additional mitigation measures to ensure adverse, short-term environmental effects to water resources and wetlands, biological resources, and cultural resources are further reduced or avoided altogether. Therefore, this EA concludes that a mitigated Finding of No Significant Impact (FNSI) is appropriate, and that an Environmental Impact Statement (EIS) is not required.

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EXECUTIVE SUMMARY

Environmental Assessment
Installation Information Infrastructure Modernization Program (I3MP)
Fort Benning, Georgia

INTRODUCTION

This Environmental Assessment (EA) has been prepared to identify, document, and address the potential environmental, cultural, and socioeconomic effects of the Department of the Army's (DA) proposed implementation of the I3MP at the approximately 182,000-acre Fort Benning, Georgia Military Installation.

The Garrison Commander of Fort Benning is the Federal decision-maker concerning this proposal. As required by the National Environmental Policy Act of 1969 (NEPA; 42 USC 4321 *et seq*.), the Council on Environmental Quality (CEQ) Regulations Implementing the Procedural Provisions of NEPA (40 CFR Part 1500-1508), and the Army NEPA Regulation (*Environmental Analysis of Army Actions*, Final Rule, 32 CFR Part 651), the potential effects of this Federal Proposed Action are analyzed in this EA.

PROPOSED ACTION

The Proposed Action is to improve communication and associated training support by installing, operating, and maintaining needed infrastructure, including aboveground towers and underground communications cables, across Fort Benning. This infrastructure would allow the various training facilities, support facilities, and personnel at Fort Benning to communicate with one another more effectively. In addition, the infrastructure would allow transmission of voice and electronic (i.e., computer) data around the Installation without delay. This would improve training and other operations, notably in concert with the Installation's on-going growth and development under the 2005 Base Realignment and Closure, Army Modular Force (i.e., Transformation), Grow the Army, and the associated Maneuver Center of Excellence (MCOE). Specific Environmental Protection Measures have been incorporated into the Proposed Action to ensure significant adverse environmental effects are avoided, including effects to water, biological, and cultural resources.

PURPOSE AND NEED

The purpose of the Proposed Action is to provide for required, effective, and capable communications across Fort Benning, linking training and support facilities, including all four cantonment areas. This communications connectivity would allow Fort Benning to operate more efficiently, more safely, and more securely than under current conditions. The Proposed Action would improve voice and computer data communications, as well as two-way radio and wireless communications, across and around the entire Installation.

The Proposed Action is needed to allow new and existing training and support facilities to operate at their full capability, in a coordinated and controlled fashion. Under current conditions, a lack of communications tower coverage results in areas of the Installation where the two-way radios do not function. This presents a safety issue for those Soldiers and staff who rely on the two-way radios to communicate their activities, including Army units, police, fire protection, forestry, and environmental staff. Also under current conditions, several of the existing and new facilities at Fort Benning would remain unconnected via a dedicated, sufficiently sized, and capable communications system. While these facilities would continue to be able to function, their ability to work in a coordinated, controlled, integrated, and effective manner would be compromised. Some buildings, while able to be occupied, would not be able to meet their mission requirements as designed. This would impede Fort Benning's training mission.

ALTERNATIVES

As the initial step in the planning process, the US Army Information Systems Engineering Command (ISEC) developed a proposed I3MP layout, including towers and cable, for Fort Benning to achieve the purpose of and need for the Proposed Action. ISEC designed this proposed configuration primarily with an eye to achieving the communications requirements on the Installation. Fort Benning then reviewed this initial configuration and determined that certain components, such as the proposed towers and some sections of the proposed cable alignment (i.e., those sections that traveled overland and not along existing roads), could impact significant environmental resources and training operations.

Using the initial ISEC design as its basis, Fort Benning identified Environmental Protection Measures and screening (evaluation) criteria to guide the environmentally and operationally sensitive "re-design" of the Proposed Action, including both locations and methods. Fort Benning developed these measures and criteria based on the physical, operational, and location requirements of the Proposed Action, as well as extant environmental constraints and operational activities on the Installation. Fort Benning determined these measures and criteria to be required site and action attributes in order to achieve the purpose of and need for the Proposed Action, while minimizing the potential for adverse environmental and operational effects. Implementation of the Environmental Protection Measures as part of the Proposed Action, and satisfaction of the screening criteria by an individual alternative, would provide locations and infrastructure best suited to meet the purpose of and need for the Proposed Action, while avoiding adverse environmental and operational effects - in other words, a "reasonable" alternative.

Fort Benning then applied these criteria to various, initially considered alternatives. The goal of this effort was to narrow the number of alternatives, and to identify which alternatives were "reasonable." Only reasonable alternatives are further analyzed in this EA. Through this process, Fort Benning identified the following reasonable alternatives:

- **Modified ISEC Layout Alternative (Preferred Alternative):** Implement the proposed I3MP generally as designed by ISEC, but modified to avoid adverse training and environmental effects. This alternative includes modifications to ISEC's original design to avoid impacts to existing sensitive environmental resources and range operations at Fort Benning. This alternative includes approximately 76.8 miles of underground cable and two 100-foot, self-supporting communications towers.

- **Expanded ISEC Layout Alternative:** Implement the proposed I3MP generally as designed by ISEC (and as modified under the Preferred Alternative), but include additional communications towers and underground infrastructure to provide increased system operability at Fort Benning. This alternative includes an *additional* approximately 9.9 miles of underground cable (as compared to the Preferred Alternative) and a total of four 100-foot, self-supporting communications towers, two more than the Preferred Alternative.

- **No Action Alternative:** Continue with operations as currently conducted and "approved" at Fort Benning, and do not implement the I3MP. This would include continuing to rely on deficient communications methods across Fort Benning, and operating facilities at below design capacities and capabilities.

While the No Action Alternative would not satisfy the purpose of or need for the Proposed Action, this alternative was retained to provide a comparative baseline against which to analyze the effects of the Proposed Action and its reasonable alternatives, as required under the CEQ and Army NEPA Regulations. The No Action Alternative reflects the *status quo* and serves as a benchmark against which the effects of the Proposed Action can be evaluated.

ENVIRONMENTAL CONSEQUENCES

Fort Benning evaluated each of the three considered alternatives to determine its potential direct, indirect, and cumulative effect(s) on the environmental, cultural, and socioeconomic aspects of Fort Benning. Technical resource areas, or Valued Environmental Components (VECs), evaluated include:

- *Geographic Setting and Location*
- *Land Use*
- *Air Quality*
- *Noise*
- *Geology and Topography*
- *Soils*
- *Water Resources and Wetlands*
- *Biological Resources*
- *Cultural Resources*
- *Socioeconomics*
- *Utilities*
- *Transportation and Traffic*
- *Airspace*
- *Hazardous and Toxic Materials and Wastes (HTMW)*

Implementation of the Preferred Alternative or the Expanded ISEC Layout Alternative would result in similar environmental effects. As compared to the Preferred Alternative, the Expanded ISEC Layout Alternative would improve I3MP system redundancy to Camp Darby, located in the southeastern portion of Fort Benning, and complete the redundant circuit of IT connectivity in this portion of the Installation. In addition, this Alternative would also provide additional communications tower coverage on Fort Benning, as compared to the Preferred Alternative. Therefore, the Expanded ISEC Layout Alternative would better meet the purpose of and need for the Proposed Action, and would better improve emergency services communication capabilities (e.g., police and fire protection and emergency response). A significant, long-term positive telecommunications effect would occur under either Action Alternative; the more robust Expanded ISEC Layout Alternative would result in greater positive effects. However, both Action Alternatives would satisfy the Proposed Action's purpose and need.

The enhanced operability of the Expanded ISEC Layout Alternative would result in only minor additional environmental effects as compared to the Preferred Alternative. These include potential adverse effects to one additional intermittent stream and approximately 0.50 acre of additional wetlands. Under the Expanded ISEC Layout Alternative, minor additional ground disturbance would occur at the additional construction locations as compared to the Preferred Alternative; the Expanded ISEC Layout Alternative would affect up to 21 additional acres of ground within Fort Benning (i.e., 163 acres versus 142 acres). However, implementation of the Environmental Protection Measures would ensure these minor additional adverse effects are maintained at acceptable levels or avoided. Overall, either Action Alternative would result in the following effects:

Long-term positive effects to:

- ✓ Socioeconomics (emergency response services, health and safety).
- ✓ Utilities (telecommunications and IT infrastructure).

Short-term positive effects to:

- ✓ Socioeconomics (economy, including construction jobs/spending).

No effects to:

- ✓ Land use.
- ✓ Geology and topography.
- ✓ Socioeconomics (population, housing, Protection of Children, and Environmental Justice).
- ✓ Utilities (energy, water, waste water, electricity).
- ✓ Transportation and Traffic (roads, railroads; traffic during construction would be maintained).
- ✓ Airspace.
- ✓ HTMW.

Less-than-significant adverse effects to:

- ✓ Geographic Setting and Location - Aesthetics and Visual Resources (long-term, proposed towers)
- ✓ Air Quality (short-term; construction emissions).
- ✓ Noise (short-term; construction noise).
- ✓ Soils (short-term; construction erosion and sedimentation).
- ✓ Water resources and wetlands (during construction - mitigation measures proposed).
- ✓ Biological resources (during construction - mitigation measures proposed).
- ✓ Cultural resources (during construction - mitigation measures proposed).

Potential adverse effects would be avoided or maintained at below levels of significance through implementation of Environmental Protection Measures (**Section 2.2.3**); additional mitigation measures (**Section 5**) to further reduce the identified, less-than-significant adverse effects to water, biological, and cultural resources are also proposed in this EA. No significant adverse cumulative impacts are anticipated.

The No Action Alternative was not found to satisfy the purpose of and need for the Proposed Action. In addition, this Alternative would result in the continuation of two, long-term, less-than-significant adverse effects. These include:

Land use - Without implementation of the I3MP, some of Fort Benning's facilities (i.e., planned, under construction, and existing) would remain unconnected to the IT network. While this would not preclude the use of new or existing facilities, this would result in diminished capability and function, and the potential inability to use these facilities to their full potential. This would be a long-term adverse effect to the safety, security, and operational efficiency of training and support activities at Fort Benning.

Emergency services/health and safety - Failing to install the I3MP would continue to limit emergency services communication on Fort Benning. This would result in Army units, police, fire protection, forestry, and environmental staff continuing to rely on personal cellular phones to maintain communications in portions of the Installation. Use of personal cellular phones does not provide for effective, reliable communication that meets the requirements on the Installation. This on-going deficient condition represents a long-term, less-than-significant adverse effect to emergency services and associated public health and safety on Fort Benning.

Table ES-1 presents a summary of impacts expected from implementation of the Proposed Action under each of the three considered alternatives. This summary provides a brief description of each impact, correspondent with the detailed discussions provided in **Section 5** of this EA.

MITIGATION

Mitigation measures have been identified in this EA for both of the Action Alternatives to ensure short-term, less-than-significant adverse effects to *Water Resources and Wetlands*, *Biological Resources*, and *Cultural Resources* are further reduced or avoided altogether. Compliance with National Pollutant Discharge Elimination System (NPDES) construction permitting requirements via the Georgia Department of Natural Resources - Environmental Protection Division (GaDNR-EPD), including implementation of an approved Erosion, Sedimentation, and Pollution Control Plan (ESPCP), has also been identified as a "mitigation measure," or a construction Best Management Practice (BMP), that would reduce potential adverse *Soils* (erosion and sedimentation) effects during construction. A summary of mitigation measures proposed for each Action Alternative is presented in **Table ES-2**. A more detailed description of each measure is presented in this EA (see **Sections 5.X.4**[1]).

[1] Please note that **5.X.4** refers to multiple VEC sections where mitigation is discussed, such as **5.1.4, 5.2.4, 5.3.4**, etc.

TABLE ES-1: COMPARISON OF THE POTENTIAL EFFECTS OF THE EVALUATED ALTERNATIVES

VEC	NO ACTION ALTERNATIVE	PREFERRED ALTERNATIVE (PA)	EXPANDED ISEC LAYOUT ALTERNATIVE
Geographic Setting and Location	No effects.	Less-than-significant adverse aesthetics and visual resources effects due to two proposed towers. Mitigation not required.	Same as PA.
Land Use	On-going, long-term; less-than-significant adverse effect due to inability to use Fort Benning facilities to full capability.	No effects.	No effects.
Air Quality	No effects.	Short-term, less-than-significant adverse effect during construction. No long-term air quality effects.	Same as PA.
Noise	No effects.	Potential short-term, less-than-significant adverse noise effect during construction. No long-term noise effects.	Same as PA.
Geology and Topography	No effects.	No effects.	No effects.
Soils	No effects.	Short-term adverse soils effects due to potential erosion during construction. Would be reduced through NPDES compliance process via GaDNR-EPD.	Same as PA.
Water Resources and Wetlands	No effects.	Short-term, less-than-significant adverse effects during construction with implementation of Environmental Protection Measures. Mitigation measures proposed to further reduce or avoid impacts.	**Similar to PA.** Potential minor additional effects due to increased scope.
Biological Resources	No effects	Short-term, less-than-significant adverse effects during construction with implementation of Environmental Protection Measures. Mitigation measures proposed to further reduce or avoid impacts.	**Similar to PA.** Potential minor additional effects due to increased scope.
Cultural Resources	No effects.	Short-term, less-than-significant adverse effects during construction with implementation of Environmental Protection Measures. Mitigation measures proposed to further reduce or avoid impacts.	Same as PA.
Socioeconomics (including Environmental Justice and Protection of Children)	On-going, long-term, less-than-significant adverse effect due to on-going emergency service/public health and safety communication deficiencies in portions of Fort Benning.	Short- and long-term positive socioeconomic effects, including economic and emergency services/health and safety effects.	**Similar to PA.** Positive emergency services/health and safety effects would be greater than PA due to increased tower coverage.
Utilities	No general utility effects. On-going, long-term adverse telecommunications effect (see *Land Use*).	No general utility effects. Long-term positive telecommunications effect.	Similar to PA. Increased, long-term positive telecommunications effect due to increased tower coverage and improved redundancy.
Transportation and Traffic	No effects.	Negligible short- and long-term traffic effects.	Same as PA.
Airspace	No effects.	No effects.	No effects.
HTMW	No effects.	No effects.	No effects.
Cumulative Effects	On-going, less-than-significant adverse cumulative effects to land use, telecommunications capability, and emergency service/public health and safety.	No significant adverse cumulative effects.	No significant adverse cumulative effects.

TABLE ES-2: SUMMARY OF MITIGATION MEASURES PROPOSED FOR THE EVALUATED ACTION ALTERNATIVES		
VEC	**PREFERRED ALTERNATIVE**	**EXPANDED ISEC LAYOUT ALTERNATIVE**
Soils	No project-specific mitigation measures are proposed. Fort Benning would utilize appropriate BMPs and adhere to the terms of the GaDNR-EPD NPDES general permit to minimize erosion and sedimentation (and consequent surface water quality) impacts during construction-phase activities. NPDES permit standards would be adhered to during all construction activities. The GaDNR-EPD would be responsible for reviewing and approving the Fort Benning's NPDES permit application and ESPCP prior to permitting construction to proceed. Storm water runoff and erosion would be managed using BMPs, including silt fencing, hay bales, vegetative buffers and filter strips, and spill prevention and management techniques, as detailed in the approved ESPCP. All disturbed areas would be re-vegetated and monitored to ensure Notice to Terminate after construction is complete. Where the Proposed Action would be co-located with another designed and approved construction project, the project installer may be able to receive NPDES permitting coverage under that project's NPDES permit and associated ESPCP. The project installer would ensure the appropriateness of this application through consultation with, and approval by, the GaDNR-EPD in advance of proposed I3MP construction.	Same as Preferred Alternative.

TABLE ES-2: SUMMARY OF MITIGATION MEASURES PROPOSED FOR THE EVALUATED ACTION ALTERNATIVES

Water Resources and Wetlands	Prior to construction, during the preparation of the final Geographic Information System (GIS)-based I3MP engineering design (see **Section 5.1.4**), the proponent shall: • Avoid surface waters and wetlands by locating the proposed cable alignment within previously disturbed areas, existing roadways, existing utility rights-of-way (ROWs), or other existing crossings to the maximum extent possible. • Field determine, at appropriate intervals, the depths of all surface water features to be crossed by the proposed I3MP cable to establish the appropriate boring depths. Depths shall be marked on the design drawings. • Field delineate and flag the boundaries of all jurisdictional wetlands in portions of the alignment that have not yet been delineated. Boundaries shall be marked on the design drawings. • Field flag the boundaries of all jurisdictional wetlands in portions of the alignment that have been delineated. Boundaries shall be marked on the design drawings. • Using the above data, locate all project construction components at a minimum distance of 25 feet from the edge of the wetland or surface water boundary, as well as 25 feet from the edge of wrested vegetation on warm water streams; all of Fort Benning's streams are warm water. These stream setbacks are in accordance with the Georgia Erosion and Sedimentation Control Act (GESA) and the GaDNR-EPD's stream buffer requirement. This final I3MP design shall be reviewed and approved by the Environmental Management Division (EMD) via the Fort Benning environmental review process. Any changes required by the EMD shall be made by the proponent. Prior to and during construction, the proponent shall: • Re-validate each proposed project component, immediately prior to construction, via the Fort Benning Form 144R environmental review process to ensure that conditions have not changed. Implement any changes required by the EMD. • Clearly field flag all wetlands and surface waters within and in the vicinity of the construction corridor, as well as the limits of the construction area. Comply with the limits of construction in accordance with the final design and any adjustments made during the immediately pre-project environmental review. All wetlands and surface waters within the proposed cable alignment shall be bored under at a sufficient depth, as determined during the pre-construction analysis; boring entry and exit work locations shall be a minimum of 25 feet from the edge of the field-marked resource boundary. • Monitor construction activities in the vicinity of pre-delineated and flagged surface water features to ensure construction is conducted in accordance with the final design and water resources effects are avoided. A qualified mitigation monitor from the EMD should monitor activities on-site during construction activities in such locations. • Obtain authorization from the US Army Corps of Engineers (USACE), Savannah District, via a Nationwide Permit (NWP) under Section 404 of the Clean Water Act, including submitting to the USACE a Pre-Construction Notification (PCN), in cases where wetland avoidance is not possible. Obtain a stream buffer variance from the GaDNR-EPD in cases where stream buffer setbacks cannot be maintained. Following completion of construction, the proponent shall: • Restore and re-vegetate disturbed construction areas to pre-project conditions, in compliance with the NPDES permit and the ESPCP. Native species of vegetation, as approved by the Fort Benning EMD, should be used to the extent possible. • Monitor the site for a sufficient period to ensure re-vegetation efforts are successful; implement required corrective actions in areas where re-vegetation is not successful, sufficient to meet requirements for Notice to Terminate.	Same as Preferred Alternative.

TABLE ES-2: SUMMARY OF MITIGATION MEASURES PROPOSED FOR THE EVALUATED ACTION ALTERNATIVES

Biological Resources	Prior to construction, during the preparation of the final GIS-based engineering design, the proponent shall: • Avoid areas supporting natural vegetation communities and containing protected species by locating the proposed cable alignment within previously disturbed areas, existing roadways, or utility ROWs to the maximum extent possible. • Field determine the locations of all pine trees measuring equal to or greater than 10" in diameter at breast height (dbh), including their associated drip lines, within the proposed cable alignments and tower locations. All such trees occurring within and adjacent to the proposed 15-foot wide construction corridor and all tower construction locations shall be identified. These trees and their drip lines shall be marked on the design drawings. • Identify the locations of all red-cockaded woodpecker (RCW) cavity trees and cluster locations within 200 feet of the Proposed Action on the design drawings. Note on all project design maps that construction within these areas is prohibited between 1 April and 31 July. • Field determine the locations of all Gopher Tortoise burrows within the proposed cable alignments and tower locations. These locations shall be marked on the design drawings. • Using the above data, locate all project construction components outside the drip line of delineated trees. Avoid Gopher Tortoise burrows and areas within 200 feet of RCW cavity trees and cluster locations to the maximum extent possible. This final design shall be reviewed and approved by the EMD via the Fort Benning environmental review process. Any changes required by the EMD shall be made. Prior to and during construction, the proponent shall: • Re-validate each proposed project component, immediately prior to construction, via the Fort Benning Form 144R environmental review process to ensure that conditions have not changed. Implement any changes required by the EMD. • Clearly field flag and comply with the limits of construction, in accordance with the final design and any adjustments made during the immediately pre-project environmental review. • Minimize the removal of native vegetation during construction. • Relocate unavoidable Gopher Tortoises during construction in accordance with Fort Benning management standard operating procedures (SOPs) for the Gopher Tortoise. • Monitor construction activities in the vicinity of pine trees measuring equal to or greater than 10 inches dbh and in the vicinity of Gopher Tortoise locations to ensure construction is conducted in accordance with the final design and adverse effects are avoided. A qualified mitigation monitor from the EMD should monitor activities on-site during construction activities in such locations. • Do not conduct construction within 200 feet of in-use RCW cavity trees during the 1 April through 31 July breeding season. Construction shall be timed in such locations to avoid impacts within this breeding period. These areas within the construction zone shall be marked with unique yellow signs identifying the edge of the 200-foot buffer zone during the breeding season. • To the extent possible and in accordance with the Fort Benning INRMP (DA 2001), time construction to avoid the primary nesting periods (April through July) of migratory birds protected under the Migratory Bird Treaty Act (MBTA). Following completion of construction, the proponent shall: • Restore and re-vegetate disturbed construction areas to pre-project conditions, in compliance with the NPDES permit and the ESPCP. Native species of vegetation, as approved by the Fort Benning EMD, should be used to the extent possible. • Monitor the site for a sufficient period to ensure re-vegetation efforts are successful; implement required corrective actions in areas where re-vegetation is not successful, sufficient to meet requirements for Notice to Terminate.	Same as Preferred Alternative.

TABLE ES-2: SUMMARY OF MITIGATION MEASURES PROPOSED FOR THE EVALUATED ACTION ALTERNATIVES

Cultural Resources	Prior to construction, during the preparation of the final GIS-based engineering design, the proponent shall: • Avoid areas containing National Register of Historic Places (NRHP)-eligible cultural resources and cemeteries by locating the proposed cable alignment within previously disturbed areas, or existing roadways, or existing utility ROWs to the maximum extent possible. • Field determine and flag the boundaries of all cemeteries and NRHP-eligible cultural resources sites within the proposed cable alignments. All such sites occurring within and adjacent to the proposed 15-foot wide construction corridor shall be identified. These sites shall be marked on the design drawings. • Within the developed cantonment areas, including on-Post historic districts, field determine the locations of all trees (and their associated drip lines) protected under the Fort Benning Historic Tree Management Plan. These features shall be marked on the design drawings. • Using the above data, locate all project construction components at a minimum distance of 25 feet from the edge of all NRHP-eligible cultural resources sites and outside of the drip line of trees protected under the Historic Tree Management Plan. This final design shall be reviewed and approved by the EMD via the Fort Benning environmental review process. Any changes required by the EMD shall be made. Prior to and during construction, the proponent shall: • Re-validate each proposed project component, immediately prior to construction, via the Fort Benning Form 144R environmental review process to ensure that conditions have not changed. Implement any changes required by the EMD. • Clearly field flag and comply with the limits of construction, in accordance with the final design and any adjustments made during the immediately pre-project environmental review. All cultural resources sites within the proposed cable alignment shall be bored under at a minimum depth of 10 feet; boring entry and exit work locations shall be a minimum of 25 feet from the edge of the field-marked resource boundary. • Monitor construction activities in the vicinity of cemeteries, NRHP-eligible cultural resources, and historic trees to ensure construction is conducted in accordance with the final design and adverse effects are avoided. A qualified mitigation monitor from the EMD should monitor activities on-site during construction activities in such locations. • In the event of an inadvertent discovery of human remains or cultural items during project construction, construction shall be terminated and the area cordoned off until the Fort Benning Cultural Resources Manager is contacted to properly identify and appropriately treat discovered items in accordance with applicable Federal law(s). As appropriate, notification of concerned federally recognized Native American Tribes would occur once an initial determination is made by a qualified archaeologist. • Limit construction in on-Post historic districts to minimize short-term noise and visual intrusion within these areas. Do not conduct construction outside of normal business hours and limit the number of construction vehicles present to the absolute minimum required to accomplish the construction. Following completion of construction, the proponent shall: • Restore and re-vegetate disturbed construction areas to pre-project conditions, in compliance with the NPDES permit and the ESPCP. Native species of vegetation, as approved by the Fort Benning EMD, should be used to the extent possible. • Monitor the site for a sufficient period to ensure re-vegetation efforts are successful; implement required corrective actions in areas where re-vegetation is not successful, sufficient to meet requirements for Notice to Terminate.	Same as Preferred Alternative.

CONCLUSIONS

The Preferred Alternative and the Expanded ISEC Layout Alternative would result in the effects summarized in **Table ES-1**; overall, these effects are very similar under both Action Alternatives. The Expanded ISEC Layout Alternative would provide a superior method to achieve the purpose of and need for the Proposed Action as compared to the Preferred Alternative. However, both Action Alternatives would achieve the purpose of and fulfill the need for action. The Expanded ISEC Layout Alternative's superior performance and increased telecommunications connectivity would come with only minor additional environmental effects. All effects would be maintained at acceptable levels through avoidance and careful project design, via the Environmental Protection Measures. Implementation of the measures and BMPs identified in **Table ES-2** would further reduce potential adverse effects. While neither of the Action Alternatives would result in significant adverse impacts, mitigation measures are proposed for less-than-significant adverse effects to *Water Resources and Wetlands*, *Biological Resources*, and *Cultural Resources* under either Alternative to further reduce or avoid effects. Adverse effects to *Soils* would be mitigated through the NPDES compliance process. These mitigation measures are described in this EA.

Neither Action Alternative would contribute to a cumulative adverse effect within the Proposed Action's Region of Influence (ROI) or Area of Potential Effect (APE). Both Action Alternatives would result in significantly improved communications infrastructure and capabilities across Fort Benning.

The No Action Alternative would not meet the purpose of or need for the Proposed Action, and could result in on-going, long-term, less-than-significant adverse individual and cumulative effects to land use and emergency services/public health and safety on Fort Benning.

Implementation of either Action Alternative, including the integral Environmental Protection Measures, would not produce any significant adverse direct, indirect, or cumulative impacts. Implementation of mitigation measures identified in this EA would further reduce or avoid identified less-than-significant adverse effects. Either Alternative would fulfill the purpose of and need for the Proposed Action, allowing Fort Benning to accomplish its mission. This EA's analysis determines, therefore, that an EIS is unnecessary for implementation of the Preferred Alternative or the Expanded ISEC Layout Alternative, and that a mitigated FNSI is appropriate.

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LIST OF ACRONYMS AND ABBREVIATIONS

AAP	Army Alternate Procedures
ACHP	Advisory Council on Historic Preservation
AGL	Above Ground Level
AHPA	Archaeological and Historic Preservation Act
AIRFA	American Indian Religious Freedom Act
AMSL	Above Mean Sea Level
APE	Area of Potential Effect
AR	Army Regulation
ARPA	Archeological Resources Protection Act
BA	Biological Assessment
BCT	Brigade Combat Team
bgs	below ground surface
BMP	Best Management Practice
BRAC	Base Realignment and Closure
CAA	Clean Air Act
CAAA	Clean Air Act Amendments of 1990
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CRM	Cultural Resources Management (Manager)
CWA	Clean Water Act
DA	Department of the Army
dB	Decibels
dBA	A-weighted decibels
dbh	diameter at breast height
DMPRC	Digital Multi-Purpose Range Complex
DoD	Department of Defense
DoDI	Department of Defense Instruction
DPW	Directorate of Public Works
EA	Environmental Assessment
EIS	Environmental Impact Statement
EMD	Environmental Management Division
EO	Executive Order
EPD	Environmental Protection Division of the GaDNR
E&S	Erosion and Sedimentation
ESA	Endangered Species Act of 1973
ESMP	Endangered Species Management Plan
ESPCP	Erosion, Sedimentation, and Pollution Control Plan
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FNSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
ft	feet
FY	Fiscal Year
GaDNR	Georgia Department of Natural Resources
GaDOT	Georgia Department of Transportation
GESA	Georgia Erosion and Sedimentation Control Act
GIS	Geographic Information Systems
HABS	Historic American Building Survey
HAP	Hazardous Air Pollutant
HDPE	High-density polyethylene
HPC	Historic Properties Component
HTMW	Hazardous and Toxic Materials and Wastes
I3MP	Installation Information Infrastructure Modernization Program

ICRMP	Integrated Cultural Resources Management Plan
IDG	Installation Design Guideline
INRMP	Integrated Natural Resources Management Plan
ISEC	US Army Information Systems Engineering Command
IT	Information Technology
JBO	Jeopardy Biological Opinion
LAAF	Lawson Army Airfield
Ldn	Day-night Level
LMR	Land Mobile Radio
MBTA	Migratory Bird Treaty Act
MCOE	Maneuver Center of Excellence
MFR	Memorandum for Record
MG	million gallon
mg/kg	milligram per kilogram
MOU	Memorandum of Understanding
MSA	Metropolitan Statistical Area
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NEPA	National Environmental Policy Act of 1969
NHPA	National Historic Preservation Act
NOA	Notice of Availability
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
NWP	Nationwide Permit
OSHA	Occupational Safety and Health Administration
O_3	Ozone
PA	Preferred Alternative
Pam	Pamphlet
Pb	Lead
PCN	Pre-Construction Notification
PM	Particulate Matter
POL	Petroleum, Oil, Lubricant
RCRA	Resource Conservation and Recovery Act
RCI	Residential Community Initiative
RCW	Red-cockaded woodpecker
ROD	Record of Decision
ROI	Region of Influence
ROW	Right-of-way
RUSLE	Revised Universal Soil Loss Equation
SDZ	Surface Danger Zone
SHPO	State Historic Preservation Officer
SME	Subject Matter Expert
SOP	Standard Operating Procedure
SPCC	Spill Prevention, Control, and Countermeasures
SR	State Route
TC	Training Circular
TMDL	Total Maximum Daily Load
US	United States
USC	United States Code
USACE	US Army Corps of Engineers
USDA	US Department of Agriculture
USEPA	US Environmental Protection Agency
USFWS	US Fish and Wildlife Service
USGS	US Geological Survey
USLE	Universal Soil Loss Equation
VEC	Valued Environmental Component
WMU	Watershed Management Unit
WSRA	Wild and Scenic Rivers Act of 1968

SECTION 1: PURPOSE, NEED, AND SCOPE

1.1 Introduction

This Environmental Assessment (EA) evaluates the proposal of the Department of the Army (DA) to implement the proposed Installation Information Infrastructure Modernization Program (I3MP) at Fort Benning, Georgia. This Proposed Action involves the installation, operation, and maintenance of aboveground towers and underground cables across the Post. This "infrastructure" would allow the various training facilities, support facilities, and personnel at Fort Benning to communicate with one another more effectively. In addition, the infrastructure would allow transmission of voice and electronic (i.e., computer) data around the Installation without delay. This would improve training and other operations, notably in concert with the establishment of the Maneuver Center of Excellence (MCOE) and the increase in training on Post, as discussed below.

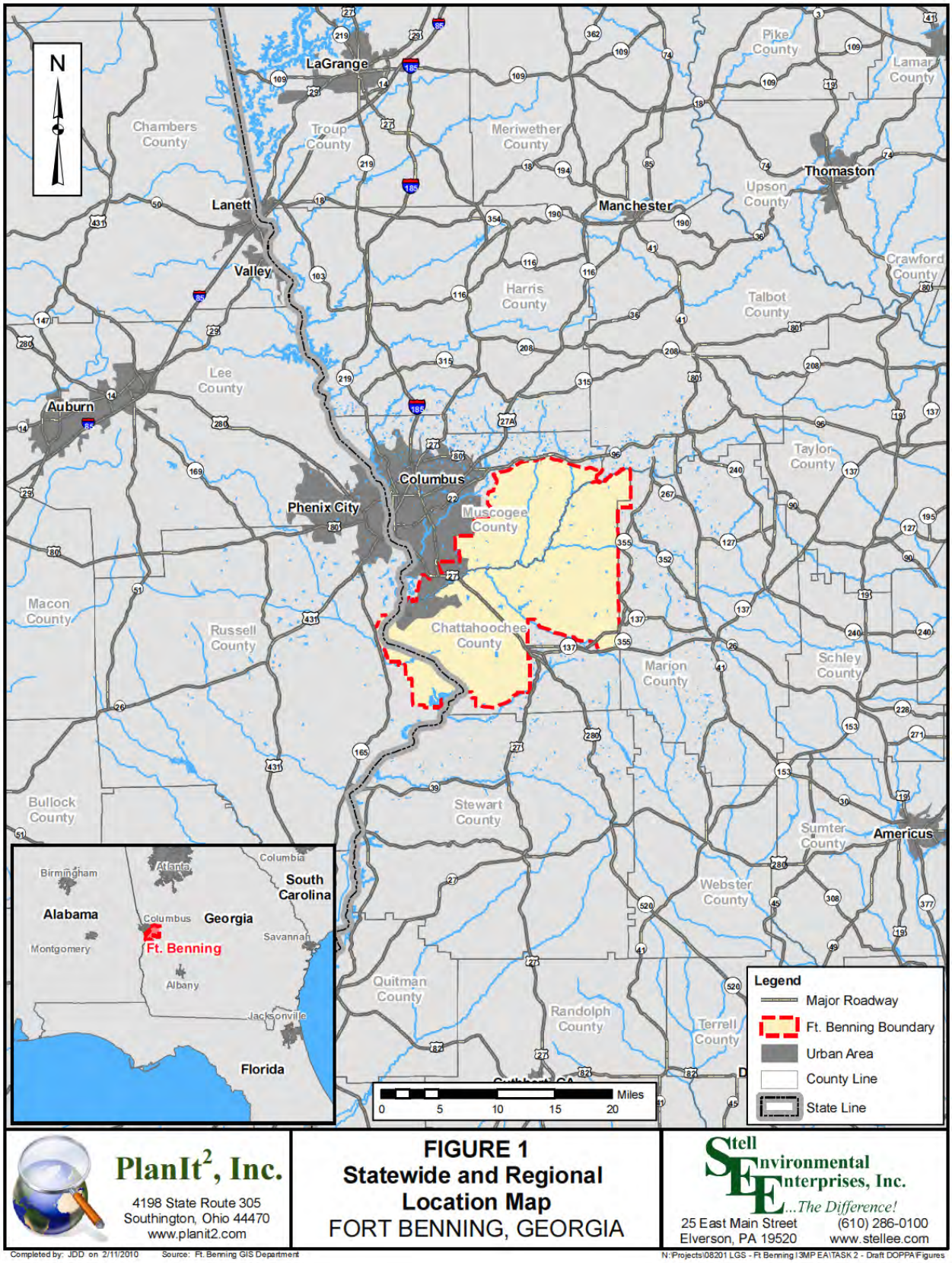
The Proposed Action involves **installation, operation, and maintenance of underground and aboveground communications infrastructure** across Fort Benning.

The Garrison Commander of Fort Benning is the Federal decision-maker concerning this proposal. As required by the National Environmental Policy Act of 1969 (NEPA; 42 US Code [USC] 4321 *et seq*.), the Council on Environmental Quality (CEQ) Regulations Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] Part 1500-1508), and the Army NEPA Regulation (*Environmental Analysis of Army Actions*, Final Rule; 32 CFR Part 651, 29 March 2002), the potential environmental, cultural, and socioeconomic effects of this Federal Proposed Action are analyzed in this EA.

These regulations collectively establish a process by which Fort Benning considers the potential environmental impacts of its proposed actions and invites the involvement of interested members of the public prior to deciding on a final course of action. As such, this EA will facilitate the decision-making process regarding the Proposed Action and its considered alternatives. This EA will also provide the basis for determining if a Finding of No Significant Impact (FNSI) is appropriate, or if an Environmental Impact Statement (EIS) is required in accordance with the above regulations.

Fort Benning consists of approximately 182,000 acres of federally owned land south and east of Columbus, Georgia, and south of Phenix City, Alabama; the Chattahoochee River traverses the southwest portion of the Installation (**Figure 1**). There are four cantonment areas on Fort Benning: Main Post, Kelley Hill, Sand Hill, and Harmony Church. Within these cantonment areas, Fort Benning has its own offices, schools, shopping malls, medical facilities, housing, and churches. Fort Benning also has multiple training areas outside of the cantonment areas, including facilities and ranges located in the southern, eastern, and northern portions of the Installation.

Currently, Fort Benning is gaining units, including the Armor School from Fort Knox, under the 2005 Base Realignment and Closure (BRAC). This includes both an increase in population and facilities within the existing Fort Benning boundaries, as well as associated effects in the surrounding area. This increase in personnel and facilities is due to multiple, Army-required initiatives including, but not limited to, BRAC 2005, Army Modular Force (i.e., Transformation), Grow the Army, and the associated MCOE.


N
LaGrange
Pike County
Lamar County
Chambers County
Troup County
Meriwether County
Thomaston
Upson County
Lanett
Manchester
Valley
Crawford County
Harris County
Talbot County
Lee County
Auburn
Taylor County
Columbus
Phenix City
Muscogee County
Macon County
Russell County
Chattahoochee County
Marion County
Schley County
Bullock County
Stewart County
Sumter County
Americus
Webster County
Quitman County
Randolph County
Terrell County
Legend
Major Roadway
Ft. Benning Boundary
Urban Area
County Line
State Line
Miles
0 5 10 15 20
Birmingham
Atlanta
Columbia
South Carolina
Alabama
Columbus
Georgia
Savannah
Montgomery
Ft. Benning
Albany
Jacksonville
Florida
PlanIt², Inc.
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Southington, Ohio 44470
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FIGURE 1
Statewide and Regional Location Map
FORT BENNING, GEORGIA
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25 East Main Street
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www.stellee.com
Completed by: JDD on 2/11/2010
Source: Ft. Benning GIS Department
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The Army has shared its associated proposed increased training plans and facility development plans and alternatives at Fort Benning with the public, and has assessed the environmental effects of these proposals within two primary NEPA documents, resulting in the following decisions:

1. Final EIS and Record of Decision (ROD) for the BRAC 2005 and Transformation Actions at Fort Benning, Georgia (October 2007).

2. Final EIS and ROD for the MCOE at Fort Benning, Georgia (June 2009).

Overall, the largest influx of personnel is led by the 2005 BRAC Commission decisions to relocate the Armor Center and School from Fort Knox, Kentucky, to Fort Benning. This consolidates the Armor and Infantry Centers and Schools at Fort Benning and creates the MCOE for ground forces training. The BRAC realignments are increasing the Post population by more than 16,500 persons within the next few years. This brings the total population of Soldiers, students, trainees, family members, and civilian employees at Fort Benning to more than 50,000; the other initiatives noted above are likely to increase that number.

As analyzed in the two EISs, multiple training and support projects are now being constructed at Fort Benning. These projects are being implemented in accordance with the RODs listed above, as well as in accordance with Fort Benning's internal environmental review process. The Fort Benning environmental review process ensures that each action is implemented in accordance with approved NEPA documentation, and that appropriate Environmental Protection Measures are in place.

For the purposes of this EA, the BRAC/Transformation and MCOE projects are presumed to be complete. In association with these projects, various segments and portions of communications infrastructure have been installed. However, these segments have not been holistically connected into a comprehensive "circuit" or network. Please refer to **Figure 2** for a depiction of existing, relevant communications infrastructure on Fort Benning. Please refer to **Figure 3** for a depiction of currently "designed" project areas. These "designed" project areas identify areas for new BRAC/Transformation and MCOE actions that have been analyzed under the NEPA and designed; approval by pertinent regulatory agencies, such as the US Fish and Wildlife Service (USFWS) will be secured by Fort Benning prior to construction. While not all of these areas have been used for construction yet or "approved" by the regulatory agencies, these depict the maximum areas that have effectively been "approved" for disturbance through prior NEPA processes. Please refer to **Section 3.3.1** for more information.

1.2 Purpose and Need

The general purpose of the Proposed Action is to provide for required, effective, and capable communications across Fort Benning, linking training and support facilities, including all four cantonment areas. This communications connectivity would allow Fort Benning to operate more efficiently, more safely, and more securely than under current conditions.

The **purpose** of the Proposed Action is to provide complete communications connectivity across Fort Benning, via underground and aboveground infrastructure, for existing and new training and support facilities.

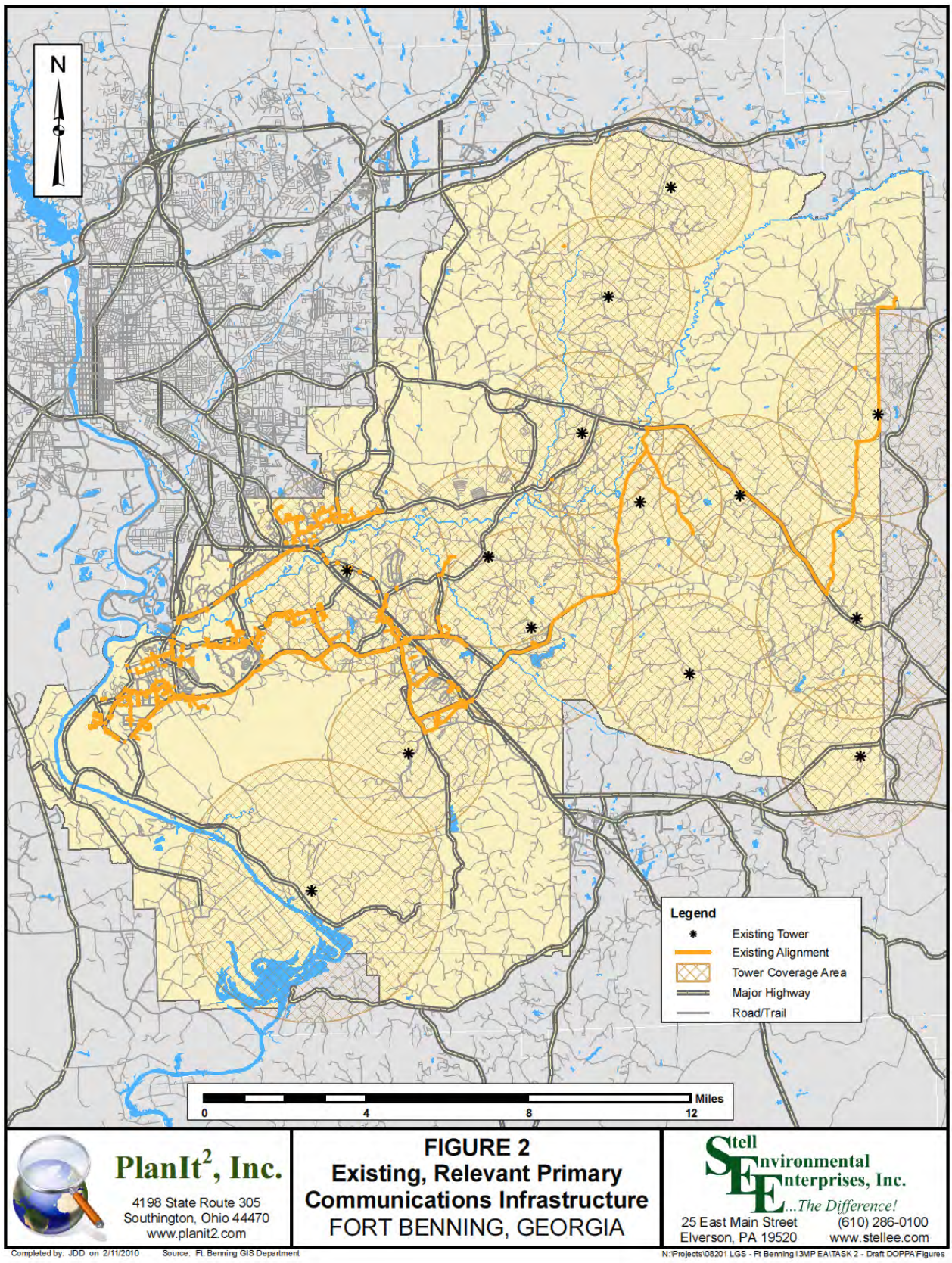
N
Legend
Existing Tower
Existing Alignment
Tower Coverage Area
Major Highway
Road/Trail
Miles
0
4
8
12
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FIGURE 2
Existing, Relevant Primary Communications Infrastructure
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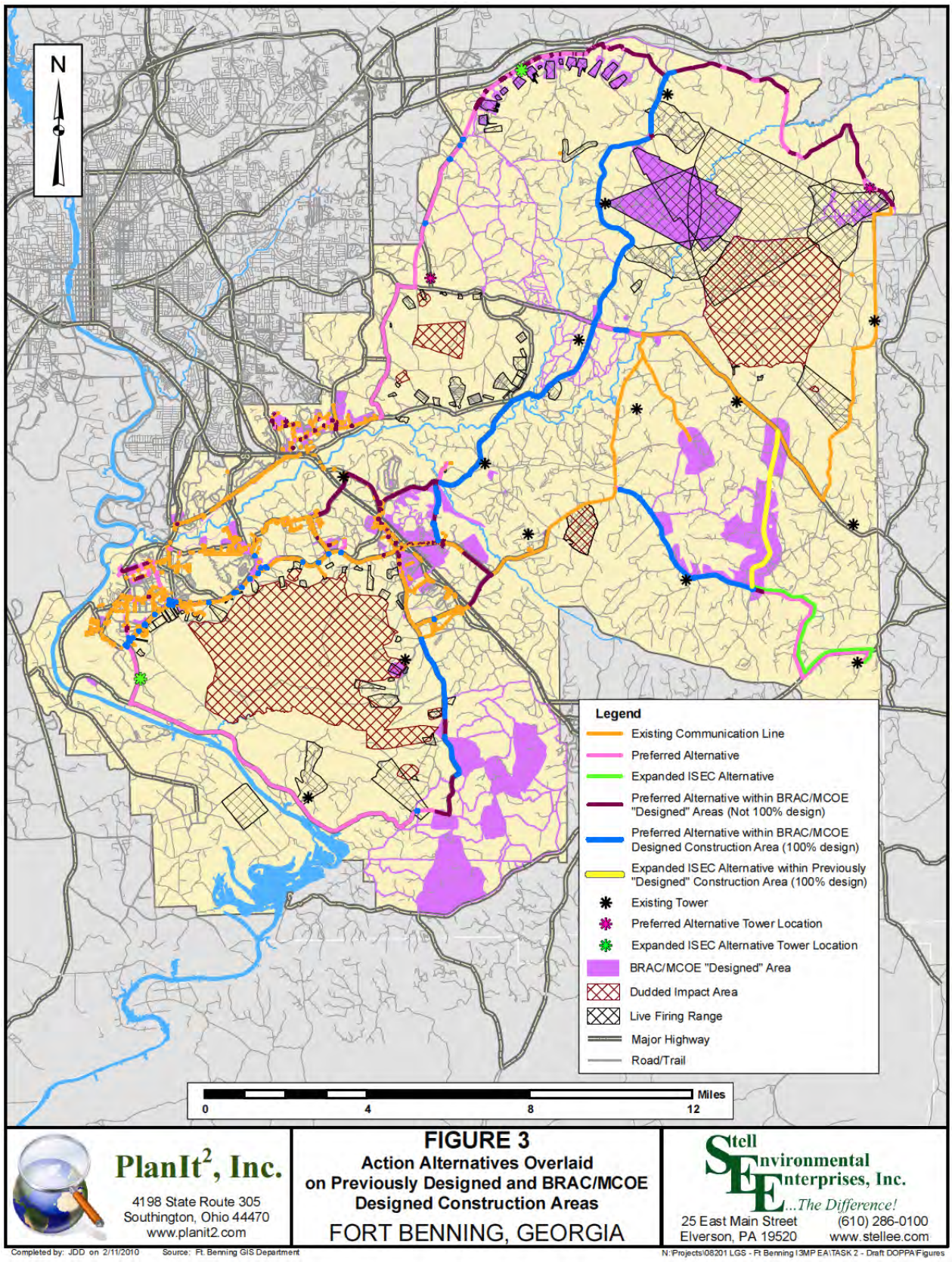
N
Legend
Existing Communication Line
Preferred Alternative
Expanded ISEC Alternative
Preferred Alternative within BRAC/MCOE "Designed" Areas (Not 100% design)
Preferred Alternative within BRAC/MCOE Designed Construction Area (100% design)
Expanded ISEC Alternative within Previously "Designed" Construction Area (100% design)
Existing Tower
Preferred Alternative Tower Location
Expanded ISEC Alternative Tower Location
BRAC/MCOE "Designed" Area
Dudded Impact Area
Live Firing Range
Major Highway
Road/Trail
Miles
0
4
8
12
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Southington, Ohio 44470
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FIGURE 3
Action Alternatives Overlaid on Previously Designed and BRAC/MCOE Designed Construction Areas
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The specific purpose of the Proposed Action is two-fold:

1. **Aboveground Communications Towers:** Additional towers would provide additional coverage within the Fort Benning data network system, specifically improving two-way radio communication and other wireless communication. These radios are used by Army units, police, fire protection, forestry, and environmental staff as they train and perform work at Fort Benning. Currently, Fort Benning has a network of dedicated communications towers, but these towers do not provide complete coverage of Fort Benning (see **Figure 2**).

2. **Belowground I3MP Communication Line:** The purpose of the belowground fiber optic and copper communications line is to provide "dual redundancy" and communications connectivity across the entire Installation. Dual redundancy means that each end point has at least two connections to other points in the system, in case one connection is disrupted. Connectivity means that all portions of the Installation, including pertinent new (e.g., BRAC and MCOE projects) and existing facilities, are connected via appropriate communications infrastructure, including telephone and data. This includes upgrading existing infrastructure to required capacities and installing new infrastructure where none presently exists. The purpose of the I3MP communication line is to provide this connectivity, linking to the existing infrastructure and facilities (see **Figure 2**).

The Proposed Action is needed to allow new and existing training and support facilities to operate at their full capability, in a coordinated and controlled fashion.

The Proposed Action is **needed** to improve operations, security, and safety on Fort Benning and to allow existing and new facilities to function in an efficient and coordinated way.

Under current conditions, a lack of adequate communications tower coverage results in areas of the Post where the two-way radios do not function and where there is no wireless data network presence. This presents a safety issue for those staff who rely on the communications towers to coordinate their activities. In these areas, personal cellular phones are used to maintain communication. Use of personal cellular phones does not provide for effective, reliable communication that meets the requirements on the Installation. This results in an unorganized, uncontrolled, and unreliable communications system that compromises personnel safety and the Installation mission.

Also under current conditions, several of the existing and new facilities would not be upgraded to include a dedicated, sufficiently sized, and capable voice and data communications system. While these facilities would continue to be able to function, their function and ability to work in a coordinated, controlled, integrated, and effective manner would be compromised. Some buildings, while able to be occupied, would not be able to meet their mission requirements as designed. For example, training simulator facilities may not function properly using the existing Information Technology (IT) infrastructure. Training and support functions would continue to rely on cellular phones and two-way radios to communicate, similar to that described above. As noted above, this results in a deficient operating condition.

In addition, under these conditions, training activities at Fort Benning cannot be readily connected to training at other installations, and to other forces (e.g., US Air Force, US Navy, US Marine Corps) within the US or abroad. This further limits the value, "jointness," realism, and effectiveness of training, compromising the training mission.

1.3 Scope of the Environmental Assessment

This EA analyzes the potential environmental impacts of the proposed implementation of the I3MP at Fort Benning, Georgia, providing necessary input into the Federal decision-making process.

This EA has been developed in accordance with the NEPA and the CEQ's and Army's NEPA implementing regulations. This EA evaluates the potential direct, indirect, and cumulative environmental, cultural, and socioeconomic effects of three alternatives to the proposed I3MP at Fort Benning, Georgia:

- **Modified ISEC Layout Alternative (Preferred Alternative):** Implement the proposed I3MP generally as designed by the US Army Information Systems Engineering Command (ISEC). This alternative includes modifications to ISEC's original design to avoid impacts to existing sensitive environmental resources and range operations at Fort Benning. This alternative includes approximately 76.8 miles of underground cable and two 100-foot, self-supporting communications towers. This alternative is described in **Section 3.3.1** and shown on **Figure 4**.

- **Expanded ISEC Layout Alternative:** Implement the proposed I3MP generally as designed by ISEC (and as modified under the Preferred Alternative), but including additional communications towers and underground infrastructure to provide increased system operability at Fort Benning. This alternative includes an *additional* approximately 9.9 miles of underground cable (as compared to the Preferred Alternative) and a total of four 100-foot, self-supporting communications towers. This alternative is described in **Section 3.3.2** and shown on **Figure 5**.

- **No Action Alternative:** Continue with operations as currently conducted and "approved" and do not implement the I3MP. This would include continuing to rely on deficient communications methods across Fort Benning, and operating facilities at below design capacities. This alternative is described in **Section 3.3.3** and shown on **Figure 2**.

This EA considers the potential impacts of the No Action Alternative, as required by the CEQ and Army NEPA Regulations, to provide a benchmark for comparison of the potential effects of the action alternatives.

A detailed description of the Proposed Action is provided in **Section 2.0**. Descriptions of the alternatives carried forward for further analysis, as well as alternatives eliminated from detailed study, are provided in **Section 3.0**.

Resource categories analyzed in this EA include: land use; air quality; noise; geology and topography; soils; ground and surface water resources, including wetlands; biological resources, including vegetation, wildlife, wildlife habitat, plant communities, and protected species; cultural resources; socioeconomic environment and human health and safety, including children's health and safety risks; environmental justice; infrastructure; transportation; and Hazardous and Toxic Materials and Wastes (HTMW). This EA also considers the cumulative effects of other past, present, and reasonably foreseeable actions within the region influenced by the alternatives. Any additional requirements stemming from other Federal actions in this region will undergo separate NEPA analysis and evaluation.

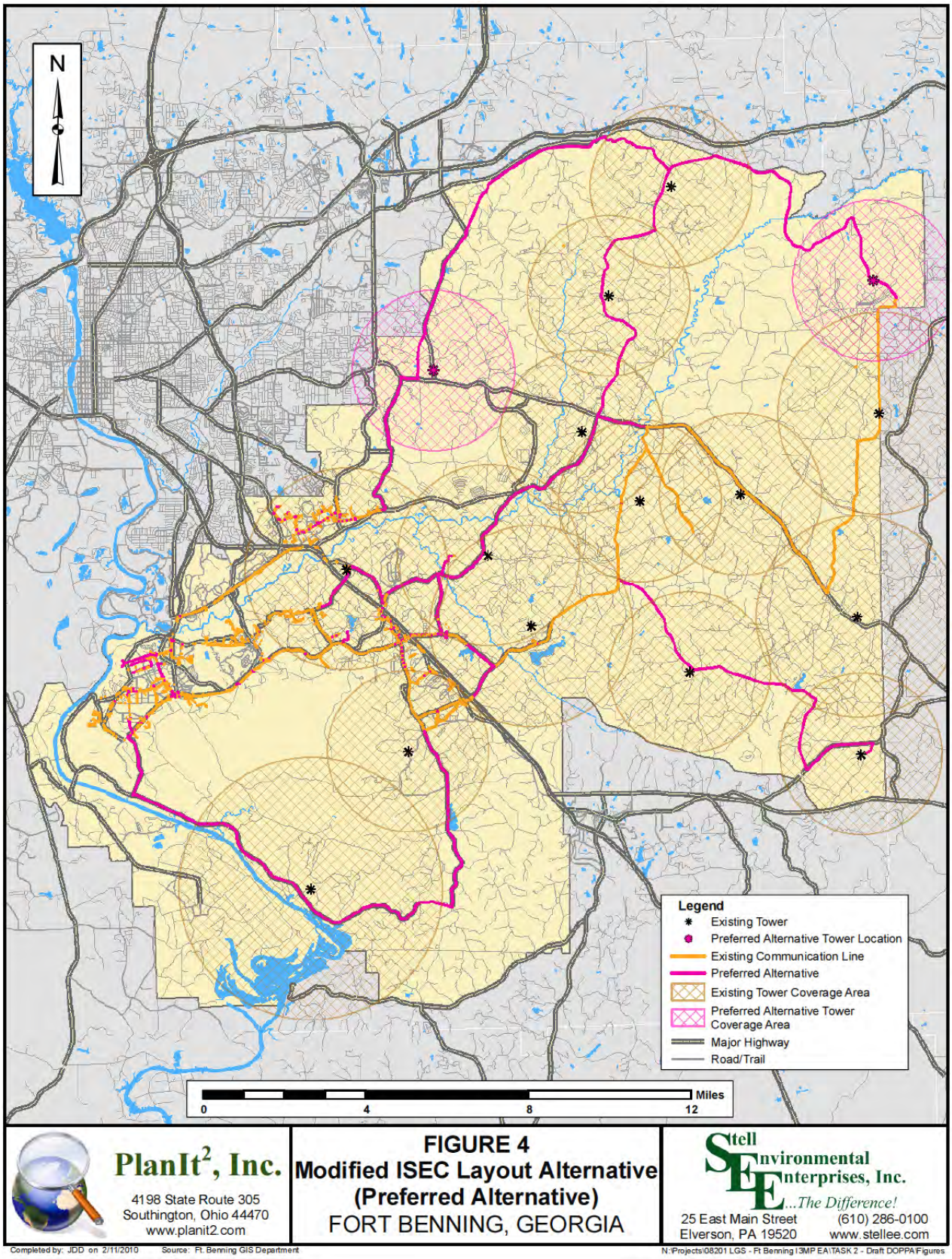
N
Legend
Existing Tower
Preferred Alternative Tower Location
Existing Communication Line
Preferred Alternative
Existing Tower Coverage Area
Preferred Alternative Tower Coverage Area
Major Highway
Road/Trail
Miles
0
4
8
12
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FIGURE 4
Modified ISEC Layout Alternative
(Preferred Alternative)
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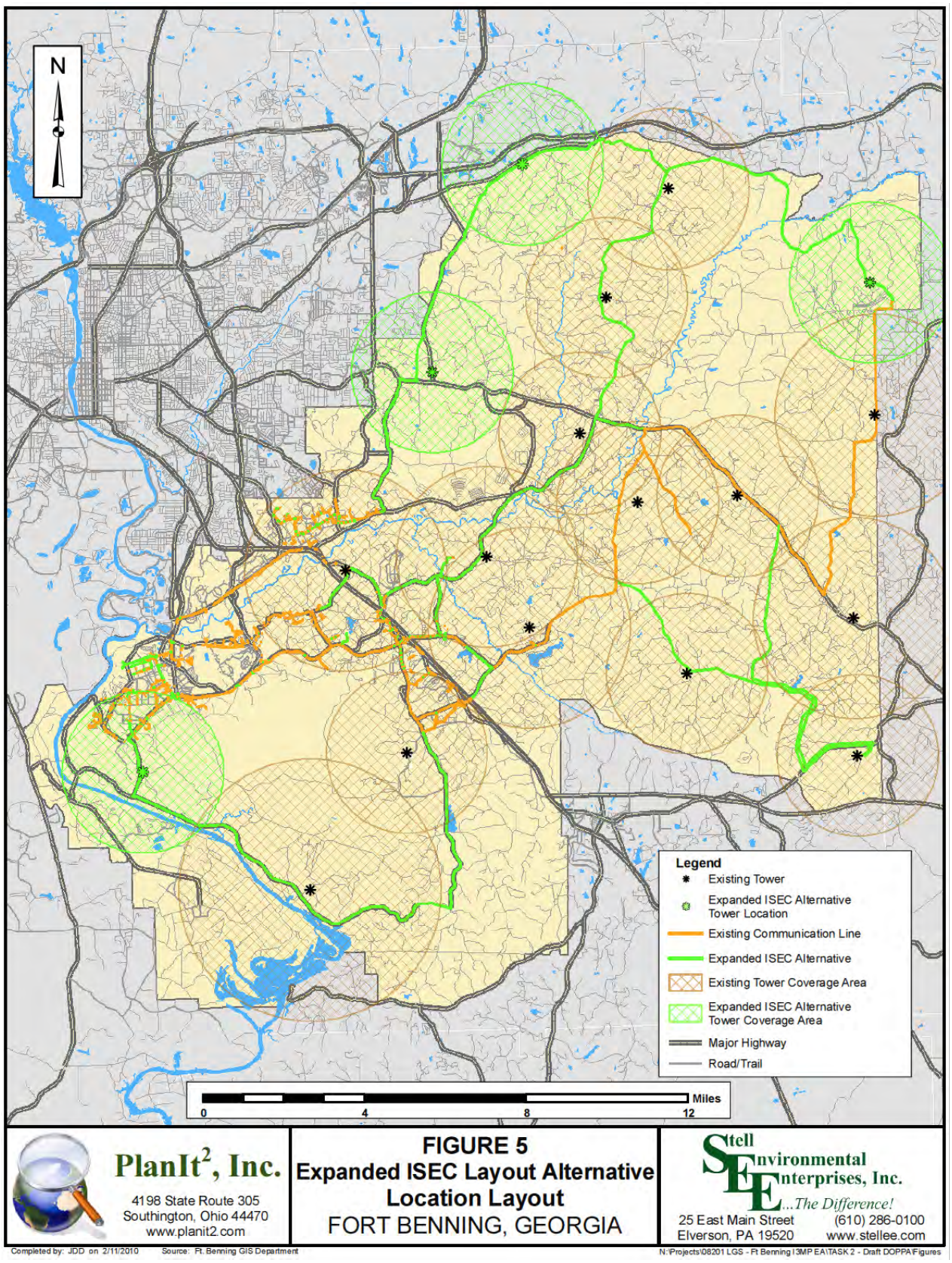
N
Legend
Existing Tower
Expanded ISEC Alternative Tower Location
Existing Communication Line
Expanded ISEC Alternative
Existing Tower Coverage Area
Expanded ISEC Alternative Tower Coverage Area
Major Highway
Road/Trail
Miles
0
4
8
12
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Southington, Ohio 44470
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FIGURE 5
Expanded ISEC Layout Alternative Location Layout
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As specified under the NEPA and CEQ Regulations, a monetary cost-benefit analysis is not required as part of the EA. The Proposed Action and its alternatives have been developed based on Installation and military mission requirements. As such, no quantitative financial assessment has been performed as part of this EA. However, economic factors that result in socioeconomic impacts to the alternatives' region of influence are addressed in this document, as required under the NEPA. Economic factors (i.e., fiscal feasibility) were also applied in screening initial alternatives.

1.4 Decision-making

This EA promotes **public involvement and informed decision-making** on the part of Fort Benning's Garrison Commander.

The Garrison Commander of Fort Benning is the Federal decision-maker concerning this proposal. The purpose of this EA is to inform the Federal decision-maker and the public of the potential environmental consequences of the Proposed Action and its considered alternatives, prior to making a decision to move forward with the Proposed Action. In this manner, the Federal decision-maker can render a fully informed decision, cognizant of the potential environmental impacts of the Proposed Action. Overall, this EA's purpose is to:

- Document the NEPA process;
- Inform the decision-maker and the public of the possible environmental consequences of the Proposed Action and its considered alternatives, as well as methods to reduce these impacts;
- Allow for public (and other agency) input into the decision-making process; and
- Allow for informed decision-making by the Federal government.

This Federal decision-making includes identifying the actions that the government will commit to undertake to minimize environmental effects, as required under the NEPA.

The decision to be made is whether, having taken potential environmental, cultural, and socioeconomic effects into account, Fort Benning should implement the I3MP, under what alternative, and what mitigation measures will be implemented to reduce effects on resources. The Garrison Commander of Fort Benning will ultimately decide if the action is funded and constructed.

1.5 Public and Agency Involvement

Public participation is a critical component of the NEPA process. Fort Benning has made this EA available to the public for review and comment over a 30-day period, prior to making any decision on the Proposed Action.

Fort Benning invites public participation in their Federal decision-making through the NEPA process. Consideration of the views and information of all interested persons promotes open communication and enables better decision-making. Agencies, federally recognized Native American Tribes, organizations, and members of the public having a potential interest in the Proposed Action are urged to participate in the Federal decision-making process. This request for participation notably includes minority, low-income, and disadvantaged persons.

1.5.1 Public Review of the Final EA and Draft FNSI

Public participation opportunities, with respect to the Proposed Action that is the subject of this EA, are guided by the Army NEPA Regulation. This EA and a draft Finding of No Significant Impact (FNSI) are available to the public for a 30-day public comment period.

An announcement that the Final EA and draft FNSI are available was published via a Notice of Availability (NOA) in *The Columbus Ledger-Enquirer* and Fort Benning's *The Bayonet* in accordance with the Army NEPA Regulation (32 CFR Part 651.36). These documents are also available at the following local libraries (see **Section 7**):

1. Columbus Public Library
2. Chattahoochee Valley Regional Library
3. South Columbus Branch Library
4. Fort Benning Main Post Library
5. Phenix City-Russell County Public Library
6. Donovan Research Library
7. North Columbus Branch Library

In addition, the documents are posted on the Fort Benning website at https://www.benning.army.mil/EMD/program/legal/index.htm. The NOA of the Final EA and draft FNSI have been mailed to all agencies/individuals/organizations on the Fort Benning NEPA distribution (mailing) list for the Proposed Action (see **Section 7**).

At the end of this 30-day public comment period, any substantive comments submitted by agencies, organizations, or members of the public on the Proposed Action and its alternatives will be considered in the Garrison Commander's decision making. As appropriate, the Garrison Commander may then execute the FNSI and proceed with implementation of the selected alternative. If it is determined that implementation of the selected alternative would result in significant impacts that cannot be mitigated to less-than-significant levels, a Notice of Intent (NOI) to prepare an EIS will be published in the *Federal Register*, or the Proposed Action will not be implemented.

1.5.2 Native American Consultation/Coordination

For proposed Army actions, consultation with federally recognized Native American Tribes is required under Department of Defense Instruction (DoDI) 4710.02 (*Interactions with Federally Recognized Tribes*), which implements the Annotated DoD American Indian and Alaska Native Policy (dated 27 October 1999); Army Regulation (AR) 200-1; the NEPA; the National Historic Preservation Act (NHPA); and the Native American Graves and Protection and Repatriation Act (NAGPRA).

Fort Benning consults with federally recognized Native American Tribes affiliated with the Fort Benning area by following the Army Alternate Procedures (AAP) for compliance with Section 106 of the NHPA, and the consultation procedures prescribed within the Historic Properties Component (HPC) of the Integrated Cultural Resources Management Plan (ICRMP) for Fort Benning (DA 2006; ICRMP 2008). Under these procedures, Fort Benning holds consultation meetings with 11 federally recognized Tribes on a biannual, face-to-face basis; provides Tribes with copies of relevant documentation concerning existing and proposed actions (e.g., this EA); and solicits Tribal input into the Garrison Commander of Fort Benning's decision making.

As part of this on-going process and dialogue, Fort Benning will consult with these Tribes as Sovereign Nations per Executive Order (EO) 13175, *Consultation and Coordination with Indian Tribal Governments*, 6 November 2000, concerning this Proposed Action. Any concerns expressed by the Tribes will be incorporated into the Federal decision-making process.

1.6 Regulatory Framework

This EA has been developed in accordance with the NEPA, CEQ's NEPA implementing regulations, and the Army's NEPA Regulation (see **Sections 1.1 and 1.3**). Federal, State, and local laws and regulations specifically applicable to this Proposed Action are identified, where appropriate, within this EA, and include, but are not limited to:

- Federal Endangered Species Act (ESA) of 1973, as amended (Public Law 93-205, 87 Stat. 884, 16 USC 1531 - 1534).
- Federal Water Pollution Control Act, or Federal Clean Water Act (CWA), of 1972, as amended; Sections 401 and 404.
- Migratory Bird Treaty Act (MBTA; 16 USC 703-712, 3 July 1918; as amended 1936, 1960, 1968, 1969, 1974, 1978, 1986, and 1989).
- Federal Clean Air Act of 1990 (42 USC 7401 *et seq*., as amended).
- Georgia Department of Natural Resources - Environmental Protection Division (GaDNR-EPD) National Pollutant Discharge Elimination System (NPDES) general permit, including an Erosion, Sedimentation, and Pollution Control Plan (ESPCP), for such construction projects that disturb one acre or more of the ground surface.
- The Georgia Erosion and Sedimentation Control Act of 1975 (as amended; GESA).

SECTION 2: DESCRIPTION OF THE PROPOSED ACTION

2.1 Introduction

This section describes the Proposed Action to implement the I3MP at Fort Benning. As described in **Section 1**, the Proposed Action involves installing aboveground and belowground infrastructure across the entire Post to improve both the aboveground, tower-based (i.e., two-way radio and wireless data network) and belowground voice and information (i.e., telephone and computer data) communications systems. The entire project would require up to 36 months (i.e., 3 years) to install, and would be implemented in segments, as appropriate.

2.2 Proposed Action

2.2.1 Proposed Communications Towers

In order to provide necessary coverage of Fort Benning for the wireless data and two-way radio communication network, while supplementing the existing system (see **Figure 2**), Fort Benning proposes to install additional communications towers. These towers would support a Point-to-Multipoint wireless network, as well as increase the current Land Mobile Radio (LMR; i.e., two-way radio) coverage.

Each tower would measure approximately 100 feet in height, and include up to an approximately 0.5-acre construction footprint. The actual footprint would depend on whether the tower is guy-wire supported (i.e., requiring an approximately 80-foot radius, or 0.50-acre footprint) or is self-supporting (i.e., without supporting guy wires on a sturdy platform, encompassing an approximately 0.1-acre footprint). A typical guy-wire supported tower is made of galvanized steel and high-strength tubular legs, joined together by ~~"~~zig-zag" cross members. A typical self-supporting, or monopole, type tower is made of galvanized, high-strength tubular steel sections joined together to form a single pole-shaped structure (please see **Insets 1 through 4**).

Each tower would require minimal associated infrastructure at its base, including electrical power and a fiber optic cable interconnection to the new Post-wide data network. No outdoor shelter or hut would be required at the base of the tower; electric and fiber optic cable would be terminated in small, all-weather enclosures. These enclosures would be located at the base of each tower to minimize the required total footprint. No back-up generators are proposed.

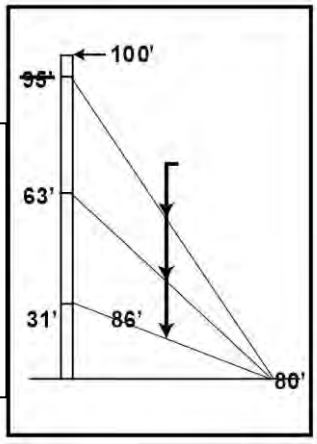
Each tower would be connected to the existing electrical and fiber optic system at the nearest location of connectivity via boring or trenching. Each tower would include an approximately 12-foot wide service access road for installation and maintenance. Each tower would be constructed and operated in conformance with Federal and Fort Benning regulations.

Per Fort Benning's requirements, each tower needs to be located: 1) on an area of localized high-ground to maximize area of coverage; 2) in an area strategically located to provide additional coverage where coverage is needed but not currently available (see **Figure 2**); 3) in an area that is not constrained by significant environmental resources, such as protected species habitat, wetlands or surface waters, or important cultural resources sites; and 4) in an area that does not conflict with training/range operations or other land use. The goal of the

proposed towers is to maximize coverage of the existing and new range areas, and to minimize environmental and operational impact during construction, operation, and maintenance.

Inset 1 - Typical 100' *Guy-wire Supported* Tower

Inset 2 - Typical 100' *Guy-wire Supported* Tower Footprint
Please note that the exact guy-wire attachment on the tower and the location of the guy anchors are dependent upon the climate of the area and the wind-speed rating of the tower.



Inset 3 - Typical 100' *Self-Supported* Tower

Inset 4 - Typical 100' *Self-Supported, Monopole* Tower

2.2.2 Proposed Underground Infrastructure

In order to provide the necessary communications connectivity within and around the Installation, Fort Benning proposes to install underground fiber optic and copper communications infrastructure that connects existing and new training and support facilities along the following Post roads and areas:

- From Sand Hill to the northern training area, north along 2nd Armored Division Road, Wildcat Road, east on Buena Vista Road, north on 10th Armored Division Road, and along the new road providing connectivity to the new Oscar small arms range complex located south of Chattsworth Road.
    - Within these areas, interconnectivity to the following facilities (i.e., identified by name and Fort Benning Project Number) would be accomplished by installing new fiber optic and copper cables via new high-density polyethylene (HDPE) duct, existing duct systems (i.e., where present within cantonment areas), directly burying cable by static plow, and directional boring.

  - Blood Donor Center (#64481)
  - Barracks/Headquarters (#65068, 72322, 72324, 67419, 51256, and 69745)
  - Dining Facilities (#70027, 70026, 65068, 72322, 69147, 69150, and 64462)
  - General Purpose/Storage Facilities (#65068 and 72324)
- Classrooms (#70026, 70027, 65068, and 72324)
- Army Community Service, Reception Station (#64462)
- Laundry/Storage Addition (#67419)
- Medical/Dental Clinics (#62956 and 64368)
- Training Building (#72324)
- Ranges (#65034, 65033, 55110, 65039, 64545, 65047, 65037, 65046, 65048, 65038, 65035, 65043, 65032, 65044, 65036, and 65049)
- Soldier Community Buildings (#67419 and 64462)
- Central Issue Facility (#69745)
- Wireless Tower (#72206)

- From the Hastings Range in the northeastern portion of the Installation, from the intersection of Turrentine Road and Boundary Road, east along Boundary Road, north along Box Springs Road, west along Rinehart Road, to Moore Road.

    - Within these areas, interconnectivity to the following facilities would be accomplished by installing new fiber optic and copper cables via new HDPE duct, directly burying cable by static plow, trenching, and directional boring:

        - Range (#64551)
        - Wireless Tower (#72206)

- From Kelley Hill north along Red Arrow Road, to east and north along 2nd Armored Division Road, to north along Lorraine Road, to Moore Road. This also includes an extension from Lorraine Road to the east along Buena Vista Road to connect to the Digital Multi-Purpose Range Complex (DMPRC).

    - Within these areas, interconnectivity to the following facilities would be accomplished by installing new fiber optic and copper cables via new HDPE duct, directly burying cable by static plow, and directional boring:

        - Range (#64383)

- Within Kelley Hill and Harmony Church along Marne Road, Cusseta Road, First Division Road, and Wood Road. An additional segment along Eighth Division Road and Hourglass Road in this area is also proposed.

    - Within these areas, interconnectivity to the following facilities would be accomplished by installing new fiber optic and copper cables via new HDPE duct, existing duct systems, directly burying cable by static plow, and directional

boring. Within this route section, existing manhole and duct system overbuild would occur, as well as a Jack-and-Bore under a railroad bed:

- Range (#64833)
- Repair Shop (#64460)
- Company Operations/ Headquarters (#63799)
- Shipping and Receiving Building (#65322)
- Storage Facility (#65322)
- Wireless Tower (#72206)
- Troop Store (#71065)
- Training Building (#64491)
- Organizational Maintenance Shop (#64491)
- Equipment Maintenance Facility (#65405)
- Fire Companies (#65439)
- Training Building (#69743)
- Recycling Center (#76080)
- Administrative Facility & Vehicle Holding Area (#65439)
- Access Control Points/Visitor Control Center (#65439)
- Medical/Dental Clinic (#64080)
- Dining Facility (#64370)
- General Instruction Building (#64797)
- Vehicle Maintenance Shop (#65251)
- Support Building (#69668)
- Readiness Facility (#65253)
- Permanent Party Barracks (#64459)
- Wash Facility (#48644)
- Maintenance Instruction Building (#65862)

- Within the Main Post along Marne Road, Ingersoll Street, Upton Avenue, Gillespie Street, Wold Avenue, Vibbert Avenue, and Sightseeing Road. This also includes connecting various existing facilities within the Main Post to the overall network.

    - Within these areas, interconnectivity to the following facilities would be accomplished by installing new fiber optic and copper cables via existing duct systems, directly burying cable by static plow, and directional boring. Within this route section, existing manhole and duct system overbuild would occur, as well new manhole and duct system installation:

- Martin Army Hospital (#65206)
- Bus Barn (#76080)
- Museum Operations (#65061)
- Support Building
- Unaccompanied Officer's Quarters (#65322)
- Administration Building (#65322)
- General Instruction Building (#65322)
- Dining Facility (#65322)
- Headquarters (#65394)
- Maintenance Complex (#65394)
- Medical Clinic (#65081)
- Army Lodging (#65206)
- Range (#58964)
- Lab (#65250)
- New Martin Army (#70235)
- Community Hospital (#70235)
- Barracks (#69999)
- Soldier and Family Assistance Center (#69999)
- Maneuver Center (#65285)

- Within the southern portion of the Installation, from the Main Post south along Sightseeing Road from its intersection with Dixie Road, to east on Sunshine Road, to north on Jamestown Road, and terminating at the intersection of Jamestown Road and Crosbie Road.
    - Within these areas, interconnectivity to the following facilities would be accomplished by installing new fiber optic and copper cables via new HDPE duct, directly burying cable by static plow, trenching, and directional boring. Within this route section, existing manhole and duct system overbuild would occur:
        - Range (#65397)
        - Air Field (#65396)
        - Medical Clinic (#65080)
- Within the southeastern portion of the Installation, extending southeastward from the intersection of Hourglass Road and Red Diamond Road, along Red Diamond Road, along Cyclone Road to Georgia State Route 355/137 and terminating at Camp Darby in the Installation's southeastern corner.
    - Within these areas, interconnectivity to the following facilities would be accomplished by installing new fiber optic and copper cables via new HDPE duct, directly burying cable by static plow, and directional boring:
        - Range (#62207)
        - Wireless Tower (#72206)

Overall, a complete, redundant (i.e., two-way) circuit of underground communications infrastructure that connects facilities in all four Fort Benning cantonment areas to training facilities located in the southern, southeastern, and northern portions of the Installation is proposed. This includes facilities being installed as part of BRAC 2005 and the MCOE. This connectivity would ensure that the three domains of Fort Benning - the constructed (built), virtual (simulations' training facilities), and live (ranges and training) - can effectively communicate via

voice and data exchange. This would facilitate high-quality training and allow Fort Benning to operate at its designed and intended level.

Installation of the underground infrastructure (i.e., cable and HDPE duct), as noted above, would include both "**direct bury**" and "**directional boring**." In most cases, the cable would be placed in a maximum, approximately 4-inch diameter conduit. In the remainder of areas, the cable would be directly buried.

- In **direct bury** areas, a maximum 15-foot wide construction corridor would be required. The corridor would be cleared of obstacles (i.e., small vegetation could remain; all mature pine trees over 10 inches in diameter at breast height (dbh) would be avoided, including their drip lines), appropriate erosion control measures installed, the cable laid, required re-vegetation measures implemented, and the corridor allowed to return to prior conditions. Once installed, the corridor would not require maintenance. To install the cable in direct bury areas, specialized heavy equipment that opens up to a 7-foot deep seam in the earth, installs the cable, and closes the seam like a zipper, typically in a single pass, would be used (see **Insets 5 through 8**). Depending upon soil conditions, such as very hard-packed soil, multiple passes may be required to reach the required depth.

- In areas with existing streams, wetlands, National Register of Historic Places (NRHP)-eligible cultural resources sites, or other environmental resources of concern, the cable would be **directionally bored** under these areas using specialized equipment. Bores would be burrowed perpendicular to the resource to minimize bore length, to the extent possible and as site-specific conditions warrant. This equipment is able to bore to virtually any depth to an approximate maximum length of 2,500 feet (i.e., about 0.5 mile). The depth of the bore would depend upon the resource being avoided; NRHP-eligible cultural resource sites would be bored under at a minimum depth of 10 feet, surface water areas would be bored under at a depth sufficient so as to not affect the resource. The bore itself would be approximately 6 inches in diameter. At each end of the bore location, an approximately 0.1-acre entrance and exit working area would be established to allow the boring equipment to operate, including appropriate erosion control measures (see **Inset 9**). As the bore is completed, the cable would be run through the bore hole. Upon completion of the bore, the area would be restored to pre-project conditions.

- In the cases where the cable would cross a railroad right-of-way (ROW) or a highway ROW, a **Case Bore** or **Jack-and-Bore** may be required; this is where a steel casing (conduit) is placed in the pathway under the railroad bed or road surface (see **Inset 10**). A casing may be made up of one or more sections, but must be continuous. This type of bore requires more room to work, including typically a trench or pit at both ends to keep the case at a shallow angle as it is passed along the bore to the other side.

Inset 5 - *Direct Bury* Cable Plow installing cable and inter-duct in one pass

Inset 6 - *Direct Bury* Cable Plow working by roadway

Inset 7 - *Direct Bury* Plow Run after preliminary soil restoration

Inset 8 - Typical *Direct Bury* Open Trench Line

Inset 9 - Typical *Directional Bore* in operation

Inset 10 - Typical *Case Bore* in operation

Along each cable run, "**maintenance holes**" and "**hand holes**" would be installed on an as-needed basis. These holes provide access to the underground infrastructure for potential future maintenance requirements. Maintenance and hand hole spacing varies widely, with distances between holes ranging from 80 to over 2,300 feet. Maintenance and hand hole locations are determined by their proximity to the areas and buildings requiring connectivity under the I3MP, as well as based on the cable types proposed. *Over the entire Installation, less than 10 maintenance holes and approximately 200 hand holes are proposed.* Each hole would be dug with a standard backhoe, with appropriate erosion control measures in place.

- A typical **maintenance hole** measures approximately 6 feet wide, 12 feet long, and 7 feet high. It is typically made of pre-cast concrete, in two pieces. In some cases, the maintenance hole would be poured in place. Installation would include installing erosion control measures, digging the hole, laying a gravel base, and emplacing the pre-cast pieces or pouring the walls of the maintenance hole. Upon completion, the area would be restored to pre-project conditions, except for a standard access lid or cover.

- A typical **hand hole** measures approximately 3 feet wide, 3 feet long, and 3 feet high. It is typically made of pre-cast concrete, in two pieces. In some cases, the hand hole would be poured in place. Installation would include installing erosion control measures, digging the hole, laying a gravel base, and emplacing the pre-cast pieces or pouring the walls of the hand hole. Upon completion, the area would be restored to pre-project conditions, except for a standard access lid or cover.

2.2.3 Environmental Protection Measures

As part of this Proposed Action, Fort Benning would implement Environmental Protection Measures to ensure that none of the action components would result in significant adverse effects to sensitive environmental resources on the Post. These "mitigation by design" measures would include the following overarching requirements, which are incorporated into the Proposed Action for both proposed aboveground and underground components. These measures include locating the Proposed Action components:

- To the maximum extent possible, within existing, disturbed roadways or utility ROWs. This includes existing roads and tank trails, as well as existing electric, natural gas, and water utility corridors. When located within a utility ROW, Fort Benning would coordinate with the utility owner (i.e., ATMOS gas, Columbus Water Works, or Flint Electric), and would ensure that the infrastructure is installed approximately 10 feet from any electric utility and within an appropriate distance from any other utility, as coordinated with the utility owner. Most utility corridors on Fort Benning are 30 feet in width, providing adequate space for co-location.

- Where the Proposed Action coincides with a "designed" construction area (see **Figure 3**), the Proposed Action would be located within that footprint. In such cases, the project installer proactively would coordinate with the US Army Corps of Engineers (USACE) Savannah District and develop a Memorandum of Understanding (MOU) addressing areas of responsibility within the limits of construction. This process would ensure that the projects are timed and conducted in a manner conducive to one another.

- In a manner that avoids all known, existing, and designated Red-cockaded Woodpecker (RCW, a federally listed endangered species) habitat and all pine trees measuring equal to or greater than 10 inches dbh, including their drip lines. This includes avoiding construction within 200 feet of a designated RCW cluster during the 1 April through 31 July breeding season.

- In a manner that avoids adverse impacts to all known locations of Federal listed species on the Installation, including the RCW and the relict trillium (a plant). In addition, in a manner that avoids impacts to all known locations of the gopher tortoise, a State-listed threatened species.

- In a manner that avoids all known, NRHP-eligible cultural resources sites. This would include boring under such sites by a minimum depth of 10 feet (Hamilton 2010).

- In a manner that avoids all impacts to wetlands, stream buffers, and other regulated surface water features. This would include boring at a sufficient, pre-determined and measured depth beneath the water feature, and excluding any construction equipment or work within the water feature. This would also include observing a minimum 25-foot exclusionary setback, in accordance with State of Georgia stream buffer requirements, from the edge of wrested vegetation to either side of the streams. Such a buffer should be observed to either side of wetlands, as well. Per the GaDNR-EPD's stream buffer requirements and the Georgia Erosion and Sedimentation Control Act (GESA), a 25-foot setback is required on warm water streams. All of Fort Benning's streams are warm water.

- In a manner that complies with the requirements of the NPDES general permit program. The permit process for each project component would include submission of a NOI and required attachments to the GaDNR-EPD, and submission of an appropriate ESPCP.

In addition, to avoid impacts to migratory birds protected under the MBTA and to comply with the USFWS' guidance concerning migratory birds (USFWS, 7 January 2009), the proposed communications towers would be self-supporting, without guy wires; of lattice or monopole design; and less than 200 feet in height. While some migratory bird impacts may still occur, construction of towers that meet the USFWS' guidelines would not produce significant, adverse impacts to migratory bird populations, including Federal and State listed species. In addition, the proposed towers would not be located within or adjacent to wetlands or other sensitive environmental areas.

During proposed construction activities, traffic would be maintained in all locations at current levels through the use of temporary signals, signage, and other routine traffic control measures typical of utility construction. Fort Benning would ensure that project components do not inhibit traffic flow, both during construction and operation of the Proposed Action.

Prior to undertaking each Proposed Action component, Fort Benning would ensure the above measures are included through the Fort Benning environmental review process. At Fort Benning, the proponent provides the NEPA office not only with initial plans for preparation of EISs and EAs (or other appropriate documentation), but also with information at various stages of design. For each new proposed action, the proponent submits a Fort Benning Form 144R (i.e., a request for environmental analysis) to the Environmental Management Division (EMD). All proposed actions are reviewed by the various environmental Program Managers, including in the areas of cultural resources, biological resources (wetlands, protected species, habitat), solid and hazardous waste management, storm water management, environmental compliance, and the like. A subject matter expert (SME) from each environmental technical area ensures the proposed action would not produce significant adverse effects to the resource under their purview. If potential adverse effects are identified, appropriate mitigation measures are developed and implemented in concert with the proposed action to reduce that potential impact to acceptable, less-than-significant levels.

For this Proposed Action, each component and segment of the Proposed Action would be submitted to the EMD using the Fort Benning Form 144R environmental review process at the time it is proposed for implementation. This would include submission of each proposed tower and each segment of cable location, including proposed maintenance holes and hand holes. By adhering to this process, this would ensure that any future changes in the locations of

environmental resources (e.g., such as changes in the locations of the RCW), utilities, or other elements are addressed with the most current information available. This would equally ensure that significant adverse impacts are avoided. Finally, this process would take advantage of the locational flexibility of the Proposed Action. In other words, a segment of cable could be relocated to the other side of the road or to within the road to avoid a resource impact at the time its installation is proposed. Given the nature of the Proposed Action, such flexibility is possible. Given the extent of environmental constraints and the nature of significant environmental resources present at Fort Benning (e.g., the RCW, which moves over time), such flexibility is required.

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SECTION 3: ALTERNATIVES CONSIDERED

3.1 Introduction

The NEPA, CEQ Regulations, and the Army NEPA Regulation require a range of reasonable alternatives to be rigorously explored and objectively evaluated. Alternatives that are eliminated from detailed analysis must be identified along with a brief discussion of the reasons for eliminating them. For purposes of analysis, an alternative was considered ~~r~~easonable" only if it would enable Fort Benning to accomplish the primary mission of providing adequate, on-Post coverage for the aboveground, tower-based communications system and belowground voice and data communications connectivity across the entire Post (see **Section 2**). A reasonable alternative must meet the purpose of and need for the Proposed Action as described in **Section 1.2**. ~~U~~nreasonable" alternatives would not enable Fort Benning to meet the purpose of and need for the Proposed Action.

3.2 Alternatives Development

3.2.1 Screening Criteria

Initially, the US Army ISEC developed a proposed I3MP layout, including towers and cable, for Fort Benning to achieve the purpose of and need for the Proposed Action. ISEC designed this proposed configuration primarily with an eye to achieve the communications requirements on Post. Fort Benning then reviewed this initial configuration and determined that certain components, such as the proposed towers and some sections of the cable alignment (i.e., those that traveled overland and not along existing roads), could impact important environmental resources and training. For example, some components were proposed within range surface danger zones (SDZs[2]), and some were proposed within designated RCW habitat. Fort Benning also identified other potential environmental and operational conflicts with the initial ISEC layout.

Using the initial ISEC design as a basis, Fort Benning identified screening (evaluation) criteria to guide the environmentally and operationally sensitive "re-design" of the Proposed Action. Fort Benning developed these criteria based on the physical, operational, and location requirements of the Proposed Action, as well as extant environmental constraints and operational activities. These criteria were determined to be required site and action attributes in order to achieve the purpose of and need for the Proposed Action, while minimizing the potential for environmental and operational impact. Satisfaction of these criteria would provide a location and infrastructure best suited to meet the purpose of and need for the Proposed Action, while avoiding adverse environmental and operational effects.

Fort Benning developed and applied specific screening criteria to evaluate the proposed tower locations, underground corridors, and construction methods that ISEC initially proposed, and to narrow the list of reasonable alternatives.

[2] An SDZ is the safety buffer used as an exclusion zone when a range is in operation and includes areas where projectiles have at least a 1 in 1 million chance of landing. The SDZ is based on weapons' systems and projectile types and is standardized (per Army standards) for each range and weapon. Construction within an SDZ would compromise worker safety, would limit training during construction and maintenance, and could result in impacts to the infrastructure from weapons' training.

Fort Benning's screening criteria specify that the following must be met for an alternative to be considered reasonable:

Environmental Criteria

Communications Tower Type/Location: The communications towers should be *self-supporting*, rather than be supported with guy wires. These towers would be of lattice or monopole design, and less than 200 feet in height. This would avoid potential impacts to migratory birds, protected under the MBTA. In addition, the towers and associated components (e.g., access roads, construction areas, etc.) should be located in environmentally and operationally non-constrained areas. This includes, but is not limited to, areas located outside of: SDZs and range areas, habitat for Federal- and State-listed species, NRHP-eligible cultural resources sites, wetlands, and stream buffers.

Use of Disturbed Areas: Proposed Action components should be located within existing disturbed or "approved" construction areas (see **Figure 3**). This includes, but is not limited to: utility ROWs, roadways, trails, and areas already approved for construction (see **Section 1.1**). Fort Benning identified that the USACE, Savannah District is improving large sections of on-Post roadways, including Jamestown Road, Lorraine Road, and roads in the northern portion of the Installation. The proposed cable corridor should coincide with these areas already proposed for disturbance, coordinating and synchronizing construction activities closely with the USACE.

RCW (Federal-listed species) Avoidance: Proposed Action components should avoid impacts to the RCW and its habitat, as well as other Federal- and State-listed species. This includes not removing any pine trees equal to or greater than 10" dbh, not constructing within the drip lines of such trees, scheduling construction within 200 feet of an active RCW cavity tree or cluster outside of the 1 April to 31 July breeding season, and avoiding known locations of the relict trillium. In an effort to proactively avoid Federal listing of the State-listed threatened gopher tortoise, known locations of this species should also be avoided.

Underground Cable Environmentally Sensitive Area Avoidance: Proposed Action components should be sited to avoid NRHP-eligible cultural resources sites, wetlands, streams, floodplains, and other identified environmentally sensitive areas on the Installation. In such locations, the cable would be directionally bored at a suitable depth to avoid impacts to the resource. In the vicinity of water features, the Proposed Action should comply with State of Georgia stream setback/buffer requirements; boring locations should not be within 25 feet of the edge of wrested vegetation on streams nor within 25 feet of the edge of a wetland or other surface water resource. In all such environmentally sensitive areas, the proponent would work with the Fort Benning resource SME to ensure impacts are avoided, either through sensitive location and/or timing. This would be accomplished through the Fort Benning environmental review process.

Corridor Length and Width Minimization: The total length and width of the corridor should minimize the extent of disturbance and overall project costs. In addition, all corridors need to be within the Post's boundaries to maintain operational security.

Long-term Maintenance Minimization: The corridor should be located in areas that preclude the need for long-term maintenance or on-going or additional erosion and sedimentation control measures.

Operational Criteria

Training Compatibility: Proposed Action components should be located in areas that do not conflict with or limit training, both during construction and operation. This includes avoiding impacts to training ranges, areas potentially containing unexploded ordinance (also due to worker safety), and SDZs. Overall, on-Post land use conflicts should be avoided.

Traffic Maintenance: Proposed Action components should not inhibit traffic flow, both during construction and operation. Traffic needs to be maintained during all Proposed Action activities.

Communications Towers Coverage Sufficiency: The towers should be located in areas that provide maximum coverage for the tower-based communications system at Fort Benning, to supplement the existing tower network (see **Figure 2**).

Underground Cable Connectivity: The cable corridor should be sufficient to connect all existing and new training facilities in a comprehensive, dual redundancy, and integrated fashion. This includes all four cantonment areas, as well as training areas in the northern, southern, and southeastern portions of the Installation. The cable corridor should connect to the existing cable (see **Figure 2**), and provide connectivity to relevant BRAC and MCOE project sites. Such sites have existing communications cable installed to the nearest primary road as part of that project; the I3MP corridor should connect to these existing points. This connectivity would improve safety, security, and mission capability.

3.2.2 Application of Screening Criteria

Fort Benning then reviewed the ISEC-proposed I3MP layout and made adjustments to meet the above criteria. This included slightly relocating the initially proposed towers, changing the towers from guy-wire supported to self-supported, and realigning sections of the proposed cable corridor to avoid specific issue areas and resources. As an example, along Lorraine Road, the proposed corridor was relocated from an overland section to along the road to avoid impacts to a training range.

In addition to modifying the original ISEC design, Fort Benning considered other possible alternatives to achieve the purpose of and need for the Proposed Action. These included (see **Section 3.4** for more information):

- Original ISEC Design Layout Alternative
- Modified ISEC Design Layout Alternative
- Point-to-Point Optic Communication Network Alternative
- Overhead Transmission Line (as opposed to underground lines) Alternative
- Tower Network (as opposed to underground lines) Alternative
- "Bee Line" Alternative (for underground lines)
- Microwave Alternative (as opposed to underground lines)

- Expanded ISEC Layout Alternative.

Each of these alternatives was compared to the screening/selection criteria. **Table 1** identifies how each of these alternatives meets each of these criteria; the subsequent sections provide additional detail. Through this analysis, only two Alternatives, the *Modified ISEC Layout Alternative* (Preferred Alternative) and an *Expanded ISEC Layout Alternative*, met all of the required screening criteria.

3.3 Evaluated Alternatives

3.3.1 Modified ISEC Layout Alternative (Preferred Alternative)

The Preferred Alternative would implement the I3MP Proposed Action as shown in **Figure 4**. Project components would be specifically sited and installed in accordance with the Environmental Protection Measures (safeguards) described in **Section 2.2.3**. Compliance would be monitored as part of the Fort Benning environmental review process. This Alternative is a modification of the original ISEC Layout Alternative, in that towers and corridors have been relocated to avoid operational conflicts and important environmental resources. The 100-foot communications tower type proposed has also changed from guy-wire supported to self-supported (i.e., monopole or lattice design) to avoid impacts to migratory birds.

Under this Alternative, two self-supporting communications towers would be installed in non-constrained areas: one in the vicinity of the Hastings Range and the other in the vicinity of the North Malone Range Complex. In addition, approximately 76.8 miles of underground conduit would be installed following the corridor depicted in **Figure 4**. Over 50% of the proposed I3MP alignment coincides with "designed" areas (i.e., areas that have been "approved" for construction via the NEPA process), and therefore would be implemented in concert with those ground-disturbing projects (see **Figure 3**).

Figure 3 shows the portions of the Preferred Alternative that fall within previously ~~"a~~approved" construction areas at Fort Benning. These ~~"a~~approved" construction areas include project areas previously assessed as part of the BRAC and MCOE EISs. Two distinct types of ~~"a~~approved" construction areas exist: (1) 100% Design Complete and (2) 100% Design Not Complete:

- Projects within the "100% Design Complete" group have been fully designed, and appropriate environmental consultation and coordination have been completed, including consultation with the USFWS. These include Fort Benning Project Numbers: 65554a, 69743, 69741, 69358, 69668, 72017, 69742, 65557, 76080/67457 and Communication Ducts 5, 6, 7, and 8 of Project Number 65439.

- The "100% Design Not Complete" areas include all remaining project areas evaluated and approved during the BRAC and MCOE EISs. These projects, although originally evaluated, are currently only at the preliminary design stage; regulatory agency consultation has not yet been completed.

Within **Figure 3,** the orange line represents the existing communication cable alignment, the pink line represents the proposed Modified ISEC Layout cable alignment, and the green line represents the proposed Expanded ISEC Layout cable alignment. The blue line (Modified Alternative) and yellow line (Expanded Alternative) illustrate the portions of the proposed cable alignment that are contained within 100% Design Complete areas. The maroon line shows those sections of the proposed Modified Alternative cable alignment that lie within the 100% Design Not Complete areas. Please compare **Figure 3** with **Figure 4** (Modified ISEC Layout Alternative) and **Figure 5** (Expanded ISEC Layout Alternative) for additional information.

The proponent is in the process of preparing a detailed engineering design of this Alternative that will clearly show the specific proposed locations of cable direct bury, cable directional bores, and the communications towers. This design, prepared at a sub-meter level of accuracy (i.e., within 3 feet) will incorporate Fort Benning's current and extensive Geographic Information System (GIS)-based data identifying the locations of environmental resources and training operations (see **Section 4**). The final, GIS-based design, as reviewed and approved by the EMD via the Fort Benning environmental review process, would ensure that the Environmental Protection Measures are fully implemented.

3.3.2 Expanded ISEC Layout Alternative

This Alternative is identical to the Preferred Alternative, but would include up to two (2) additional, self-supporting communications towers and one additional segment of underground cable conduit. This proposed additional cable segment is located along Box Springs Road, between Red Diamond Road and the existing conduit located along Buena Vista Road. The additional cable would then parallel the Preferred Alternative cable to Camp Darby, on the opposite side of the road to avoid construction conflicts (see **Figure 5**). This additional proposed cable segment is located within a 100% Design Complete area (i.e., Project Number 69743) and along Red Diamond Road as shown in **Figures 3** and **5**.

During the development of this Alternative, Fort Benning initially considered a proposed tower near the Main Post cantonment area. This tower, although providing expanded coverage, had the potential to produce adverse effects to the viewshed of the Main Post historic district. As such, this tower was eliminated from the Expanded ISEC Layout Alternative. In addition, the initial proposed location of the Sightseeing Road tower under this Alternative was located within a wetland. This proposed tower was relocated approximately 126 feet to the southwest of the edge of this wetland area, approximately 175 feet east of Sightseeing Road. The relocated Sightseeing Road tower is considered in this EA as part of the Expanded ISEC Layout Alternative.

While this Alternative would affect a slightly larger area than the Preferred Alternative, it would provide additional, tower-based communications coverage within Fort Benning and would provide improved I3MP fiber optic and copper cable redundancy to Camp Darby, located in the southeastern portion of the Post. Like the Preferred Alternative, the Expanded ISEC Layout Alternative would incorporate the Environmental Protection Measures (or safeguards) described in **Section 2.2.3**. In addition, this Alternative also would include the engineering design (and design review and approval) as described for the Preferred Alternative. As such, while a larger area would be affected, additional connectivity would be achieved.

Table 1: Evaluation of Initial Alternatives against Established Screening Criteria

	Original ISEC Layout Alternative	Modified ISEC Layout Alternative	Point-to-Point Optic Communi-cation Network Alternative	Overhead Trans-mission Line Alternative	Tower Network Alternative	"Bee Line" Alternative	Microwave Alternative	Expanded ISEC Layout Alternative	No Action Alternative
Communications Tower Type/Location	N	Y	Y	Y	Y	Y	Y	Y+	Y
Disturbed Areas	N	Y	UNL	UNL	UNL	N	UNL	Y	Y
RCW Avoidance	N	Y	UNL	UNL	UNL	N	UNL	Y	Y
Other Environmentally Sensitive Area Avoidance	N	Y	UNL	UNL	UNL	N	UNL	Y	Y
Corridor Length/Width Minimization	Y	Y	Y	UNL	Y	Y	Y	Y-	Y
Long-term Maintenance Minimization	Y	Y	N	N	N	Y	N	Y	Y
Training Compatibility	N	Y	UNL	N	N	N	UNL	Y	Y
Traffic Maintenance	Y	Y	Y	Y	Y	Y	Y	Y	Y
Communications Tower Coverage Sufficiency	Y	Y	Y	Y	Y	Y	Y	Y+	N
Underground Cable Connectivity	Y-	Y	N	N	N	Y	N	Y+	N
Reasonable?	**N**	**Y**	**N**	**N**	**N**	**N**	**N**	**Y**	**N**

Key:

Y = Alternative meets criterion (or is reasonable)
N = Alternative does not meet criterion (or is not reasonable)
UNL = Alternative is unlikely to meet the criterion
+ = Alternative meets criterion in a superior way
- = Alternative meets criterion, but is not ideal

3.3.3 No Action Alterantive

Under this Alternative, the proposed I3MP would not be implemented. Current communications methods would continue. This would include coverage limitations of the tower-based communications system and voice and data communication capability deficiencies associated with new and existing facilities. Personnel would continue to use existing communications methods, including the use of personal cellular phones, to communicate. Use of personal cellular phones does not provide for effective, reliable communication that meets the requirements on the Installation. This would not preclude the use of new or existing facilities. However, this would compromise the safety, security, and operational efficiency of training and support activities at Fort Benning.

While the No Action Alternative would not satisfy the purpose of or need for the Proposed Action, this alternative was retained to provide a comparative baseline against which to analyze the effects of the Proposed Action, as required under the CEQ Regulations (40 CFR 1502.14). The No Action Alternative reflects the *status quo* and serves as a benchmark against which the effects of the Proposed Action can be evaluated.

3.4 Alternatives Eliminated From Further Consideration

Based on the analysis shown in **Table 1**, Fort Benning eliminated other initially considered alternatives through the screening process. Each of these locations or options failed to meet the screening criteria. The following provides a brief discussion of the rationale for eliminating each of these alternatives.

In addition to the below alternatives, Fort Benning also considered a more limited alternative (i.e., only constructing some of the corridors and towers). However, this "reduced" alternative would not meet the purpose of or need for the Proposed Action, and was dismissed.

3.4.1 Original ISEC Design Layout Alternative

Under the originally proposed ISEC design, significant environmental resources would not be completely avoided and impacts to training operations could occur. While this alternative provided a solid starting point for development of the Preferred Alternative and the Expanded ISEC Layout Alternative, this alternative presented the potential for significant adverse effects. As such, the layout as originally proposed by ISEC was modified for further consideration under the Preferred Alternative and the Expanded ISEC Layout Alternative.

3.4.2 Point-to-Point Optic Communication Network Alternative

Under this alternative, the I3MP fiber optic and copper underground infrastructure would be replaced by an aboveground, tower-based, point-to-point optic communication network. This alternative was dismissed by Fort Benning as such a system is limited by weather conditions, has no redundancy, and often experiences significant down time. As such, this alternative would not meet the purpose of or need for the Proposed Action. In addition, this alternative could result in additional adverse environmental effects, and would require additional maintenance.

3.4.3 Overhead Transmission Line Alternative

Fort Benning considered installing the proposed I3MP conduit on a pole-mounted, overhead system, similar to overhead electric and telephone lines. However, such infrastructure could be compromised during severe weather events, could be struck by projectiles/ordnance or vehicles, and would require regular maintenance. Installation of additional overhead infrastructure could also require larger, permanent areas of disturbance, resulting in potentially greater environmental effects. As such, this alternative was eliminated from further consideration.

3.4.4 Tower Network Alternative

With current technology, traditional tower-based communications transmission systems do not have the capacity or capability to transmit the amounts of data required by the I3MP system in a reasonable amount of time. In short, such a system is simply too slow to provide the communications connectivity required by Fort Benning. In addition, construction and operation of additional towers could produce additional adverse environmental effects and would require additional maintenance. As such, this alternative was eliminated from further consideration.

3.4.5 "Bee Line" Alternative

Fort Benning considered installing the underground infrastructure directly overland from point-to-point, connecting the cantonment areas directly to the training facilities. However, this alternative is not desirable as many miles of corridor would be cleared during construction, likely resulting in significant adverse environmental effects. While this would achieve the operational requirements of the I3MP system and would shorten the total corridor length, Fort Benning determined that the potential environmental effects would be too severe. Consequently, this alternative was eliminated from further consideration.

3.4.6 Microwave Alternative

Fort Benning considered installing a tower-based microwave communication system. However, such technology is very expensive, is limited in capacity, and microwave signals can be limited by terrain. Such a system would result in larger areas of disturbance, and would likely result in additional adverse environmental effects. As such, this alternative was eliminated from further consideration.

3.5 Comparison of the Potential Effects of the Evaluated Alternatives

The existing condition of the environmental resources at Fort Benning potentially affected by each of the three considered Alternatives is presented in **Section 4**. **Section 5** presents an analysis of each Alternative's potential environmental effects to each environmental resource area, or Valued Environmental Component (VEC). The reader is referred to those Sections for additional information.

The results of that analysis are summarized briefly here, in **Table 2**, in accordance with CEQ Regulations and directives. By including these data here, the reader is provided with a rapid, upfront summary of the potential environmental effects of each alternative.

TABLE 2: COMPARISON OF THE POTENTIAL EFFECTS OF THE EVALUATED ALTERNATIVES			
VEC	**NO ACTION ALTERNATIVE**	**PREFERRED ALTERNATIVE (PA)**	**EXPANDED ISEC LAYOUT ALTERNATIVE**
Geographic Setting and Location	No effects.	Less-than-significant adverse aesthetics and visual resources effects due to two proposed towers. Mitigation not required.	Same as PA.
Land Use	On-going, long-term; less-than-significant adverse effect due to inability to use Fort Benning facilities to full capability.	No effects.	No effects.
Air Quality	No effects.	Short-term, less-than-significant adverse effect during construction. No long-term air quality effects.	Same as PA.
Noise	No effects.	Potential short-term, less-than-significant adverse noise effect during construction. No long-term noise effects.	Same as PA.
Geology and Topography	No effects.	No effects.	No effects.
Soils	No effects.	Short-term adverse soils effects due to potential erosion during construction. Would be reduced through NPDES compliance process via GaDNR-EPD.	Same as PA.
Water Resources and Wetlands	No effects.	Short-term, less-than-significant adverse effects during construction with implementation of Environmental Protection Measures. Mitigation measures proposed to further reduce or avoid impacts.	**Similar to PA.** Potential minor additional effects due to increased scope.
Biological Resources	No effects	Short-term, less-than-significant adverse effects during construction with implementation of Environmental Protection Measures. Mitigation measures proposed to further reduce or avoid impacts.	**Similar to PA.** Potential minor additional effects due to increased scope.
Cultural Resources	No effects.	Short-term, less-than-significant adverse effects during construction with implementation of Environmental Protection Measures. Mitigation measures proposed to further reduce or avoid impacts.	Same as PA.
Socioeconomics (including Environmental Justice and Protection of Children)	On-going, long-term, less-than-significant adverse effect due to on-going emergency service/public health and safety communication deficiencies in portions of Fort Benning.	Short- and long-term positive socioeconomic effects, including economic and emergency services/health and safety effects.	**Similar to PA.** Positive emergency services/health and safety effects would be greater than PA due to increased tower coverage.
Utilities	No general utility effects. On-going, long-term adverse telecommunications effect (see *Land Use*).	No general utility effects. Long-term positive telecommunications effect.	Similar to PA. Increased, long-term positive telecommunications effect due to increased tower coverage and improved redundancy.
Transportation and Traffic	No effects.	Negligible short- and long-term effects.	Same as PA.
Airspace	No effects.	No effects.	No effects.
HTMW	No effects.	No effects.	No effects.
Cumulative Effects	On-going, less-than-significant adverse cumulative effects to land use, telecommunications capability, and emergency service/public health and safety.	No significant adverse cumulative effects.	No significant adverse cumulative effects.

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SECTION 4: AFFECTED ENVIRONMENT

4.1 Introduction

This Section provides a description of the existing environmental and socioeconomic conditions at and surrounding the Action Alternatives being considered for the proposed I3MP at Fort Benning, Georgia. As described in **Section 3.3**, these Action Alternatives include the *Modified ISEC Layout Alternative* (Preferred Alternative) and the *Expanded ISEC Layout Alternative*.

This Section provides information that serves as a baseline from which to identify and evaluate any individual or cumulative environmental and socioeconomic changes likely to result from the implementation of the Action Alternatives. The Region of Influence (ROI) of these Action Alternatives, and therefore of this EA, is relatively small and primarily contained within the boundaries of Fort Benning; a few of the proposed towers may be visible from immediately adjacent properties. Effects beyond the viewshed of the proposed towers are not anticipated. In most cases, all areas within this viewshed are within Fort Benning.

In compliance with the NEPA, CEQ Regulations, and Army NEPA Regulations, the description of the affected environment focuses on those resources and conditions potentially subject to effects. Fort Benning, as encouraged by the CEQ Regulations, endeavors to keep NEPA analyses as concise and focused as possible. This is in accordance with CEQ Regulations at 40 CFR Part 1500.1(b) and 1500.4(b): "…NEPA documents must concentrate on the issues that are truly significant to the action in question, rather than amassing needless detail….prepare analytic rather than encyclopedic analyses."

Resource information for this EA was obtained through the review of existing environmental documents and available GIS data from Fort Benning, as well as communication with Fort Benning SMEs within the EMD and field observations during a site visit conducted on 25 through 29 January 2010. For the purposes of this EA, no in-depth studies or field investigations were conducted on site to determine the extent of resources within Fort Benning or within the surrounding area.

4.2 Resources Analyzed

Table 3 presents the Valued Environmental Components (VECs) that are dismissed from further analysis in this EA and those that are fully analyzed. The rationale for dismissing certain VECs is summarized in **Table 3** and more fully described in **Section 4.3**.

4.3 Resources Eliminated From Further Analysis

4.3.1 Land Use

Fort Benning encompasses approximately 182,000 acres in portions of Muscogee and Chattahoochee Counties in Georgia, and Russell County in Alabama. No lands within the Alabama portion of Fort Benning would be affected. Land use within the boundary of Fort Benning consists of operational training areas, open space, and four cantonment areas: Main Post, Sand Hill, Kelley Hill, and Harmony Church. Land use within the cantonment areas generally consists of recreational areas, residences, commercial businesses, professional office buildings, and medical facilities. Land use within the immediate areas surrounding Fort Benning predominantly consists of commercial,

Table 3: Valued Environmental Components Assessed in this Environmental Assessment

VEC	Dismissed?	Reasoning
Geographic Setting and Location	No	Potential long-term viewshed effects in the immediate vicinity of the Action Alternatives may occur due to the proposed towers. This issue is addressed in this EA (see **Sections 4.4.1 and 5.2**).
Land Use	Yes	No adverse land use effects or changes in land use would occur under the Action Alternatives. A potential long-term, less-than-significant adverse land use effect under the No Action Alternative is identified due to the potential failure to use new and existing facilities to their full potential. As the Action Alternatives would not produce an adverse land use effect, this issue is not analyzed in depth in this EA (see **Section 4.3.1**).
Air Quality	Yes	The region is in full attainment for National Ambient Air Quality Standards (NAAQS); only short-term, *de minimis* adverse construction emissions would occur. No long-term air quality effects are anticipated. As such, this issue is not analyzed in depth in this EA (see **Section 4.3.2**).
Noise	Yes	No long-term or permanent increase in noise levels would occur. Only short-term, *de minimis* noise effects would occur due to construction equipment. As such, this issue is not analyzed in depth in this EA (see **Section 4.3.3**).
Geology and Topography	Yes	No effects to geology or topography would occur. As such, this issue is not analyzed in depth in this EA (see **Section 4.3.4**).
Soils	No	Highly erodible soils may be encountered during proposed construction of the Action Alternatives. This issue is addressed in this EA (see **Sections 4.4.2 and 5.3**).
Water Resources and Wetlands	No	Potential direct (construction) and indirect (erosion) short-term effects during construction may occur. These issues are addressed in this EA (see **Sections 4.4.3 and 5.4**).
Biological Resources	No	Potential direct and indirect effects during construction may occur. These issues are addressed in this EA (see **Sections 4.4.4 and 5.5**).
Cultural Resources	No	Potential effects during construction and potential long-term effects in viewshed (due to the proposed towers) may occur. These issues are addressed in this EA (see **Sections 4.4.5 and 5.6**).
Socioeconomics (economy, population, housing, employment, Protection of Children, Environmental Justice, and emergency services)	Yes	No adverse effects to any such socioeconomic resource would occur under the Action Alternatives. The Action Alternatives would produce positive economic effects during construction (via construction spending) and operation (via improved emergency services communication on Fort Benning). The *Expanded ISEC Layout Alterantive* would produce greater positive effects. A potential long-term, less-than-significant adverse socioeconomic effect under the No Action Alternative is identified due to the continuation of adverse effects to emergency services communication on Fort Benning. As the Action Alternatives would not produce an adverse socioeconomic effect, this issue is not analyzed in depth in this EA (see **Section 4.3.5**).
Utilities	Yes	No adverse utilities effects would occur. No additional utility consumption would occur. A significant, long-term positive telecommunications effect would occur under either Action Alternative; the more robust Expanded ISEC Layout Alternative would result in greater positive effects. This issue is not analyzed further in this EA (see **Section 4.3.6**).
Transportation and Traffic (roads and railroads)	Yes	Negligible effects to roads, railroads, or associated traffic would occur due to implementation of the Action Alternatives. All traffic would be maintained during construction. As such, this issue is not analyzed in depth in this EA (see **Section 4.3.7**).
Airspace	Yes	No adverse effects to airspace would occur. As such, this issue is not analyzed in depth in this EA (see **Section 4.3.8**).
Hazardous and Toxic Materials and Wastes (HTMW)	Yes	No adverse effects to HTMW issues would occur. As such, this issue is not analyzed in depth in this EA (see **Section 4.3.9**).
Cumulative Effects	No	Analysis required per CEQ Regulations (see **Section 5.7**).

industrial, and residential areas with open space, agricultural, and recreational areas interspersed throughout.

The Proposed I3MP Action, under both Action Alternatives, is consistent with and would support the current land use within the boundaries of Fort Benning and surrounding areas. The Proposed Action would not produce any adverse land use effects, nor would it result in a change of land use from existing conditions. None of Action Alternatives' towers would be located within a designated SDZ associated with an existing or proposed training range. However, the proposed cable alignments may be located within the limits of the Installation's existing and proposed SDZs. Construction efforts would be coordinated with the Fort Benning Range Division, Directorate of Plans, Training, and Mobilization Support to avoid operational conflicts. Potential viewshed effects due to the proposed towers are described in **Section 5.2**.

Under the No Action Alternative, however, long-term, less-than-significant adverse on-Post land use effects could occur. Involved Fort Benning existing facilities and those facilities planned or under construction would not be able to be used to their full capacity or training capability. Involved facilities would remain unconnected to the IT network, resulting in diminished capability and function. This potential adverse effect is identified in **Table 3**. As neither of the Action Alternatives would produce an adverse land use effect, land use is not further evaluated in this EA.

4.3.2 Air Quality

According to the GaDNR, Chattahoochee and Russell Counties are currently in attainment for all NAAQS criteria pollutants. In 2009, the GaDNR recommended to the US Environmental Protection Agency (USEPA) that Muscogee County, Georgia be classified as being in non-attainment for the 8-hour ozone standard (http://www.georgiaair.org/airpermit/html/planningsupport/naa.htm). Based on currently available data, however, this recommendation has not yet been accepted, and the area is considered to be in full attainment of the NAAQS.

Under both Action Alternatives, the Proposed Action would result in a *de minimis*, localized, short-term increase in air emissions during construction. This would result from construction vehicles on site and the short-term generation of fugitive dust due to minor earth disturbance. Any increases during construction would be short-term, less-than-significant, and localized, and would not result in a significant or long-term adverse increase of criteria pollutants at Fort Benning or its surrounding area. No long-term air quality effects are anticipated. Under the No Action Alternative, no effects to air quality would be anticipated. Therefore, air quality is not further evaluated in this EA.

4.3.3 Noise

Several noise-producing activities currently take place within the boundary of Fort Benning, including existing construction projects, air traffic, and various types of military training. Noise resulting from construction equipment for the installation of facilities under the Proposed Action, under either Action Alternative, would be localized and short-term; no long-term noise effects would occur. Construction would occur in each specific area over a short period, and would occur during normal business (i.e., daylight) hours. Temporary increased levels of noise would terminate upon completion of construction, and the noise environment would return to pre-construction conditions. During construction, only short-term, localized, *de minimis* noise effects would occur due to construction equipment under either Action Alterantive. Under the No Action Alternative, no changes in the noise environment would occur. Therefore, noise is not further evaluated in this EA.

4.3.4 Geology and Topography

The majority of Fort Benning is located south of the Fall Line, which is defined by Coastal Plain strata on top of Piedmont rocks. An exception is the northeastern portion of Fort Benning, which is located within the Piedmont province. Along the Fall Line, crystalline rocks of the Piedmont are overlain by marine or fluvial sediments, resulting in varied topography. The sedimentary sequences of the Coastal Plain that overlie the crystalline basement rocks at Fort Benning consist of materials deposited during the Cretaceous, Tertiary, and Quaternary Periods. The Cretaceous Period sediments from the uplands consist of five geologic formations: the Ripley Formation, Cusseta Sand, Blufftown Formation, Eutaw Formation, and the Tuscaloosa Formation (DA 2009).

Topography within the boundary of Fort Benning is variable with generally flat areas along the Chattahoochee River and steeper upland slopes farther from the river. Elevations on Fort Benning range from approximately 160 feet above mean sea level (AMSL) to 740 feet AMSL (DA 2009).

Neither of the Action Alternatives considered in this EA would result in adverse effects to the geology or topography of Fort Benning. Only localized, restorative grading (i.e., to pre-project conditions) would occur and deep cuts into bedrock are not proposed. Proposed cable boring operations would be approximately 6 inches in diameter, and would not adversely affect local geological resources. Under the No Action Alternative, no effects to geology or topography would occur. Therefore, geology and topography are not further evaluated in this EA.

Prime farmland soils, protected under the Farmland Protection Policy Act (7 USC 4201; FPPA of 1981, as amended) are not discussed in this EA, as the Proposed Action would not permanently alter soils or substantially preclude their future use for other purposes, and no lands within Fort Benning are currently actively used for agricultural production.

4.3.5 Socioeconomics

For the purposes of this EA's analysis, socioeconomics includes population, housing, economy, employment, Protection of Children, Environmental Justice, and community facilities and services, including emergency services, of and at Fort Benning and its immediate vicinity.

The proposed $30 million I3MP at Fort Benning, occurring over a period of up to three years, may have a short-term, positive effect on the local economy during construction. This may include increased local spending by construction workers and the potential for additional jobs during construction. The Proposed Action would not induce population growth at the Installation or surrounding communities, nor would the Proposed Action have a significant, adverse, or long-term effect on housing or employment. Effects on these socioeconomic aspects of Fort Benning and its surrounding communities would be negligible, and are therefore eliminated from further discussion in this EA.

Because children may suffer disproportionately (i.e., more so than adults, due to physiological and behavioral differences) from environmental health risks and safety risks, EO 13045, *Protection of Children From Environmental Health Risks and Safety Risks*, was signed by President Clinton in 1997. The intent of EO 13045 was to prioritize the identification and assessment of environmental health risks and safety risks that may affect children, and to ensure that Federal agencies' policies, programs, activities, and standards address environmental risks and safety risks to children. As the proposed I3MP active work area(s) would be carefully monitored and controlled, no adverse effects to children would occur. As such, Protection of Children is not further discussed in this EA.

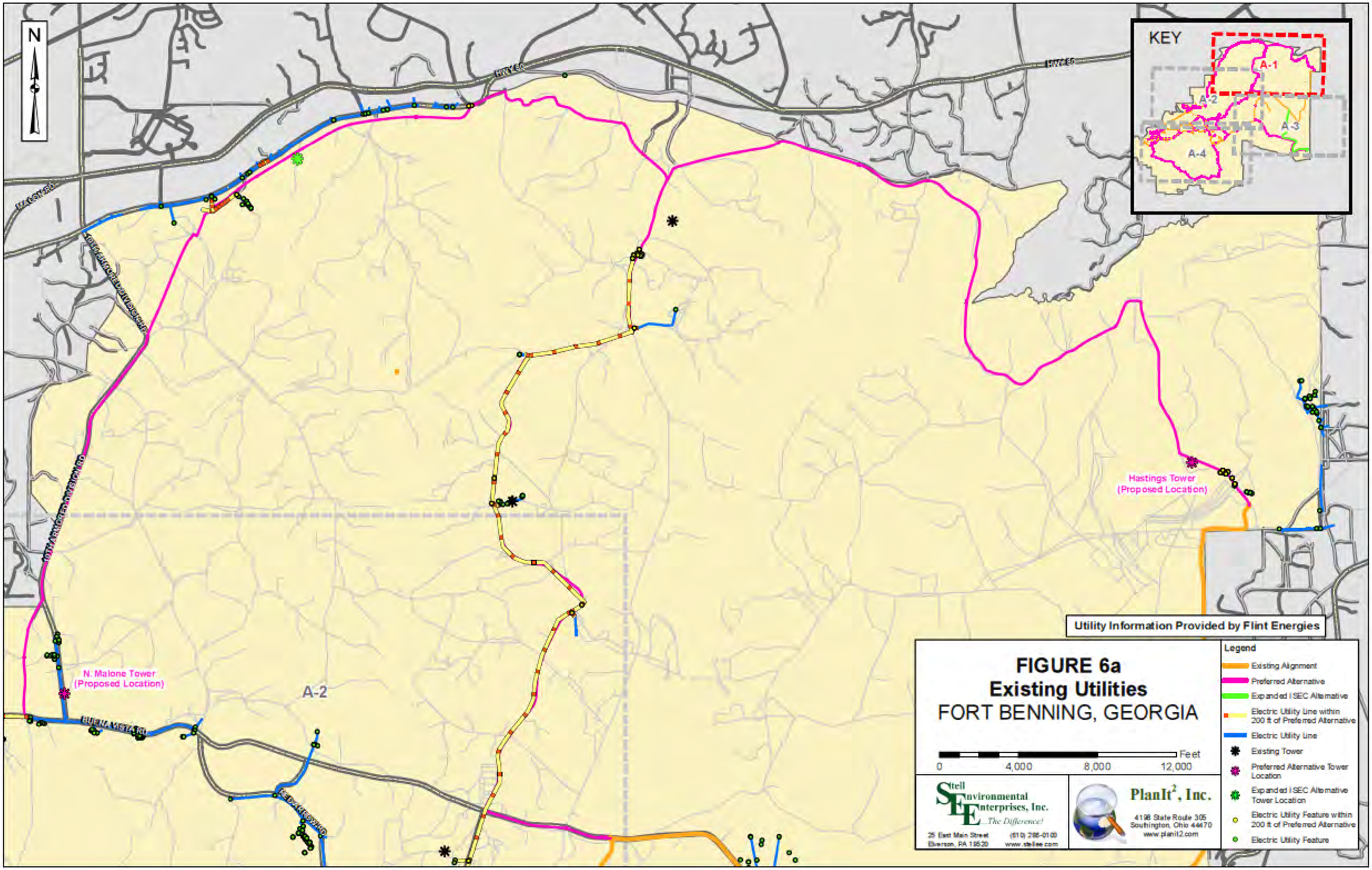
In 1994, EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, was signed by President Clinton to focus attention of Federal agencies on human health and environmental conditions in minority and low-income communities and to ensure that disproportionately high and adverse human health or environmental effects on these communities (i.e., as compared to other, non-disadvantaged and non-minority communities) are identified and addressed. As either Action Alternative would only involve short-term construction effects in a very localized area, and the proposed towers would not be located in or substantially noticeable from any area known to be populated by a high concentration of minority or low income residents, no Environmental Justice effects would occur. Consequently, Environmental Justice is not further discussed in this EA.

With regard to emergency services, such as police and fire protection, and associated public health and safety, the Action Alternatives would improve emergency services on Fort Benning by providing an improved communications system. This would improve response times and coordination and control of emergency situations, a *long-term, positive effect*. The Expanded ISEC Layout Alternative, given its greater number of proposed towers and coverage, would provide a larger positive effect than the Preferred Alternative. However, under the No Action Alternative, such improved communications would not be provided. This could result in a continued, long-term, less-than-significant adverse effect to on-Post emergency services, as identified in **Table 3**.

4.3.6 Utilities

Columbus Water Works, ATMOS Gas, and Flint Energies own and manage the water and sewer, gas, and electric utilities, respectively, on Fort Benning. Columbus Water Works manages the majority of Fort Benning's potable water and waste water systems; more remote areas of the Installation, including several ranges, receive potable water from a combination of seven on-Post wells and transported water from Columbus Water Works. The sanitary sewage collection system consists of approximately 126 miles of clay, cast iron, and concrete lines, as well as the Columbus Water Works treatment plant (DA 2009). Flint Energies supplies electricity to Fort Benning through overhead transmission lines, and ATMOS Gas provides gas through underground pipelines.

These utility companies maintain typically 30-foot wide, cleared, and maintained utility easements throughout the Installation (see **Figures 6a-d**). Under either Action Alternative, the Proposed Action would utilize these existing, approximately 30-foot wide utility easements where available and appropriate (see **Section 2.2.3**). In these situations, Fort Benning would work in close coordination with the utility providers to ensure their utilities are not adversely affected, including marking existing utilities immediately prior to construction; work within an existing easement would be located approximately 10 feet from any existing electrical infrastructure and within an appropriate distance from any other utility, as coordinated with the utility owner. The co-use of these existing easements would be the only effect to utilities at Fort Benning as a result of the Proposed Action; the Proposed Action would result in only *de minimis* consumption of utilities (e.g., water for construction workers) during construction. A long-term positive telecommunications effect would occur under either Action Alternative; the more robust Expanded ISEC Layout Alternative would result in greater positive effects. Under the No Action Alternative, no effects to utilities would occur. Therefore, no further discussion of utilities is warranted within this EA.


N
KEY
A-1
A-2
A-3
A-4
HWY 80
Hastings Tower
(Proposed Location)
N. Malone Tower
(Proposed Location)
A-2
BUENA VISTA RD
Utility Information Provided by Flint Energies
FIGURE 6a
Existing Utilities
FORT BENNING, GEORGIA
Feet
0 4,000 8,000 12,000
Legend
Existing Alignment
Preferred Alternative
Expanded ISEC Alternative
Electric Utility Line within 200 ft of Preferred Alternative
Electric Utility Line
Existing Tower
Preferred Alternative Tower Location
Expanded ISEC Alternative Tower Location
Electric Utility Feature within 200 ft of Preferred Alternative
Electric Utility Feature
Stell Environmental Enterprises, Inc.
...The Difference!
25 East Main Street
Elverson, PA 19520
(610) 286-0100
www.stellee.com
PlanIt², Inc.
4198 State Route 305
Southington, Ohio 44470
www.planit2.com

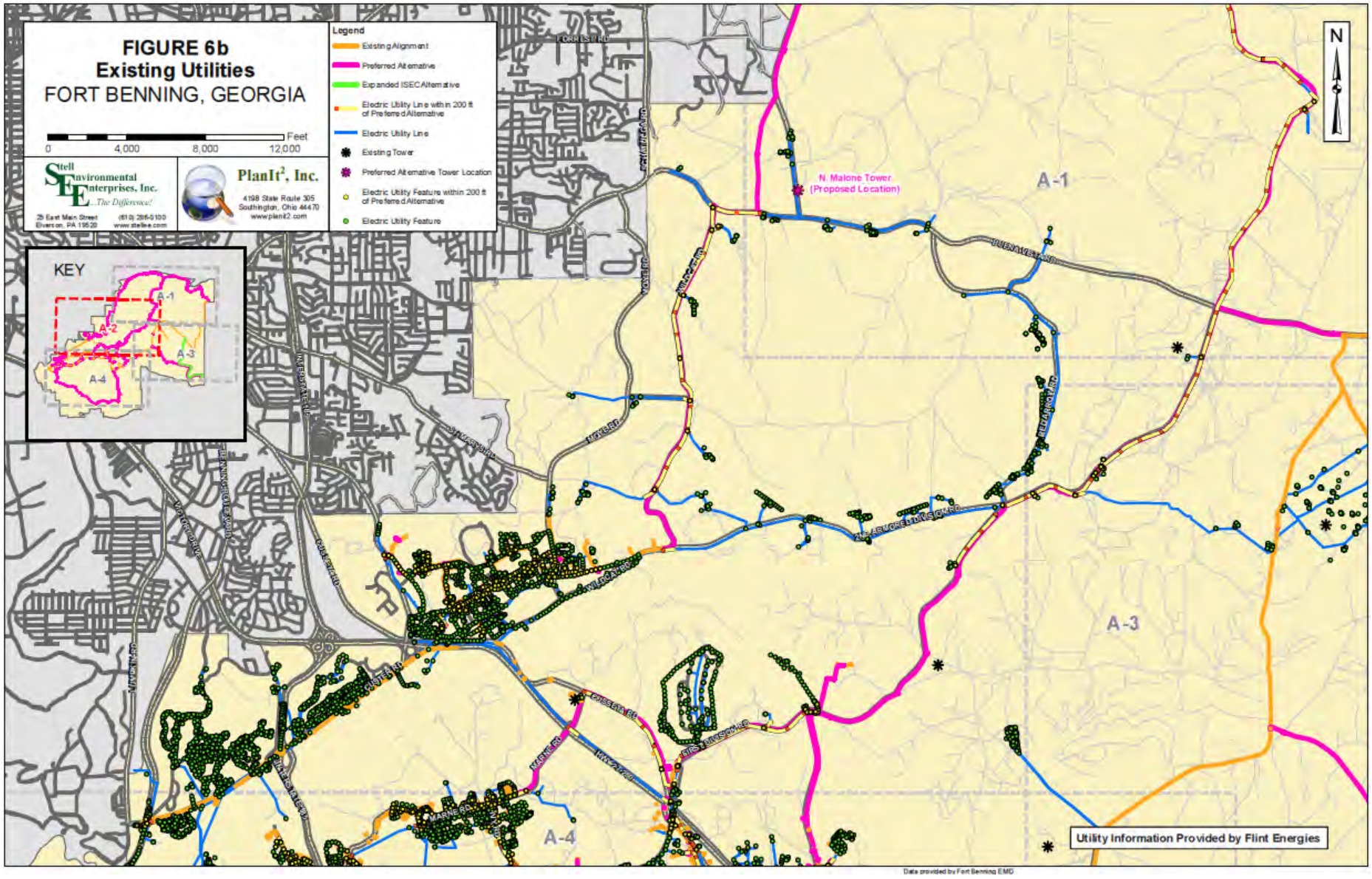


FIGURE 6b
Existing Utilities
FORT BENNING, GEORGIA
Feet
0
4,000
8,000
12,000
Stell Environmental Enterprises, Inc.
The Difference!
PlanIt², Inc.
4198 State Route 305
Southington, Ohio 44470
www.planit2.com
Legend
Existing Alignment
Preferred Alternative
Expanded ISEC Alternative
Electric Utility Line within 200 ft of Preferred Alternative
Electric Utility Line
Existing Tower
Preferred Alternative Tower Location
Electric Utility Feature within 200 ft of Preferred Alternative
Electric Utility Feature
KEY
A-1
A-2
A-3
A-4
N
N. Malone Tower (Proposed Location)
A-1
A-3
A-4
Utility Information Provided by Flint Energies
Data provided by Fort Benning EMD

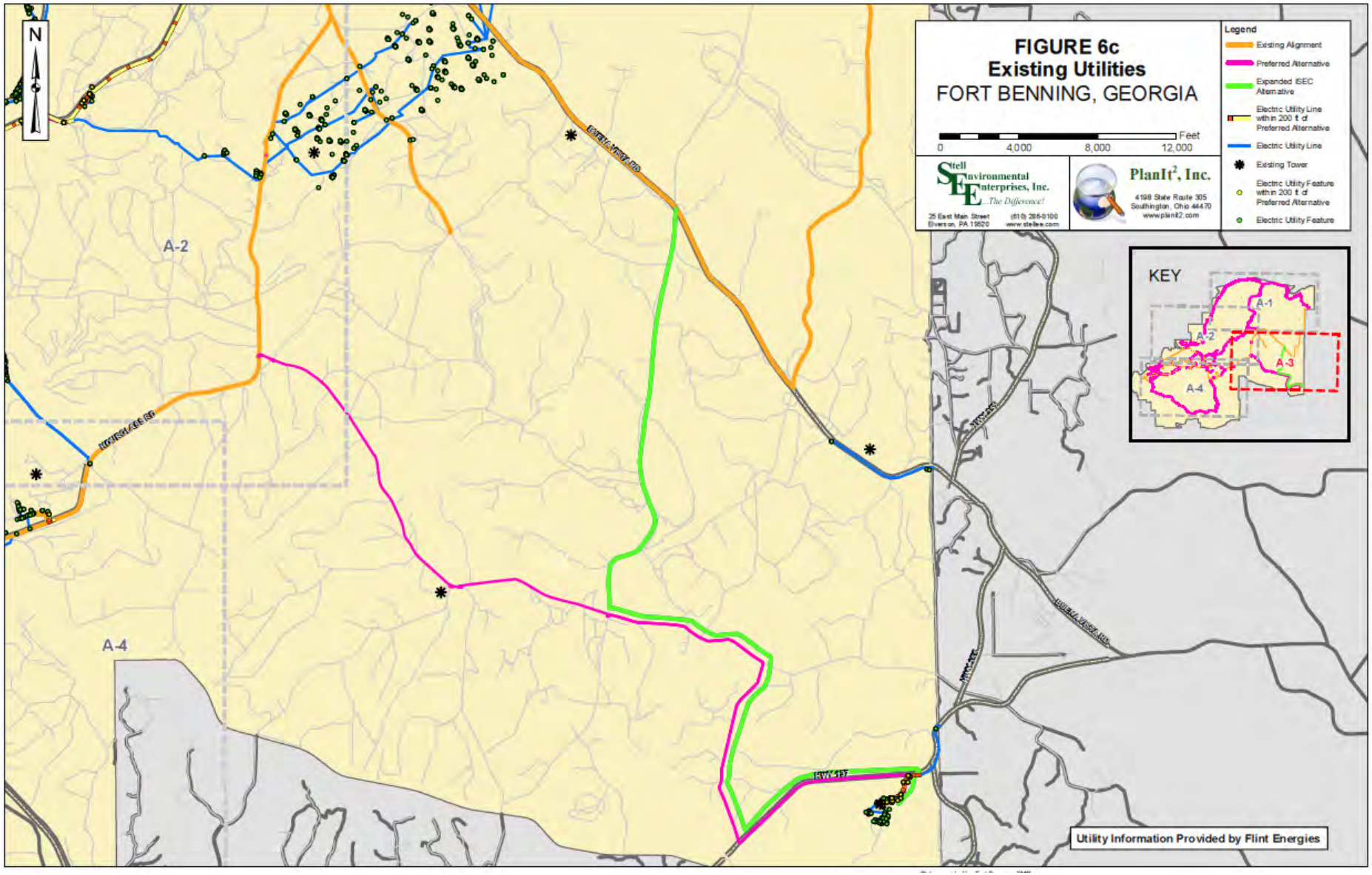


FIGURE 6c
Existing Utilities
FORT BENNING, GEORGIA
Feet
0
4,000
8,000
12,000
Legend
Existing Alignment
Preferred Alternative
Expanded ISEC Alternative
Electric Utility Line within 200 ft of Preferred Alternative
Electric Utility Line
Existing Tower
Electric Utility Feature within 200 ft of Preferred Alternative
Electric Utility Feature
Stell Environmental Enterprises, Inc.
The Difference!
25 East Main Street
Elverson, PA 19520
(610) 286-0100
www.stellee.com
PlanIt², Inc.
4198 State Route 305
Southington, Ohio 44470
www.planit2.com
KEY
A-1
A-2
A-3
A-4
N
A-2
A-4
HWY 27
HWY 165
HWY 137
Utility Information Provided by Flint Energies


N
A-2
A-3
KEY
A-1
A-2
A-3
A-4
Legend
Existing Alignment
Preferred Alternative
Expanded ISEC Alternative
Electric Utility Line within 200 ft of Preferred Alternative
Electric Utility Line
Existing Tower
Expanded ISEC Alternative Tower Location
Electric Utility Feature within 200 ft of Preferred Alternative
Electric Utility Feature
Utility Information Provided by Flint Energies
FIGURE 6d
Existing Utilities
FORT BENNING, GEORGIA
Feet
0
4,000
8,000
12,000
Stell Environmental Enterprises, Inc.
The Difference!
25 East Main Street
Elverson, PA 19520
(610) 286-0100
www.stellee.com
PlanIt², Inc.
4198 State Route 305
Southington, Ohio 44470
www.planit2.com

4.3.7 Transportation and Traffic

Fort Benning is served by several Federal, State, and county roads located in both Georgia and Alabama. There are nine major roads serving the Installation, some with multiple designations by Federal, State, or county systems. The most utilized roads include Benning Boulevard, Lindsay Creek Parkway (Interstate 185), South Lumpkin Road, and Victory Drive (US Highway 27/280). The main gate to Fort Benning is located near the intersection of Benning Boulevard and Custer Road; another gate is located near the Custer Road and South Lumpkin Road intersection (DA 2009).

On-Post roads consist of several hundred miles of both paved and unpaved roads and trails. The majority of the paved roads are located within and between the Post cantonment areas. Within the boundary of Fort Benning, the Proposed Action is located along the Installation roads and areas as identified in **Section 2.2.2** and as shown in **Figures 3, 4, 5, and 7**.

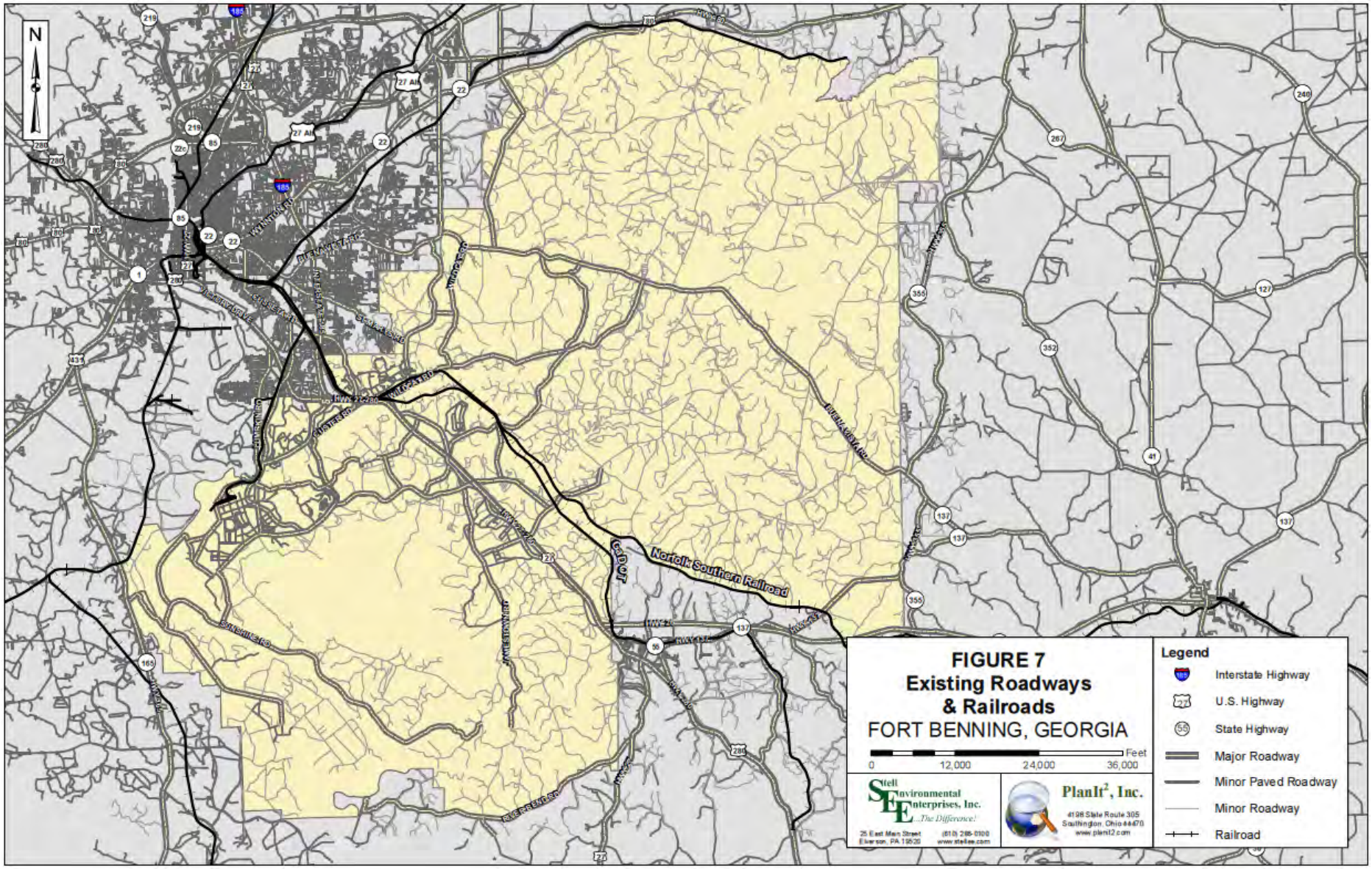
In addition to the many roads found within and serving the Installation, two railroads serve Fort Benning and the Columbus/Phenix City metropolitan area. Each railroad provides only freight service to the Fort Benning/Columbus/Phenix City area. The railroads are located in the northern and southern portions of the Installation. The northern railroad is owned and operated by Norfolk Southern and the southern railroad is owned and operated by the Georgia Department of Transportation (GaDOT) (see **Figure 7**). Fort Benning also has its own rail service provided by the Rail Loading Facility in the Harmony Church cantonment area. This railroad facility is solely for the purpose of transporting military equipment between Fort Benning and other installations (DA 2004).

The Proposed Action, under either Action Alternative, would not increase vehicular traffic congestion within Fort Benning or its surrounding areas, nor would it require any road closures. Traffic would be maintained during construction through the use of temporary signals, signage, and other routine traffic control measures typical of utility construction (see **Section 2.2.3**). Any associated traffic delays would be short term and localized. In addition, Fort Benning would coordinate with railroad companies in order to cross the railroad ROWs in specific locations. However, effects to or delays in operation of the railroad would not occur. No long-term traffic or transportation effects would be anticipated. Under the No Action Alternative, on-Post traffic would remain as under current conditions.

Because of the negligible effects to traffic and transportation throughout Fort Benning and its surrounding areas due to the Proposed Action, no further discussion of traffic and transportation is warranted for this EA.

4.3.8 Airspace

The Proposed Action, under either Action Alternative, would include the installation of 100-foot communication towers. Due to the height of these towers and the lack of a proximate public airport, coordination with the Federal Aviation Administration (FAA) would not be required. Fort Benning has coordinated with aviation operations' staff to ensure on-Post air space clearance requirements are met; the proposed towers would be no greater in height than existing on-Post towers, nor would they be located within the land use/height restriction control areas associated within the Fort Benning airfield. Under the No Action Alternative, no effects to airspace would occur. Therefore, no further discussion of airspace is warranted in this EA.


N
Norfolk Southern Railroad
CSX R.R.
FIGURE 7
Existing Roadways
& Railroads
FORT BENNING, GEORGIA
Feet
0
12,000
24,000
36,000
Legend
Interstate Highway
U.S. Highway
State Highway
Major Roadway
Minor Paved Roadway
Minor Roadway
Railroad
Stell Environmental Enterprises, Inc.
...The Difference!
PlanIt², Inc.

4.3.9 Hazardous and Toxic Material Wastes

HTMW exist within the boundary of Fort Benning and consist of, but are not limited to, asbestos and lead-based paint in old buildings, radon, regulated wastes, petroleum products, Solid Waste Management Areas/Units, and areas containing unexploded ordnance. Based on examination of existing Fort Benning HTMW data, including mapping of known HTMW areas, the Proposed Action, under either Action Alternative, would not be located within an area known to be contaminated with or to contain HTMW (T. Williams 2010).

During construction of the Proposed Action under either Action Alternative, the handling, disposal, use, and storage of HTMW would be addressed through the existing Fort Benning environmental review process (via the EMD; see **Section 2.2.3**) and applicable Federal and State laws and requirements. This would include any proposed work within or near buildings known or suspected of containing asbestos-containing materials, lead-based paint, polychlorinated biphenyls, or other potential HTMW. All construction activities would comply with Fort Benning Standard Operating Procedures (SOPs) for addressing such materials. Any encounters with suspected unexploded ordnance would be immediately reported to the Fort Benning Range Division, Directorate of Plans, Training, and Mobilization Support on Ft. Benning for further investigation. In addition, the required NPDES permit would prescribe measures to address potential spills during construction (see **Section 5.3**). HTMW would not be generated, transported, treated, stored, or disposed of as a result of this Proposed Action. Under the No Action Alternative, no effects to HTMW would occur. Therefore, further discussion of HTMW is not warranted in this EA.

4.4 Resources Fully Analyzed

The following subsections describe the existing conditions of those VECs found within Fort Benning retained for further analysis. Each of these VECs, as identified in **Table 3**, has the potential to be affected by the Proposed Action.

4.4.1 Geographic Setting and Location

Aesthetics and visual resources at Fort Benning consist of areas within the installation that share common or unified visual characteristics. According to the Fort Benning's Installation Design Guidelines (95% Submittal, June 2009) (IDG 2009), visual characteristics define and contribute to one's perception of being in a particular area with a few dominant features that define its image. Typical features that contribute to a visual zone include unique buildings, historic character, vehicular and pedestrian corridors, landscape treatment, natural features or open space, and spatial relationships. Frequently, visual zones correspond to land use, although not exclusively. As per the 2009 IDG, the visual zones for Fort Benning include:

- **Harmony Church.** Harmony Church is a roughly 776-acre self-contained cantonment area consisting of a variety of land uses and activities. The area is located about 5 miles southeast of the Main Post, with its outer border framed by Highway 27. Uses are varied throughout the area and include housing, administrative, storage, maintenance, industrial, and community facilities. Most of the facilities are low-density and include semi-permanent barracks, motor pool facilities, and vehicle maintenance, training, and recreational facilities.

- **Kelley Hill.** Kelley Hill, an approximately 400-acre cantonment area located approximately 4 miles from the Main Post, is dedicated to troop housing and training. The area also supports maintenance and community facilities. The visual zone includes commercial retail uses, advanced training classrooms, courtyards, motor pools, and residential areas. Kelley Hill is

relatively small compared with other Fort Benning cantonment areas, but provides the most visually consistent zone within the Installation. While the area is primarily composed of relatively new construction, a handful of historic buildings have been preserved and were clearly referenced in terms of materials and architectural themes during the design of the newer development.

- **Lawson Army Airfield.** The Lawson Army Airfield visual zone encompasses the portion of the airfield not designated as a historic district, and is a major component of current operations. The airfield, located south of the Main Post within a lowland curve of the Chattahoochee River, has a largely linear layout with buildings stretching along the runway. The character of buildings and other visual features, such as street character and parking areas, are not entirely unlike those found at the Main Post; however, the two visual zones are separated by a forested buffer northeast of Indianhead Road which effectively contains the visual experience of the Lawson Army Airfield, distinguishing it as a unique visual zone. The area consists of a developed area, containing hangars and other buildings, and a runway area. Vegetation is sparse, although aging water oaks serve as an important character-defining feature.

- **Lawson Army Airfield Historic District.** The Lawson Army Airfield Historic District comprises a portion of the airfield, including the original runway (dating to 1941), a small built-up area, and a training field south of the runway. Eleven contributing buildings, structures, and sites are located in the district, including two pre-WWII hangars and the 1935 Air Corps Double Hangar. Building styles reflect both pre- and post-WWII approaches to military architecture, and include utilitarian structures as well as Art Deco and International styles. Dominant materials are structural steel and reinforced concrete framing, structural clay tile with stucco, brick, and corrugated asbestos cement.

- **Main Post.** The Main Post is the largest cantonment area at Fort Benning and is characterized by a diversity of land uses and design elements including: training areas, barracks, housing, eating and entertainment establishments, educational institutions, and administrative facilities. Fort Benning has a strong, storied history evident in many of the historic buildings in the Main Post visual zone, which also has several new structures that reflect the Installation's continued growth. The Main Post is also characterized by numerous large open spaces, often the result of force protection design considerations. These spaces are often dotted by old-growth oak trees, but usually poorly defined at their edges. While the design of buildings is greatly varied, the zone is unified largely through its centralized location.

- **Main Post Historic District.** The Main Post Historic District contains many of the Installation's historic and cultural resources, and currently serves a number of uses, including administrative, educational, and recreation. The District has largely maintained its historic character despite adaptation to successive land use demands at various stages in its history. The Main Post Historic District features monumental-scale buildings, tree-lined streets, and vistas. The cuartels are the central feature of the Main Post Historic District. Their large-scale massing and linear layout provide a focus to the visual zone. Other distinctive buildings include the Old Infantry School, Doughboy Stadium, and the Old Hospital Complex.

- **Suburban Main Post.** The Suburban Main Post is located east of the Main Post and Historic Main Post and has a largely hilly forest character, exemplified by winding roads running through dense vegetation. However, large-scale development with expansive surface parking can be found in the Suburban Main Post near Interstate 185. Developments include Martin Army Community Hospital and the Post Exchange Mall. The horse stables are also located in the Suburban Main Post visual zone. The Suburban Main Post is scaled for the automobile, with very little pedestrian design consideration.

- **Parachute Jump Tower.** Constructed in 1941 and 1942, the three historic steel Parachute Jump Towers stand at 250 feet and are situated in a triangular layout on an approximately 50-acre field. The towers serve as a defining landmark in Fort Benning's landscape, providing identity and contributing to the Installation's historic viewsheds. The Parachute Jump Tower visual zone is a historic district and has been nominated for designation on the NRHP. In addition to their historic value, the jump towers also function as essential training facilities for Airborne School students at Fort Benning.

- **Residential Community Initiative (RCI) Housing.** The RCI Housing visual zone occurs in pockets throughout Fort Benning. The zone seeks to establish a sense of place by implementing community planning principles known as traditional neighborhood design. Among other things, traditional neighborhood design seeks a balanced relationship between public and private space. In traditional neighborhood design, the street emerges as an important public space and is designed to be accessible to pedestrians, cyclists, and automobiles alike. Streets are often lined by trees and sidewalks and visually reinforced by minimally setback, street-oriented buildings. New development within the RCI Housing visual zone is characterized by a calm and welcoming public realm framed by single-family homes. Older (non-historic) housing areas that do not currently reflect traditional neighborhood design are planned to be reconfigured, moving away from conventional automobile-oriented housing characterized by many of the existing RCI Housing areas.

- **RCI Housing-Historic.** The existing RCI Housing-Historic visual zone occurs in pockets in and around the Main Post Historic District. Most of the historic housing dates to the early 1930s. The houses and subdivisions in the zone were laid out in a manner that generally reflects the Garden City principles popular at the time of construction. Streets are curvilinear and organized in a functional hierarchy, ranging from narrow residential streets to wide thoroughfares. Buildings are often oriented internally, backing onto open spaces and rear alleys, which form the main access. Most of the houses in a given neighborhood or cluster are architecturally similar, as design emphasis was placed on the community instead of on individual buildings. Architectural styles in the RCI Housing-Historic visual zone are primarily Dutch Colonial Revival, evidenced by the wide dormers associated with that style, and Spanish Colonial Revival, which is easily identifiable by the prominence of stucco exterior and mission-tile roofs.

- **Sand Hill.** The Sand Hill visual zone comprises a small portion of the Installation and contains a significant concentration of personnel. Sand Hill is the basic training area and many of the required skills for military service are honed and developed here. The visual zone is characterized by a high degree of architectural consistency, expressed by nearly identical three-story concrete and red brick training barracks. Other facilities at Sand Hill are one- to two-story brick structures.

- **Training Areas/Ranges.** The Training Areas/Ranges visual zone comprises a large and critical portion of Fort Benning. In this visual zone, much of the required skills for military service are honed and developed.

The above-listed visual zones are described and managed in accordance with the requirements set forth within the 2009 IDG. It is important to note that areas designated as "historic" within the IDG may not be considered "historic properties" under Section 106 of the NHPA. Please refer to **Section 4.4.5** for a full discussion of Cultural Resources, including historic properties.

Aside from the man-made visual zones, Fort Benning is dominated by vegetated lands and rolling terrain. The man-made visual zones are located in centralized areas of the Installation and generally sit at a lower elevation than the rest of the Installation. Vistas or viewsheds within these areas are confined to the immediate area and obscured by existing buildings, training facilities, and towers. In the areas outside the man-made visual zones, the vistas are again limited in most parts of Fort Benning by the predominance of mature trees and brush, with the exception of within and near the on-site ranges and higher elevations in the southeastern portion of the Installation.

4.4.2 Soils

Two basic soil provinces make up Fort Benning: the Georgia Sand Hills and the Southern Coastal Plains. The Georgia Sand Hills are a narrow belt of deep sandy soils with rolling to hilly topography. These soils are primarily derived from marine sand, loams, and clays that were deposited over acid crystalline and metamorphic rocks. South of the Sand Hills are the Southern Coastal Plains soils, which are divided into nearly level to rolling valleys and gently sloping steep uplands. These soils contain a loamy or sandy surface layer and loamy or clayey soils (DA 2004).

The major soil associations found within Fort Benning consist of the Nankin, Orangeburg-Norfolk-Ailey, Riverview-Chewacla-Chastain, Vaucluse-Lakeland, Vaucluse-Orangeburg-Lakeland-Ailey, and Wagram-Troup-Norfolk-Lakeland associations. Most of the soils found at Fort Benning, with the exception of the southern portions of the Installation, are identified as having a low to moderate erosion hazard when left undisturbed; however, historic and ongoing ground-disturbing activities at Fort Benning have accelerated the natural erosion process, and rendered on-Post soils more highly erodible (DA 2009; DA 2001). Soils within Fort Benning generally are prone to erosion when disturbed, such as through construction. **Table 4** provides a brief description of Fort Benning soils; **Figures 8a-d** identify areas of highly erodible soils within Fort Benning.

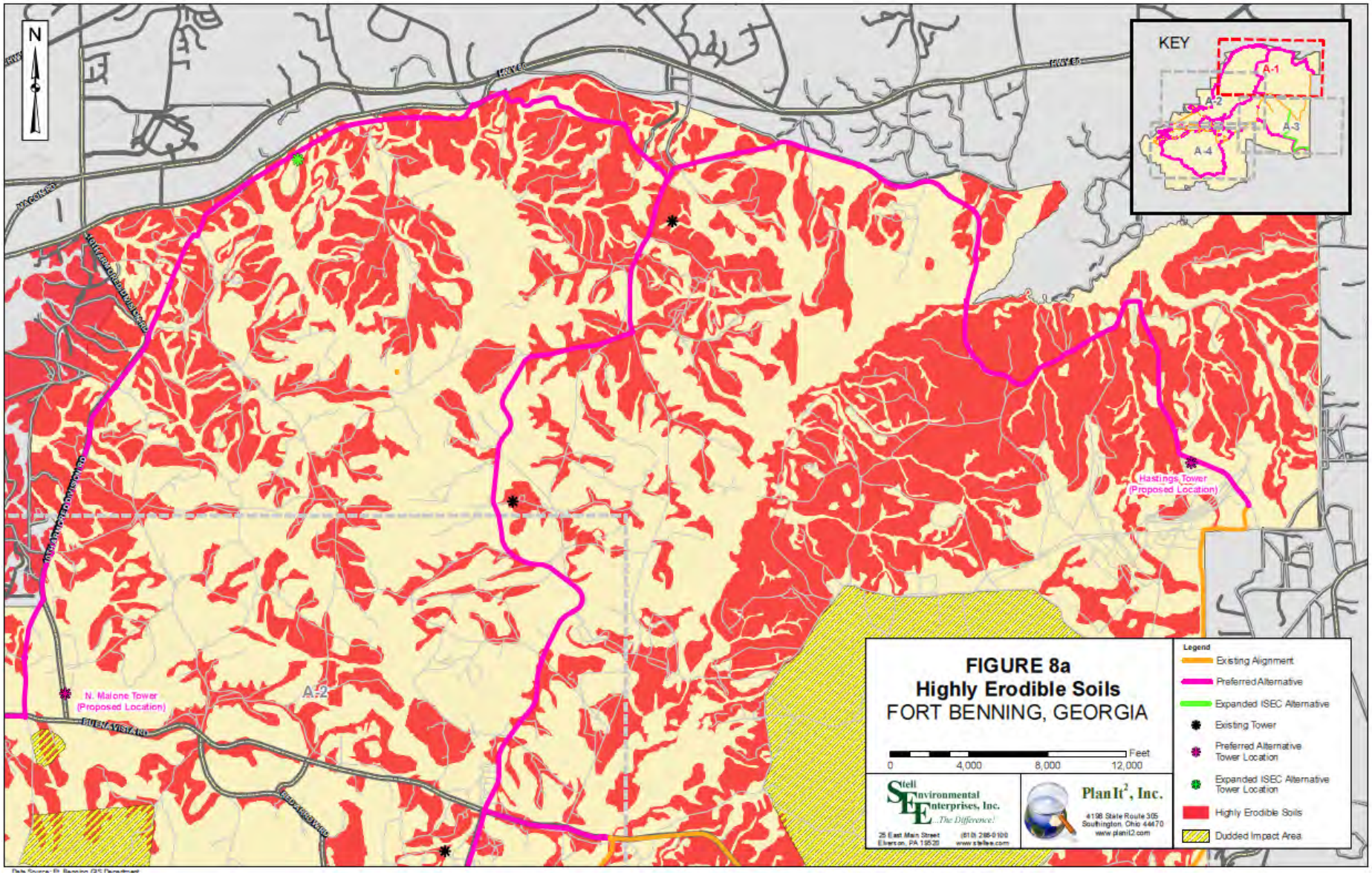
Based on the US Department of Agriculture, Natural Resource Conservation Service's (USDA NRCS) soil survey ~~-~~K factor," most of the soils found at Fort Benning, with the exception of within the southern portions of the Installation, are identified as low to moderately erodible when undisturbed (see **Table 4**). The degree of erodibility is determined by physical factors such as drainage, permeability, texture, structure, and percent slope. The rate of erodibility is based on the amount of vegetative cover, climate, precipitation, proximity to water bodies, and land use. Disruptive activities accelerate the natural erosion process by exposing the erodible soils to precipitation and surface runoff (DA 2009).

Table 4: Fort Benning Soils Series Descriptions

Soil Series	Description
Ailey	Ailey soils consist of deep or very deep to a dense layer. The series contains well-drained, slowly permeable soils formed in sandy and loamy marine sediment on uplands mostly in the upper coastal plain. Slopes are 20-25 percent. K factor* is 0.15.
Bibb	Bibb soils consist of very deep, poorly drained, moderately permeable soils that formed in stratified loamy and sandy alluvium. These soils are on flood plains of streams in the Coastal Plain. They are commonly flooded and water runs off the surface very slowly. Slopes range from 0 to 2 percent. K factor is 0.20.
Chewacla	Chewacla soils consist of very deep, moderately permeable, somewhat poorly drained soils on floodplains. The series formed in recent alluvium washed largely from soils formed in residuum from schist, gneiss, granite, phyllite, and other metamorphic and igneous rocks. Slopes range from 0 to 2 percent. K factor is 0.28.
Cowarts	Cowarts soils consist of very deep, well-drained and moderately well-drained soils on ridge tops and side slopes on uplands of the Coastal Plain. They formed in loamy marine sediments. Slopes range from 1 to 60 percent. K factor is 0.15.
Dothan	Dothan soils consist of very deep, well-drained, moderately slowly to slowly permeable soils on broad uplands. They formed in thick beds of unconsolidated, medium to fine-textured marine sediments of the Coastal Plain. Slopes range from 0 to 12 percent. K factor is 0.24.
Esto	Esto soils consist of deep, well-drained, slowly permeable soils that formed in clayey marine sediments of the Coastal Plain. Slopes range from 2 to 25 percent. K factor is 0.28.
Fuquay	Fuquay soils consist of very deep, well-drained soils with deep or very deep, common internal free water occurrence. The soils formed sandy over loamy marine deposits or fluvio-marine deposits on marine terraces, uplands, and flats. Slopes range from 0 to 10 percent. K factor is 0.10.
Lakeland	Lakeland soils consist of deep, excessively drained, rapid to very rapidly permeable soils on uplands. The series formed in thick beds of marine sands. Slopes range from 0 to 12 percent but can range to 85 percent in dissected areas. K factor is 0.10.
Lucy	Lucy soils consist of very deep, well-drained, moderately permeable soils on uplands. They formed in sandy and loamy marine and fluvial sediments of the Southern Coastal Plain. Slopes range from 0 to 45 percent. K factor is 0.10.
Nankin	Nankin soils consist of deep, well-drained, moderately slowly permeable soils on uplands of the Coastal plain. The series is formed in stratified loamy and clayey marine sediments. Slopes range from 0 to 60 percent. K factor is 0.32.
Norfolk	Norfolk soils consist of very deep, well-drained, moderately permeable soil on uplands or marine terraces. The series formed in marine deposits or fluvio-marine deposits. Slopes range from 0 to 10 percent. K factor is 0.17.
Orangeburg	Orangeburg soils consist of deep, well-drained, moderately permeable soils that formed in loamy and clayey sediments of the coastal plain. Slopes range from 0 to 25 percent. K factor is 0.10.
Riverview	Riverview soils consist of deep, well-drained, moderately permeable soils that formed in loamy alluvium on flood plains. Slopes range from 0 to 5 percent. K factor is 0.32.
Troup	Troup soils consist of deep, somewhat excessively drained, moderately permeable soils with thick sandy surface and subsurface layers and loamy sub-soils. They formed in unconsolidated sandy and loamy marine sediments on Coastal Plain uplands. Slopes range from 0 to 40 percent. K factor is 0.10.
Vaucluse	Vaucluse soils consist of well-drained soils on uplands. The subsoil is loamy and extends to a depth greater than 40 inches. Dense and brittle properties are below a depth of 15 to 35 inches. Permeability is slow and available water capacity is low. Slopes range from 2 to 25 percent, mostly 6 to 15 percent. K factor is 0.15.
Wagram	Wagram series consist of very deep, well-drained, moderately permeable soils on upland or marine terraces. The series formed in marine deposits of fluvio-marine deposits. Slopes range from 0 to 15 percent. K factor is 0.15.

Source: *USDA NRCS. Official Soil Series Descriptions [Online WWW]. Available URL:* http://soils.usda.gov/technical/classification/osd/index.html

** The K factor indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure. Values of K range from 0.02 to 0.69. The higher the value, the more susceptible the soil is to sheet and rill erosion by water (USDA NRCS 2006).*


N
KEY
A-1
A-2
A-3
A-4
HWY 27
HWY 80
Hastings Tower
(Proposed Location)
N. Malone Tower
(Proposed Location)
BUENA VISTA RD
A-2
FIGURE 8a
Highly Erodible Soils
FORT BENNING, GEORGIA
Feet
0
4,000
8,000
12,000
Steli Environmental Enterprises, Inc.
...The Difference!
PlanIt², Inc.
Legend
Existing Alignment
Preferred Alternative
Expanded ISEC Alternative
Existing Tower
Preferred Alternative Tower Location
Expanded ISEC Alternative Tower Location
Highly Erodible Soils
Dudded Impact Area

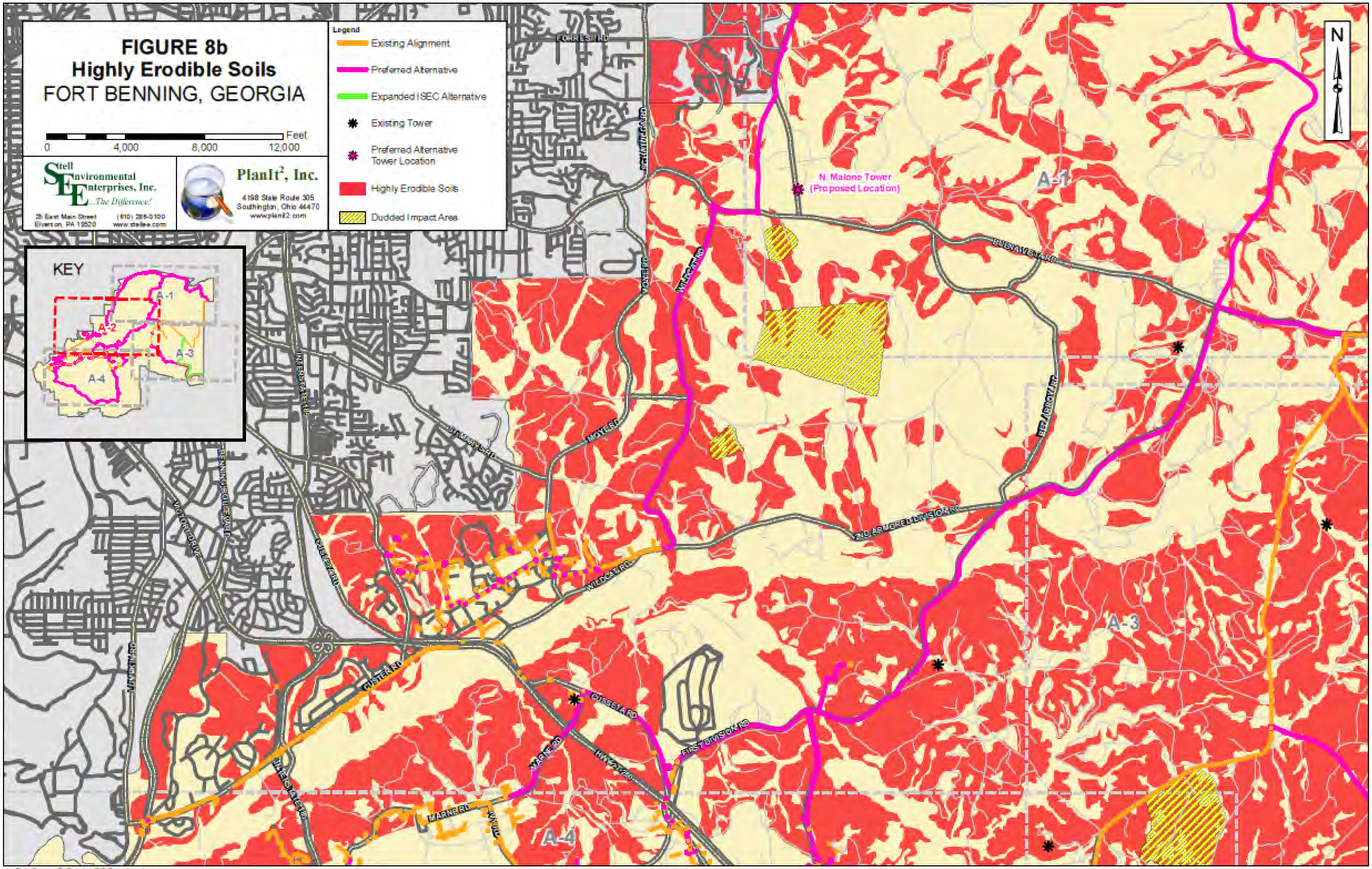


FIGURE 8b
Highly Erodible Soils
FORT BENNING, GEORGIA
0 4,000 8,000 12,000 Feet
Legend
Existing Alignment
Preferred Alternative
Expanded ISEC Alternative
Existing Tower
Preferred Alternative Tower Location
Highly Erodible Soils
Dudded Impact Area
KEY
N. Malone Tower (Proposed Location)
A-1
A-3
A-4
N

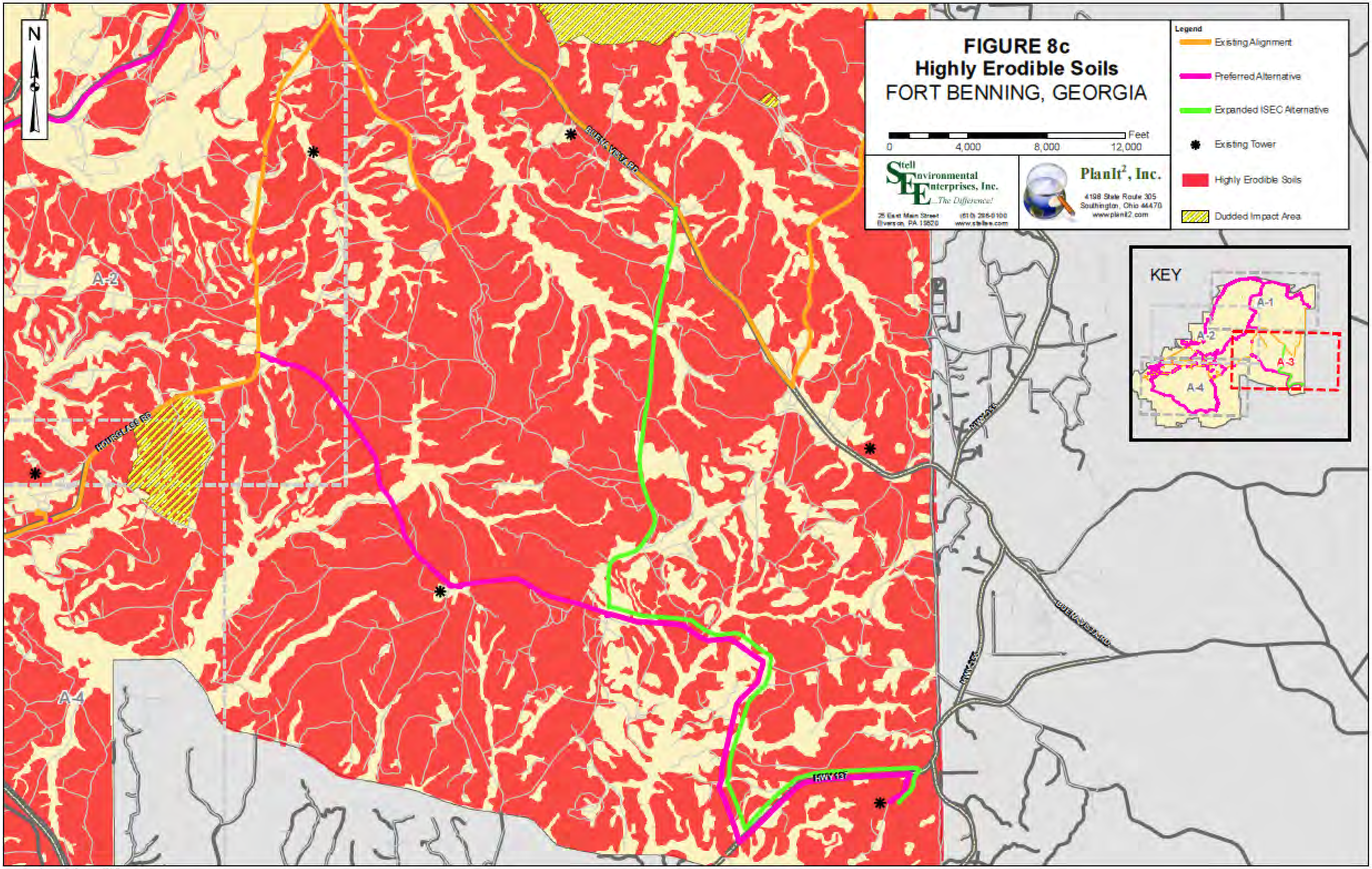
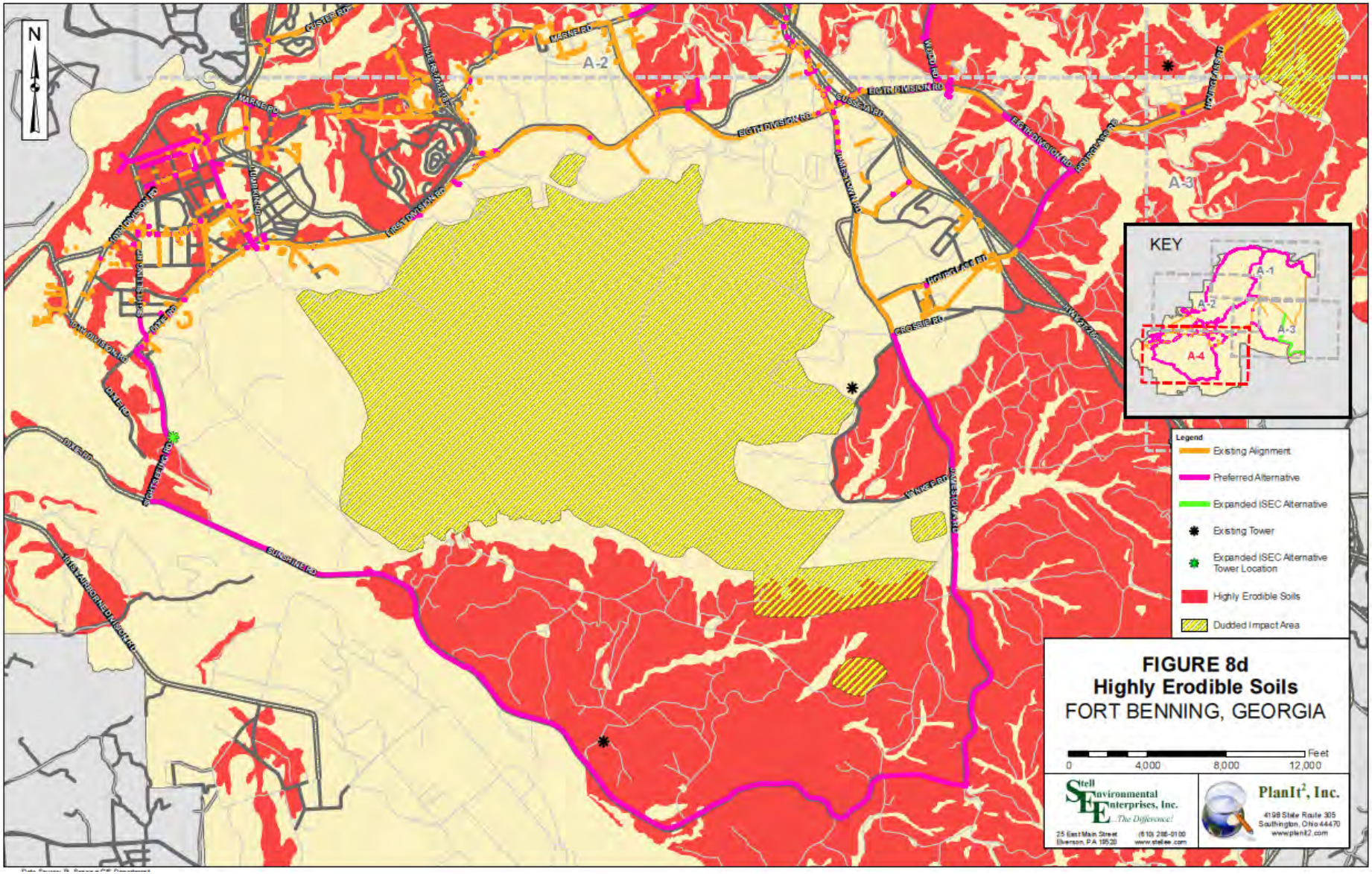


FIGURE 8c
Highly Erodible Soils
FORT BENNING, GEORGIA
Feet
0
4,000
8,000
12,000
Stell Environmental Enterprises, Inc.
...The Difference!
25 East Main Street
Elverson, PA 19520
(610) 286-0100
www.stellee.com
PlanIt[2], Inc.
4198 State Route 305
Southington, Ohio 44470
www.planit2.com
Legend
Existing Alignment
Preferred Alternative
Expanded ISEC Alternative
Existing Tower
Highly Erodible Soils
Dudded Impact Area
KEY
A-1
A-2
A-3
A-4
N
A-2
A-4
HOURGLASS RD
BUENA VISTA RD
HWY 137


N
A-2
A-3
KEY
A-1
A-2
A-3
A-4
Legend
Existing Alignment
Preferred Alternative
Expanded ISEC Alternative
Existing Tower
Expanded ISEC Alternative Tower Location
Highly Erodible Soils
Dudded Impact Area
FIGURE 8d
Highly Erodible Soils
FORT BENNING, GEORGIA
Feet
0
4,000
8,000
12,000
Stell Environmental Enterprises, Inc.
The Difference!
25 East Main Street
Ellverson, PA 19520
(610) 286-0100
www.stell-ee.com
PlanIt², Inc.
4198 State Route 305
Southington, Ohio 44470
www.planit2.com

4.4.3 Water Resources and Wetlands

This subsection provides a description of the water resources and wetlands within the limits of Fort Benning. Water resources include both surface water and groundwater. For the purposes of this EA, no watercourses or wetlands were delineated in the field. All information was obtained through previously approved Fort Benning NEPA and other environmental documentation. **Figures 9a-d** identify all water resources and wetlands, including both delineated wetlands and National Wetland Inventory (NWI) -identified wetlands, within Fort Benning. It is important to note that within the Proposed Action footprint, wetlands have not been delineated within the following areas:

- Within the northeastern portion of the Installation, near the Hastings Range, particularly in the vicinity of Box Springs Road, Cactus Road, and Turrentine Road
- Within the northwestern portion of the Installation, along 10th Armored Division Road, from Midwest Road south to Buena Vista Road
- Within the southeastern portion of the Installation, particularly in the area of Cyclone Road and Old Gap Road
- Within the general southern portion of the Installation, in the vicinity of Sunshine Road.

These non-delineated areas are identified in **Figures 9a-d**.

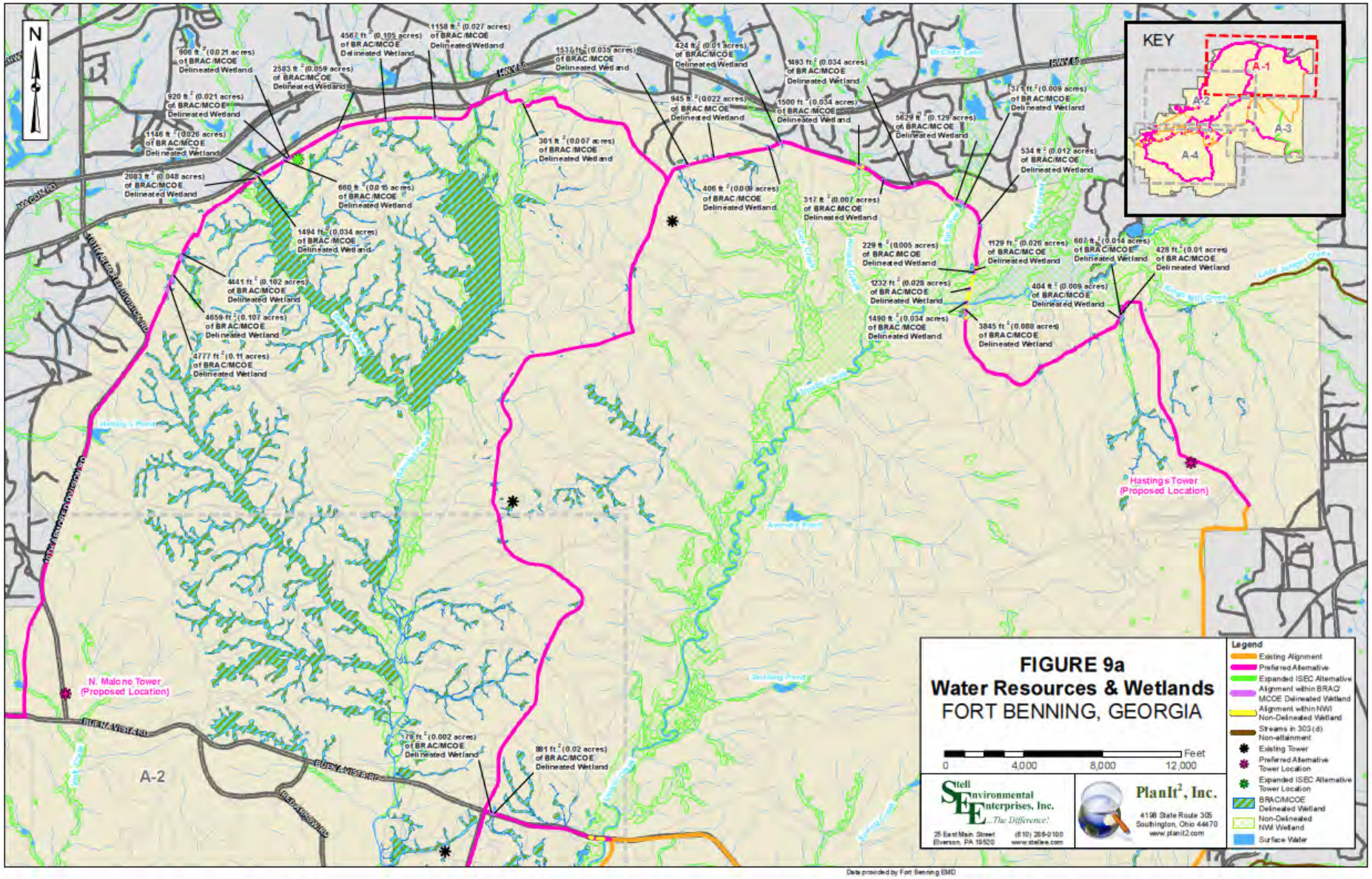
Watersheds

Fort Benning is predominantly located within the Chattahoochee River Basin. The basin contains part of the Blue Ridge, Piedmont, and Coastal Plain Physiographic Provinces. The basin spans portions of Georgia, Alabama, and Florida and totals 8,770 square miles. Seventy percent (6,140 square miles) of the basin is located in Georgia, twenty-nine percent (2,574 square miles) is located in Alabama, and one percent (56 square miles) is located in Florida (DA 2007). A small portion of the southeastern corner of the Installation drains into the Flint River Basin to the east. These two rivers join to the south of Fort Benning and flow into the Gulf of Mexico (DA 2004).

Fort Benning's watershed management practices include the development and implementation of a soil conservation program at the watershed level. Watershed Management Units (WMUs) were identified at Fort Benning as part of a watershed inventory in 1998. These WMUs are used as a framework for monitoring water quality and erosion, conducting watershed restoration projects, and conducting other management activities. Based on data from the 1998 inventory, Fort Benning contains 29 WMUs, of which 15 occur entirely within the Installation (DA 2009).

Surface Waters

The Chattahoochee River is the largest water body associated with Fort Benning and flows through approximately 15 miles of the Installation. The Chattahoochee River begins in the Blue Ridge Mountains of Union County, Georgia; flows south through Atlanta to the Georgia and Alabama borders at West Point Lake; and terminates in Lake Seminole in Florida (DA 2009). This major perennial stream flows in a southerly direction, separating the Georgia and Alabama portions of Fort


N
KEY
A-1
A-2
A-3
A-4
906 ft² (0.021 acres) of BRAC/MCOE Delineated Wetland
2583 ft² (0.059 acres) of BRAC/MCOE Delineated Wetland
4567 ft² (0.105 acres) of BRAC/MCOE Delineated Wetland
1158 ft² (0.027 acres) of BRAC/MCOE Delineated Wetland
1536 ft² (0.035 acres) of BRAC/MCOE Delineated Wetland
424 ft² (0.01 acres) of BRAC/MCOE Delineated Wetland
1493 ft² (0.034 acres) of BRAC/MCOE Delineated Wetland
920 ft² (0.021 acres) of BRAC/MCOE Delineated Wetland
945 ft² (0.022 acres) of BRAC/MCOE Delineated Wetland
1500 ft² (0.034 acres) of BRAC/MCOE Delineated Wetland
373 ft² (0.009 acres) of BRAC/MCOE Delineated Wetland
1146 ft² (0.026 acres) of BRAC/MCOE Delineated Wetland
5629 ft² (0.129 acres) of BRAC/MCOE Delineated Wetland
534 ft² (0.012 acres) of BRAC/MCOE Delineated Wetland
301 ft² (0.007 acres) of BRAC/MCOE Delineated Wetland
2083 ft² (0.048 acres) of BRAC/MCOE Delineated Wetland
660 ft² (0.015 acres) of BRAC/MCOE Delineated Wetland
406 ft² (0.009 acres) of BRAC/MCOE Delineated Wetland
317 ft² (0.007 acres) of BRAC/MCOE Delineated Wetland
1494 ft² (0.034 acres) of BRAC/MCOE Delineated Wetland
229 ft² (0.005 acres) of BRAC/MCOE Delineated Wetland
1129 ft² (0.026 acres) of BRAC/MCOE Delineated Wetland
607 ft² (0.014 acres) of BRAC/MCOE Delineated Wetland
428 ft² (0.01 acres) of BRAC/MCOE Delineated Wetland
4441 ft² (0.102 acres) of BRAC/MCOE Delineated Wetland
1232 ft² (0.028 acres) of BRAC/MCOE Delineated Wetland
404 ft² (0.009 acres) of BRAC/MCOE Delineated Wetland
4659 ft² (0.107 acres) of BRAC/MCOE Delineated Wetland
1490 ft² (0.034 acres) of BRAC/MCOE Delineated Wetland
3845 ft² (0.088 acres) of BRAC/MCOE Delineated Wetland
4777 ft² (0.11 acres) of BRAC/MCOE Delineated Wetland
Hastings Tower (Proposed Location)
N. Malone Tower (Proposed Location)
BUENA VISTA RD
A-2
379 ft² (0.002 acres) of BRAC/MCOE Delineated Wetland
881 ft² (0.02 acres) of BRAC/MCOE Delineated Wetland
FIGURE 9a
Water Resources & Wetlands
FORT BENNING, GEORGIA
Feet
0
4,000
8,000
12,000
Stell Environmental Enterprises, Inc. ...The Difference!
25 East Main Street Elverson, PA 19520 (610) 286-0100 www.stellea.com
PlanIt², Inc.
4198 State Route 305 Southington, Ohio 44470 www.planit2.com
Legend
Existing Alignment
Preferred Alternative
Expanded ISEC Alternative
Alignment within BRAC/MCOE Delineated Wetland
Alignment within NWI Non-Delineated Wetland
Streams in 303(d) Non-attainment
Existing Tower
Preferred Alternative Tower Location
Expanded ISEC Alternative Tower Location
BRAC/MCOE Delineated Wetland
Non-Delineated NWI Wetland
Surface Water
Data provided by Fort Benning EMD

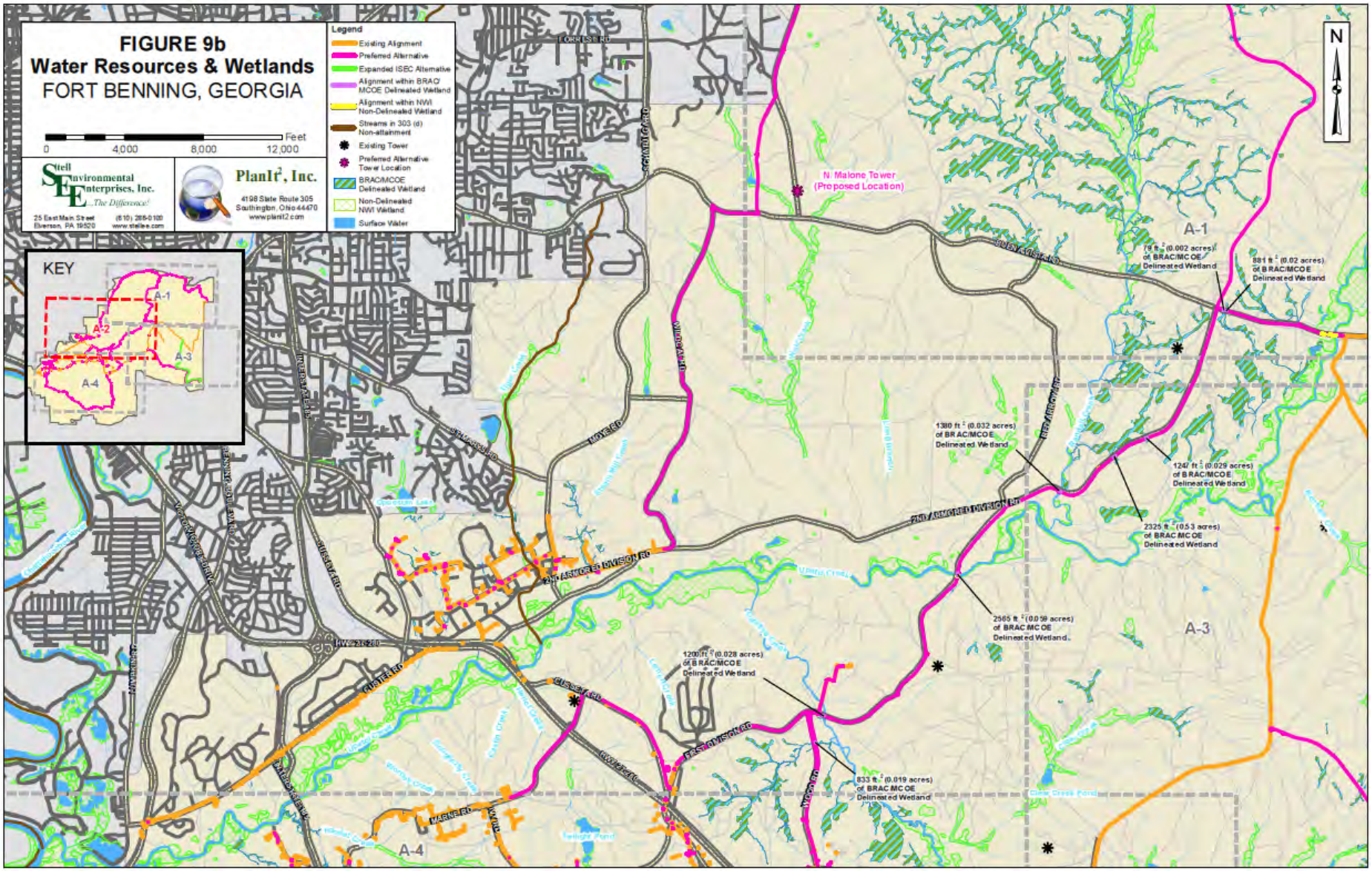


FIGURE 9b
Water Resources & Wetlands
FORT BENNING, GEORGIA
Feet
0
4,000
8,000
12,000
Stell Environmental Enterprises, Inc.
The Difference!
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Legend
Existing Alignment
Preferred Alternative
Expanded ISEC Alternative
Alignment within BRAC/ MCOE Delineated Wetland
Alignment within NWI Non-Delineated Wetland
Streams in 303 (d) Non-attainment
Existing Tower
Preferred Alternative Tower Location
BRAC/MCOE Delineated Wetland
Non-Delineated NWI Wetland
Surface Water
KEY
A-1
A-2
A-3
A-4
N
N. Malone Tower (Proposed Location)
79 ft² (0.002 acres) of BRAC/MCOE Delineated Wetland
881 ft² (0.02 acres) of BRAC/MCOE Delineated Wetland
1380 ft² (0.032 acres) of BRAC/MCOE Delineated Wetland
124' ft² (0.029 acres) of BRAC/MCOE Delineated Wetland
2325 ft² (0.53 acres) of BRAC/MCOE Delineated Wetland
2565 ft² (0.059 acres) of BRAC/MCOE Delineated Wetland.
1200 ft² (0.028 acres) of BRAC/MCOE Delineated Wetland
833 ft² (0.019 acres) of BRAC/MCOE Delineated Wetland
2ND ARMORED DIVISION RD
HWY 27&280
GUSTER RD
MARNE RD
A-1
A-3
A-4

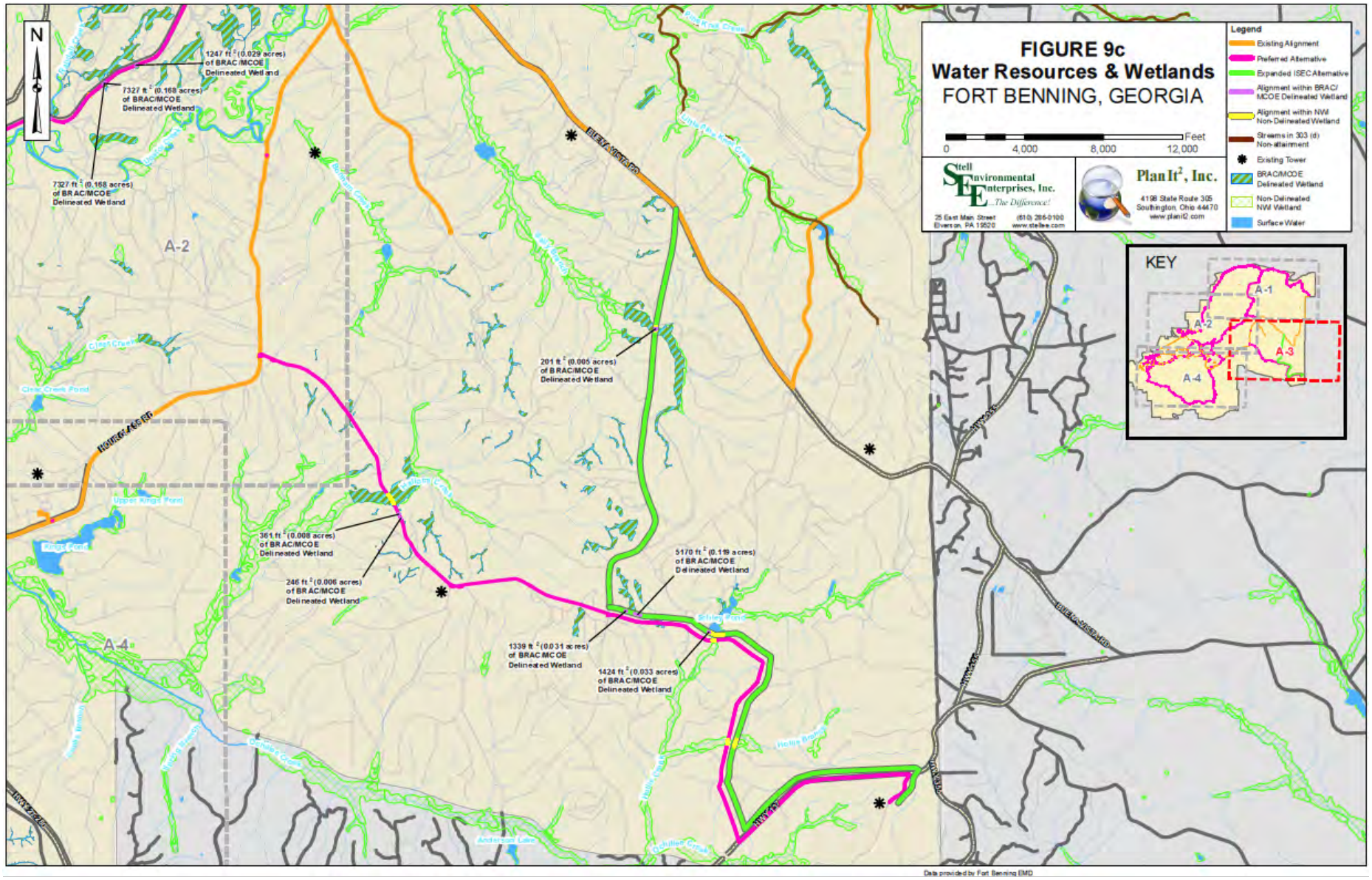
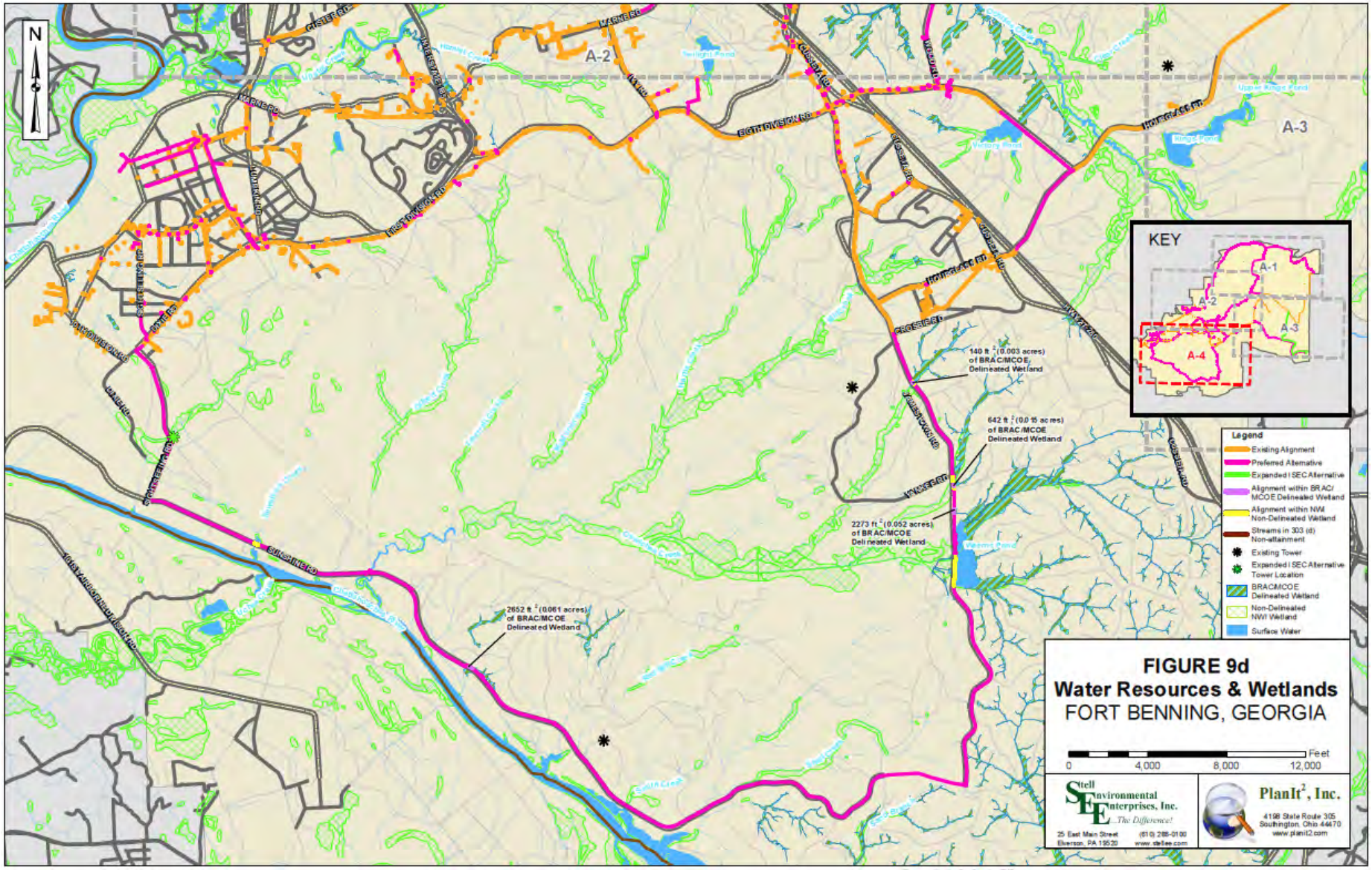


FIGURE 9c
Water Resources & Wetlands
FORT BENNING, GEORGIA
Feet
0
4,000
8,000
12,000
Legend
Existing Alignment
Preferred Alternative
Expanded ISEC Alternative
Alignment within BRAC/ MCOE Delineated Wetland
Alignment within NWI Non-Delineated Wetland
Streams in 303 (d) Non-attainment
Existing Tower
BRAC/MCOE Delineated Wetland
Non-Delineated NWI Wetland
Surface Water
Stell Environmental Enterprises, Inc. ...The Difference!
25 East Main Street Elverson, PA 19520 (610) 286-0100 www.stellee.com
PlanIt², Inc.
4198 State Route 305 Southington, Ohio 44470 www.planit2.com
KEY
A-1
A-2
A-3
A-4
N
1247 ft² (0.029 acres) of BRAC/MCOE Delineated Wetland
7327 ft² (0.168 acres) of BRAC/MCOE Delineated Wetland
7327 ft² (0.168 acres) of BRAC/MCOE Delineated Wetland
201 ft² (0.005 acres) of BRAC/MCOE Delineated Wetland
361 ft² (0.008 acres) of BRAC/MCOE Delineated Wetland
246 ft² (0.006 acres) of BRAC/MCOE Delineated Wetland
5170 ft² (0.119 acres) of BRAC/MCOE Delineated Wetland
1339 ft² (0.031 acres) of BRAC/MCOE Delineated Wetland
1424 ft² (0.033 acres) of BRAC/MCOE Delineated Wetland
Data provided by Fort Benning EMD


N
A-2
A-3
KEY
A-1
A-2
A-3
A-4
140 ft² (0.003 acres) of BRAC/MCOE Delineated Wetland
642 ft² (0.015 acres) of BRAC/MCOE Delineated Wetland
2273 ft² (0.052 acres) of BRAC/MCOE Delineated Wetland
2652 ft² (0.061 acres) of BRAC/MCOE Delineated Wetland
Legend
Existing Alignment
Preferred Alternative
Expanded ISEC Alternative
Alignment within BRAC/MCOE Delineated Wetland
Alignment within NWI Non-Delineated Wetland
Streams in 303 (d) Non-attainment
Existing Tower
Expanded ISEC Alternative Tower Location
BRAC/MCOE Delineated Wetland
Non-Delineated NWI Wetland
Surface Water
FIGURE 9d
Water Resources & Wetlands
FORT BENNING, GEORGIA
Feet
0
4,000
8,000
12,000
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The Difference!
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Elverson, PA 19520
(610) 286-0100
www.stellee.com
PlanIt², Inc.
4198 State Route 305
Southington, Ohio 44470
www.planit2.com

Benning. Numerous oxbows, abandoned meander channels, isolated ponds, and wetland areas are found along the River (DA 2004).

Fort Benning contains many tributaries and streams that flow into the Chattahoochee River through Upatoi Creek on the Georgia side of the Installation and the Uchee Creek on the Alabama side. Within the southernmost portion of the Installation, streams and tributaries flow directly into the Chattahoochee River, while the northwest portion of the Installation drains into Bull Creek. A small portion of the southeastern corner of the Installation drains into the Flint River Basin to the east.

Larger streams within the Proposed Action footprint include: Upatoi Creek, Ochille Creek, Bull Creek, Kendall Creek, Cox Creek, Randall Creek, Dozier Creek, Oswichee Creek, and Sewelson Creek. The Proposed Action footprint also includes several surface water bodies, including: Weems Pond, Hedley Pond, and Victory Lake (see **Figures 9a-d**). As shown in **Figures 9a-d**, there are approximately 94 stream crossings throughout the Proposed Action footprint, 33 of which are perennial and 61 of which are intermittent. Of this total, one additional intermittent stream is only within the Expanded ISEC Layout Alternative alignment.

Section 305(b) of the CWA requires States to assess and describe the quality of its waters every two years in a report called the 305(b) report. Section 303(d) of the CWA requires States to submit to the USEPA a list of all of the waters that are not meeting their designated uses and that need to have a Total Maximum Daily Load (TMDL) established for the water body. The 303(d) list is submitted every two years. Georgia submits a combined 305(b)/303(d) report. This combined report is called an Integrated Report and has typically been entitled the ~~–~~Water Quality in Georgia" report. Based on the comparison of the data to the water quality criteria, the GaDNR-EPD places each water into one of three broad groups. Waters are assessed as: 1) supporting their designated use; 2) not supporting their designated use; or 3) assessment pending (http://www.gaepd.org/Documents/305b.html).

According to the EPD, portions of the streams listed below and located within Fort Benning are identified on the 303(d) list as ***not*** supporting their the designated use (http://www.gaepd.org/Files_PDF/305b/Y2010_303d/ Y2010_Streams_DRAFT):

- The Chattahoochee River from the North Highland Dam to Upatoi Creek. This section is in violation of fecal coliform bacteria limits and polychlorinated biphenyls (Fish Consumption Guidance). In addition, the EPD established TMDLs for this stream section in 2003.

- Little Juniper Creek, Little Pine Knot Creek, Pine Knot Creek, Tiger Creek, and Little Hitchitee Creek (designated use, Fishing).

However, it is important to note that the Proposed Action alignments, under either Action Alternative, would not cross or be located within 100 feet of any of the reaches of the above-referenced stream segments. The nearest impaired stream is the Chattahoochee River, located south of the proposed alignment along Sunshine Road (see **Figure 9d**).

Under the CWA, discharge of storm water from a site due to construction activities must be authorized under a NPDES permit. The GaDNR-EPD was authorized to issue general permits by the USEPA in 1991. In Georgia, general permits regulate stand-alone construction sites, infrastructure construction sites, and common development construction sites. These permits are applicable to construction activities on sites greater than one acre, or tracts of less than one acre that are part of a larger development. General permits are valid for five years (http://www.state.ga.us/gswcc). The

permit process for any construction affecting greater than one acre includes submission of a NOI, an ESPCP, and required attachments to the GaDNR-EPD.

The Georgia Erosion and Sedimentation Act of 1975, OCGA 12-7-1, *et seq.* (GESA) applies State-wide and is the primary law protecting vegetated buffers in Georgia. GESA establishes a minimum undisturbed, vegetated buffer of 25 feet of wrested vegetation for all streams in Georgia. Trout streams, both primary and secondary, require a minimum 50-foot undisturbed vegetated buffer. These buffer requirements are incorporated into the NPDES construction general permit; no such trout streams are present on Fort Benning, and the 25-foot setback from the edge of wrested vegetation is applicable Post-wide (http://www.state.ga.us/gswcc).

Floodplains

EO 11988, *Floodplain Management*, requires Federal agencies to determine whether a proposed action would occur in a floodplain and instructs Federal agencies to consider the risk, danger, and potential impacts of locating projects within floodplains. If the agency proposes an action in a floodplain, the agency must consider alternatives to avoid adverse effects and incompatible development in the floodplain.

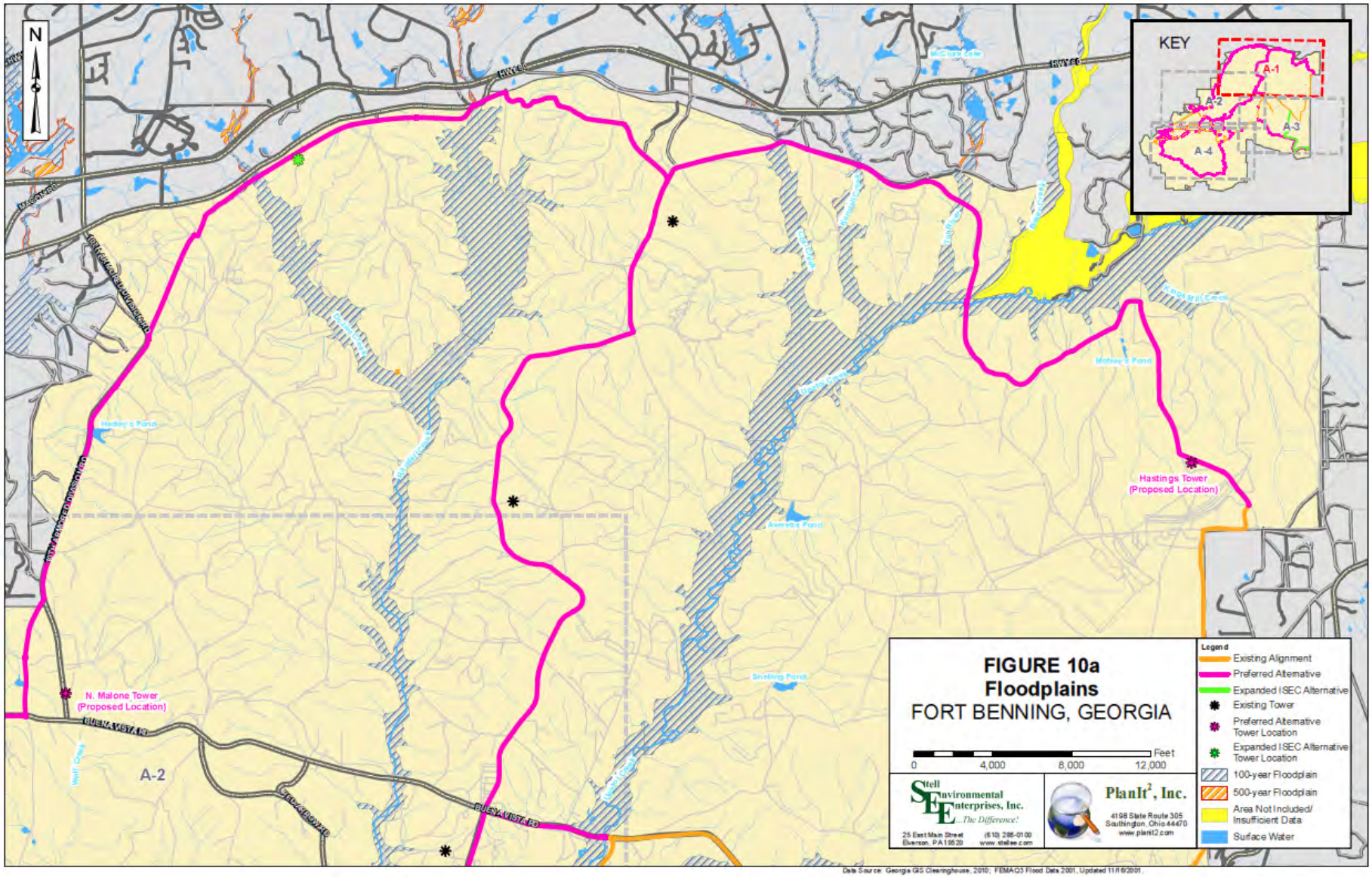
Floodplains are associated with many on-Post streams and tributaries and are present throughout the Installation. On-Post 100-year and 500-year floodplains are shown in **Figures 10a-d**.

Groundwater

Fort Benning is located within the Coastal Plain Hydrogeologic province. The principal groundwater source for Fort Benning is the Cretaceous aquifer system. The regional direction of groundwater flow in the Coastal Plain is from the north to the west. Aquifers in the Coastal Plain consist of porous sands and carbonates, and include alternating units of sand, clay, sandstone, dolomite, and limestone (DA 2009). Groundwater depths at the Installation are variable and range from two feet near Upatoi Creek to more than 100 feet in surrounding elevations. On average, depths in the main cantonment area vary from 20 to 40 feet; the exception is the area west of the Jump Towers that can be as shallow as 12 feet (DA 2002).

Wetlands

Wetlands are defined by the CWA as areas ~~in~~undated or saturated by surface or ground water at a frequency and duration sufficient to support, and under normal circumstances do support, the prevalence of vegetation typically adapted for life in saturated soil conditions." Wetlands are considered Waters of the US and are protected under Sections 401 and 404 of the CWA and other regulations. Disturbances to wetlands that cannot be avoided need to comply with the permitting requirements of the CWA, as well as comply with and satisfy mitigation agreements and best management practices during construction.


N
KEY
A-1
A-2
A-3
A-4
FIGURE 10a
Floodplains
FORT BENNING, GEORGIA
Feet
0
4,000
8,000
12,000
Legend
Existing Alignment
Preferred Alternative
Expanded ISEC Alternative
Existing Tower
Preferred Alternative Tower Location
Expanded ISEC Alternative Tower Location
100-year Floodplain
500-year Floodplain
Area Not Included/ Insufficient Data
Surface Water
Hastings Tower (Proposed Location)
N. Malone Tower (Proposed Location)
BUENA VISTA RD
A-2
Hadley's Pond
Averett's Pond
Smelley Pond
McGuire Lake
Data Source: Georgia GIS Clearinghouse, 2010; FEMA Q3 Flood Data 2001, Updated 11/6/2001.

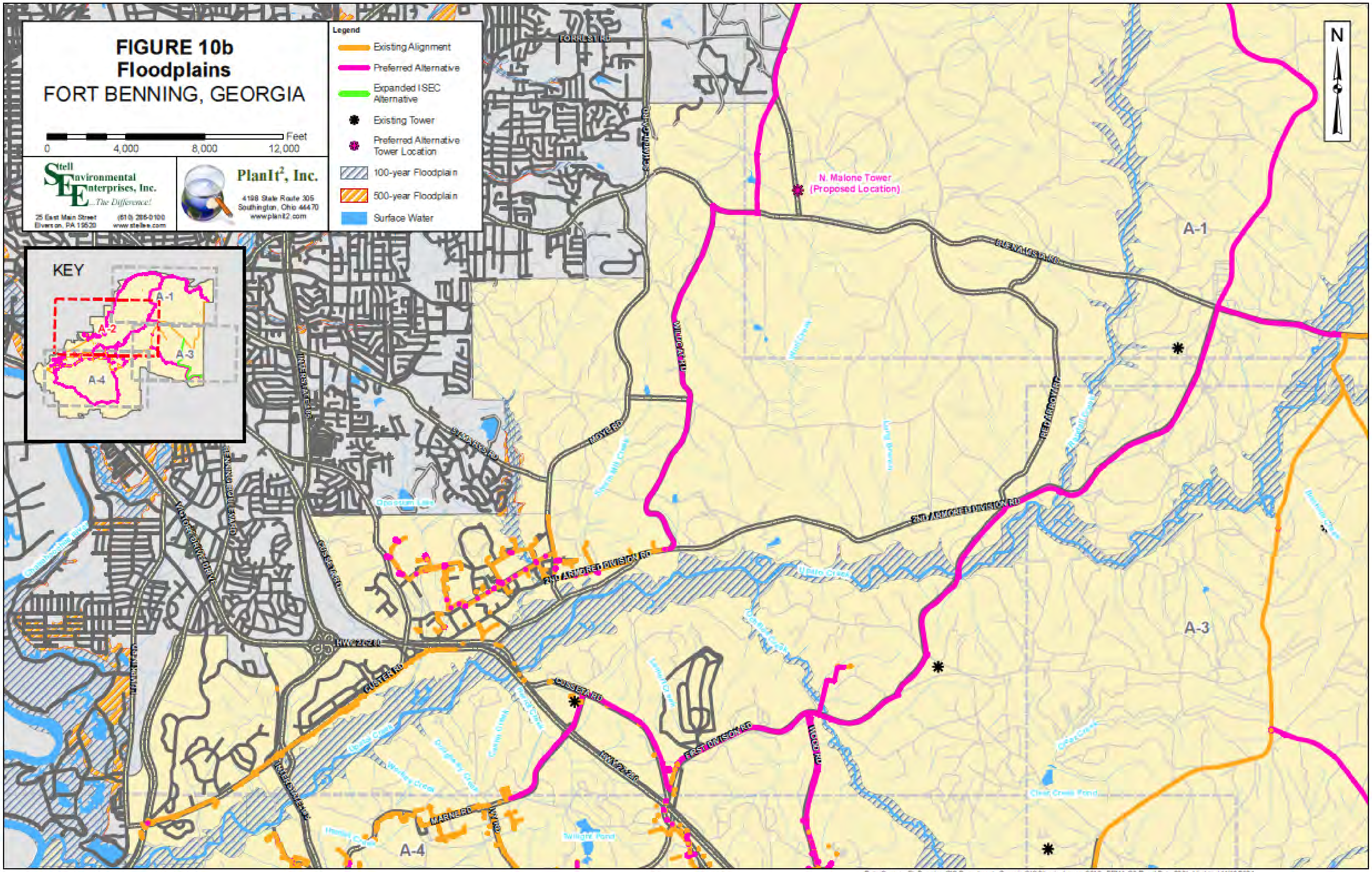


FIGURE 10b
Floodplains
FORT BENNING, GEORGIA
Feet
0 4,000 8,000 12,000
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(610) 286-0100 www.stellee.com
PlanIt², Inc.
4198 State Route 305 Southington, Ohio 44470
www.planit2.com
Legend
Existing Alignment
Preferred Alternative
Expanded ISEC Alternative
Existing Tower
Preferred Alternative Tower Location
100-year Floodplain
500-year Floodplain
Surface Water
KEY
A-1
A-2
A-3
A-4
N
N. Malone Tower (Proposed Location)
BUENA VISTA RD
2ND ARMORED DIVISION RD
FIRST DIVISION RD
CUSSETA RD
CUSTER RD
MARNE RD
HWY 26-280
INTERSTATE 185
Data Source: Ft. Benning GIS Department, Georgia GIS Clearinghouse, 2010; FEMA Q3 Flood Data 2001. Updated 11/16/2001.

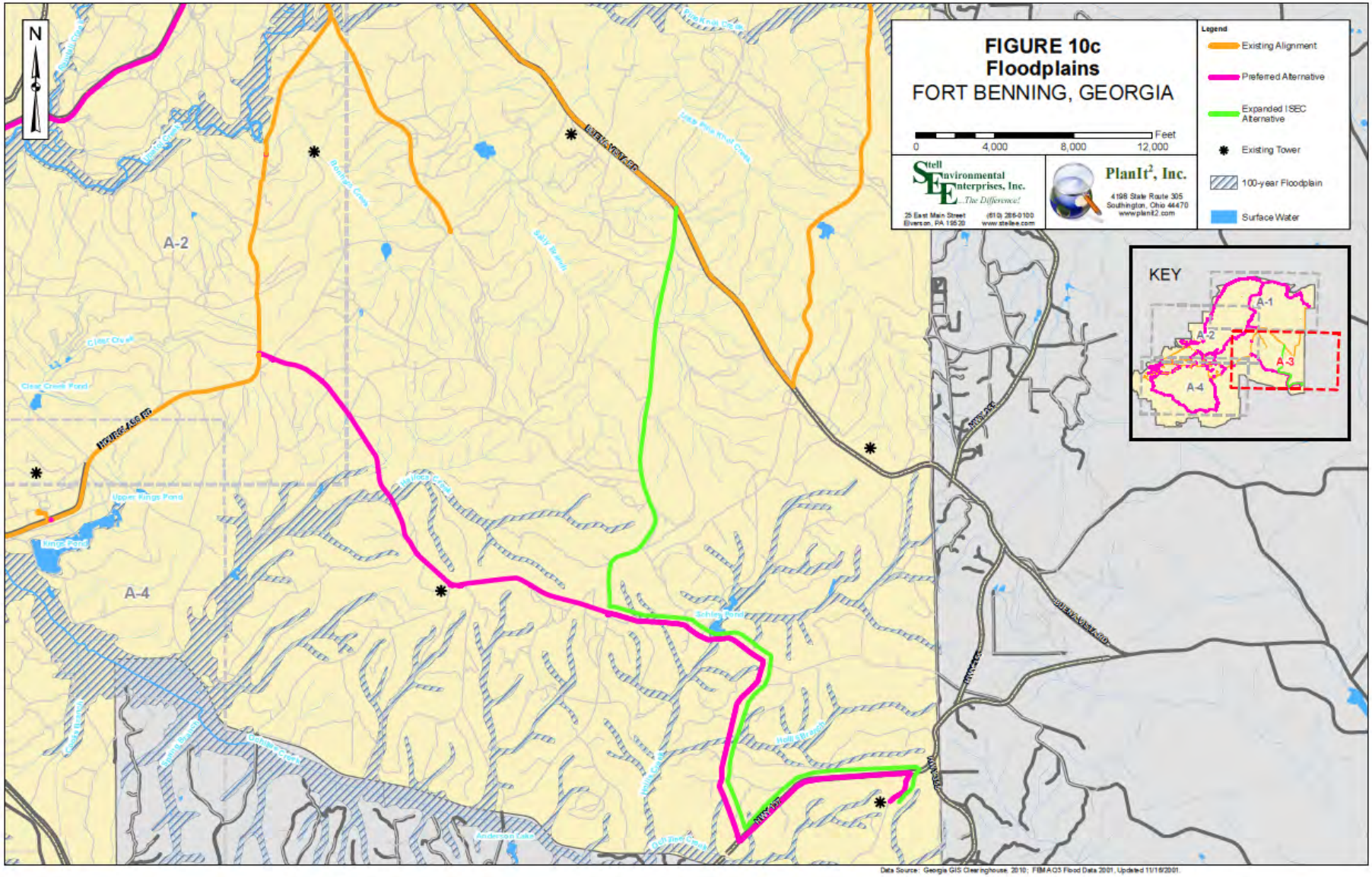
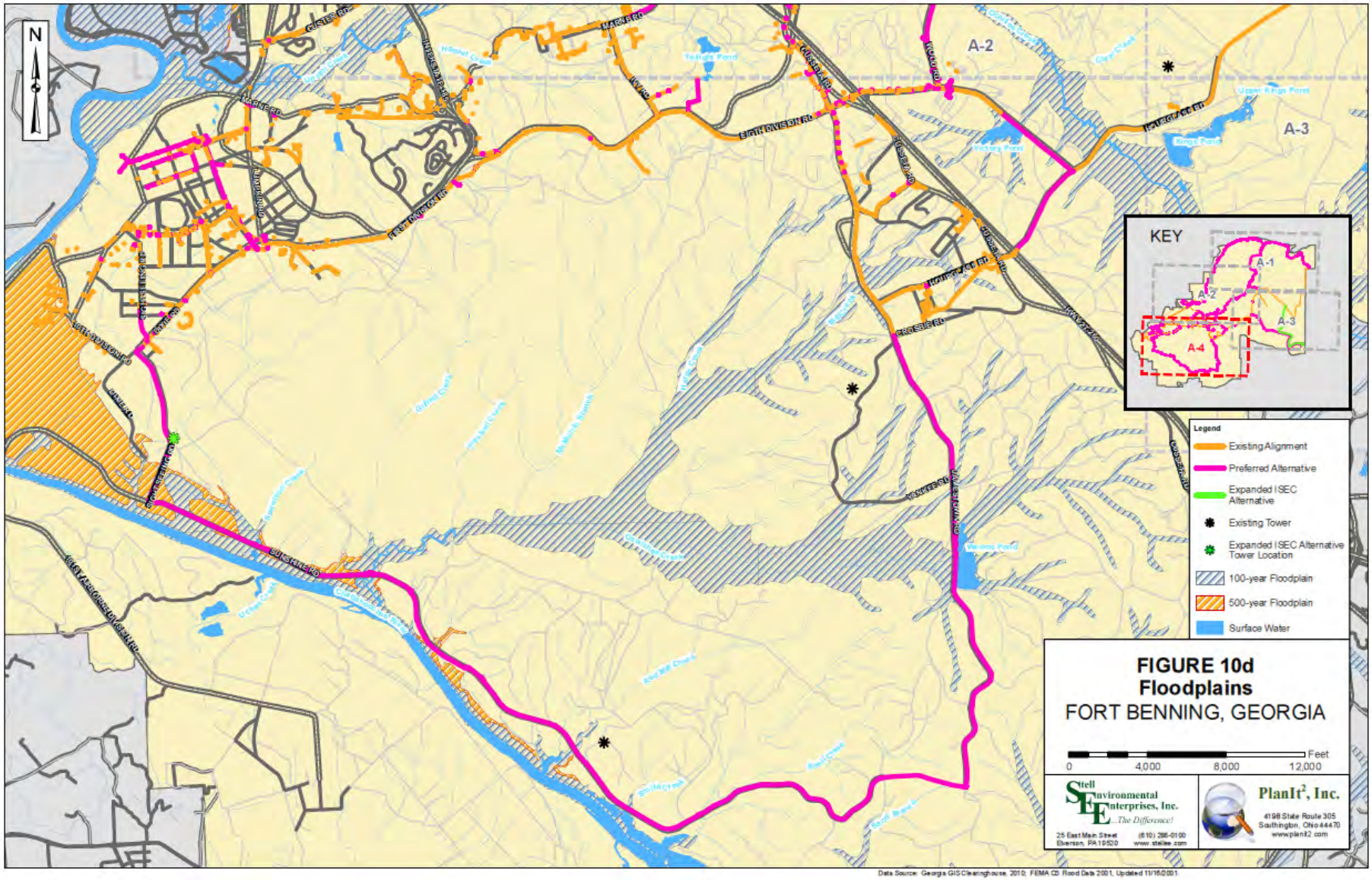


FIGURE 10c
Floodplains
FORT BENNING, GEORGIA
0
4,000
8,000
12,000
Feet
Legend
Existing Alignment
Preferred Alternative
Expanded ISEC Alternative
Existing Tower
100-year Floodplain
Surface Water
Stell Environmental Enterprises, Inc.
...The Difference!
PlanIt², Inc.
KEY
A-1
A-2
A-3
A-4
N
Data Source: Georgia GIS Clearinghouse, 2010; FEMA GIS Flood Data 2001, Updated 11/19/2001.


N
A-2
A-3
KEY
A-1
A-2
A-3
A-4
Legend
Existing Alignment
Preferred Alternative
Expanded ISEC Alternative
Existing Tower
Expanded ISEC Alternative Tower Location
100-year Floodplain
500-year Floodplain
Surface Water
FIGURE 10d
Floodplains
FORT BENNING, GEORGIA
Feet
0
4,000
8,000
12,000
Stell Environmental Enterprises, Inc.
...The Difference!
PlanIt², Inc.
Data Source: Georgia GIS Clearinghouse, 2010; FEMA GIS Flood Data 2001, Updated 11/16/2001

Wetland information presented in this EA is based on GIS data available from Fort Benning, the results of previous on-Post wetland delineations, and NWI mapping. No on-site wetland delineations were conducted in support of this EA. Please refer to **Figures 9a-d** that identify current wetland data for Fort Benning, including identification of those areas that have not been previously delineated and are coincident with the Proposed Action.

As shown in **Figures 9a-d**, wetlands have been delineated during the preparation of the 2004 DMPRC, 2007 BRAC, and 2009 MCOE NEPA documents. As a result, wetlands have been delineated throughout large portions of the Installation. In areas where wetland delineations have not been previously completed, NWI data are shown in **Figures 9a-d**. However, NWI data are not all inclusive; wetlands may be present but not identified on NWI mapping. Based on existing available data, the Proposed Action alignments traverse approximately 1.8 acres of delineated wetlands and 2.6 acres of NWI-identified wetlands. Of this total, approximately 0.50 acre of wetlands (i.e., five additional crossings) is located within the Expanded ISEC Layout Alternative alignment exclusively (see **Figure 9c**).

4.4.4 Biological Resources

Biological resources include native or naturalized plants and animals and the habitats in which they occur (DA 2009). Biological resources discussed in this EA include: Vegetation, Wildlife, Migratory Birds, and Threatened and Endangered Species.

Vegetation

Vegetative cover at Fort Benning predominantly consists of a mix of pine and hardwood forested areas. There are more than 1,275 species of plants within the Installation, located within approximately 16,000 acres of lawn and grassed areas, 4,000 acres of open land and fields, and 163,000 acres of woodland (DA 2009). Loblolly and longleaf pine are the predominant conifers within the Installation, comprising approximately 54,000 acres of the woodland; the remaining 109,000 acres of woodland consist of approximately 55,000 acres of mixed pine and 54,000 acres of hardwood forest (DA 2009).

Dominant vegetation within and around the Proposed Action footprint includes mostly disturbed roadways, trails, and utility ROWs surrounded by forested areas of the Installation, with the exception of the cantonment areas. The cantonment areas contain mostly landscaped vegetation and maintained lawns and fields. Mature sycamore, oak, and other species of trees line several of the Installation's main streets and historic districts within the cantonment areas.

Wildlife

Fort Benning contains a wide variety of more than 350 species of wildlife, including approximately 154 species of birds, 47 species of mammals, 48 species of reptiles, 25 species of amphibians, 67 species of fish, and 9 species of mussels, as well as numerous insects and invertebrate species. The most commonly encountered species found within the Installation include: American alligators, turtles, snakes, wading birds, migratory birds, American beaver, white-tailed deer, feral swine (pigs), eastern wild turkey, eastern gray squirrel, raccoon, rabbits, and other small mammals (DA 2009).

Migratory Birds

Approximately 150 species of migratory birds are present (either year-round or seasonally) at Fort Benning. The breeding season for migratory birds is spring through summer (DA 2009). Migratory birds are protected under the MBTA, which implements various treaties and conventions between the US, Canada, Japan, Mexico, and the former Soviet Union for the protection of migratory birds. In addition, EO 13186 mandates the conservation of migratory birds by Federal agencies and their consideration in the NEPA process.

Fort Benning manages and conserves migratory bird species through its Integrated Natural Resources Management Plan (INRMP) and considers effects to migratory birds in any proposed action via the NEPA process, and in accordance with the DoD-USFWS MOU. This MOU was developed pursuant to EO 13186, and identifies specific activities in which cooperation between the USFWS and the DoD would contribute substantially to the conservation of migratory birds and their habitats (DA 2001; DA 2008). Please refer to the Fort Benning MCOE EIS for more information about migratory birds and related requirements (DA 2009).

Threatened and Endangered Species

The Federal Endangered Species Act (ESA) protects federally listed threatened and endangered plant and animal species. Georgia's Wildflower Preservation Act and Georgia's Endangered Wildlife Act protect State listed species on State land.

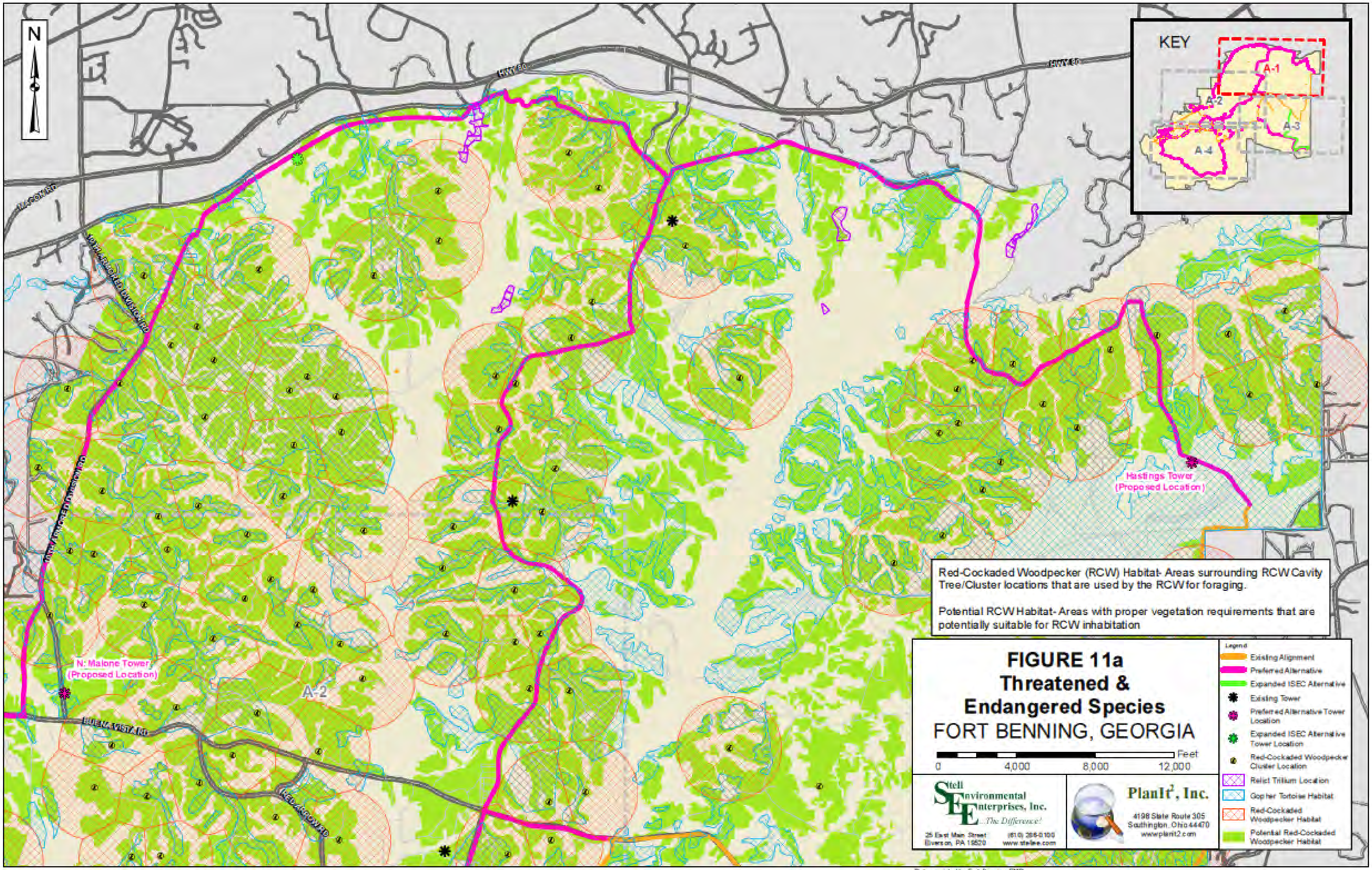
- **Federally Listed Species**

Four federally listed species are present within the boundaries of Fort Benning and include the Red-cockaded Woodpecker (RCW; Endangered), Wood Stork (Endangered), American Alligator (Threatened), and Relict trillium (Endangered). In addition, four State-listed animal species and 11 State-listed plant species are present within the boundaries of Fort Benning. The four animal species include the Gopher Tortoise (Threatened), Barbour's Map Turtle (Threatened), Alligator Snapping Turtle (Threatened), and the Bluestripe Shiner (Threatened). No federally listed mussels have been found on the Installation, although Fort Benning is within the native range of four federally listed mussels species (DA 2009).

Although the species of concern noted above are located throughout Fort Benning, Fort Benning SMEs familiar with these species and their occurrences on the Installation identified the species of concern for this Proposed Action to include: the RCW, the Gopher Tortoise, and the Relict trillium. These species are discussed in more detail in the following subsections. **Figures 11a-d** identify the locations of known habitat and occurrences of the RCW, Relict trillium, and Gopher Tortoise within Fort Benning. These figures depict known locations of the RCW, as well as the 0.5-mile foraging partition around each RCW cluster, and potential RCW habitat. These figures also identify known locations of the Relict trillium and the Gopher Tortoise.

Red-cockaded Woodpecker

The RCW (*Picoides borealis*) was placed on the Federal Endangered Species List in 1970. The reasons for the species listing included its rarity, documented declines in local populations, and reduction of its natural nesting habitat.



Data provided by Fort Benning EMD

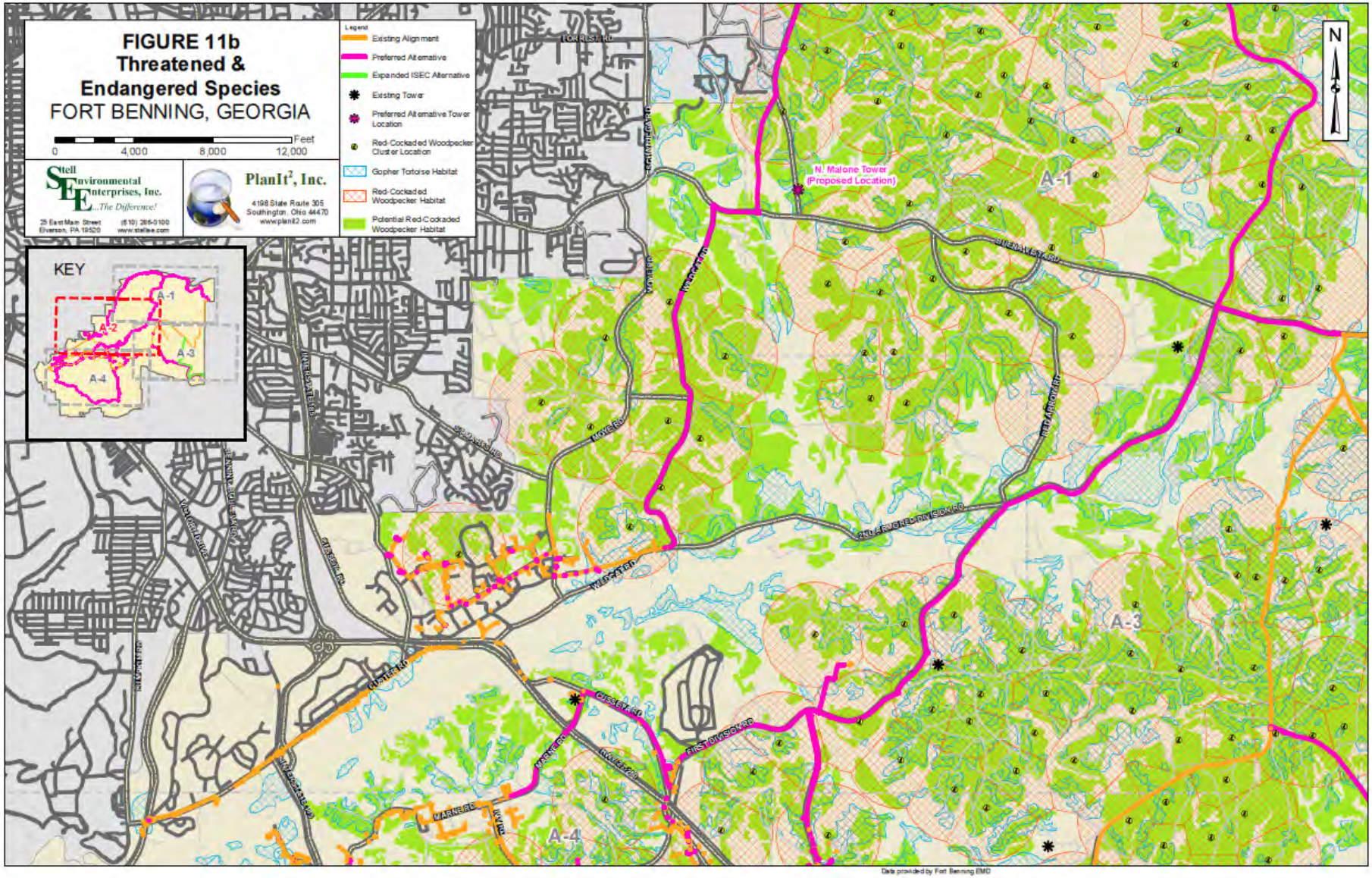


FIGURE 11b
Threatened &
Endangered Species
FORT BENNING, GEORGIA
Feet
0
4,000
8,000
12,000
Stell Environmental Enterprises, Inc.
...The Difference!
PlanIt², Inc.
KEY
A-1
A-2
A-3
A-4
Legend
Existing Alignment
Preferred Alternative
Expanded ISEC Alternative
Existing Tower
Preferred Alternative Tower Location
Red-Cockaded Woodpecker Cluster Location
Gopher Tortoise Habitat
Red-Cockaded Woodpecker Habitat
Potential Red-Cockaded Woodpecker Habitat
N
N. Malone Tower
(Proposed Location)
A-1
A-3
A-4
Data provided by Fort Benning EMD

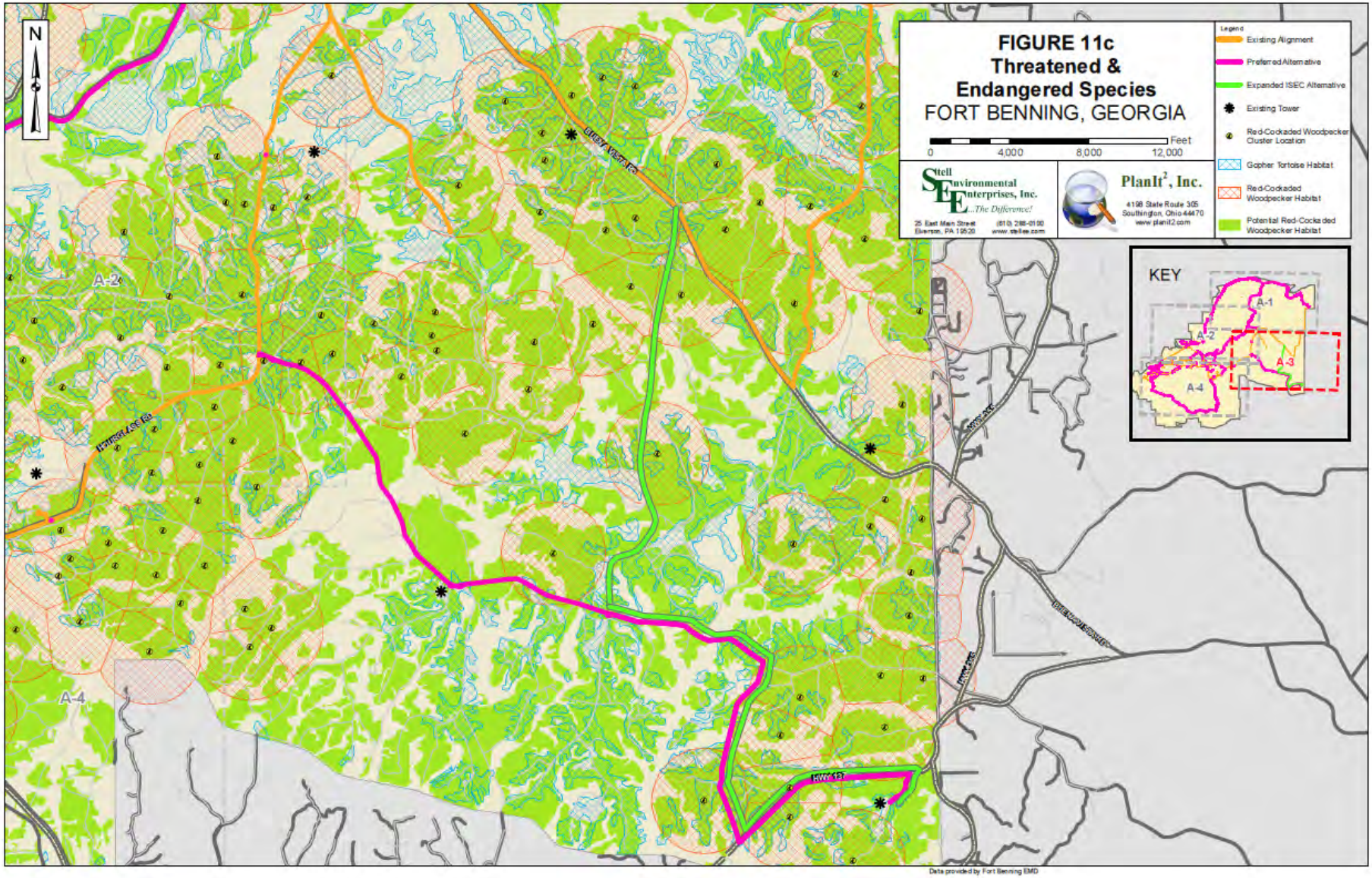


FIGURE 11c
Threatened &
Endangered Species
FORT BENNING, GEORGIA
Feet
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8,000
12,000
Legend
Existing Alignment
Preferred Alternative
Expanded ISEC Alternative
Existing Tower
Red-Cockaded Woodpecker Cluster Location
Gopher Tortoise Habitat
Red-Cockaded Woodpecker Habitat
Potential Red-Cockaded Woodpecker Habitat
Stell Environmental Enterprises, Inc.
...The Difference!
PlanIt², Inc.
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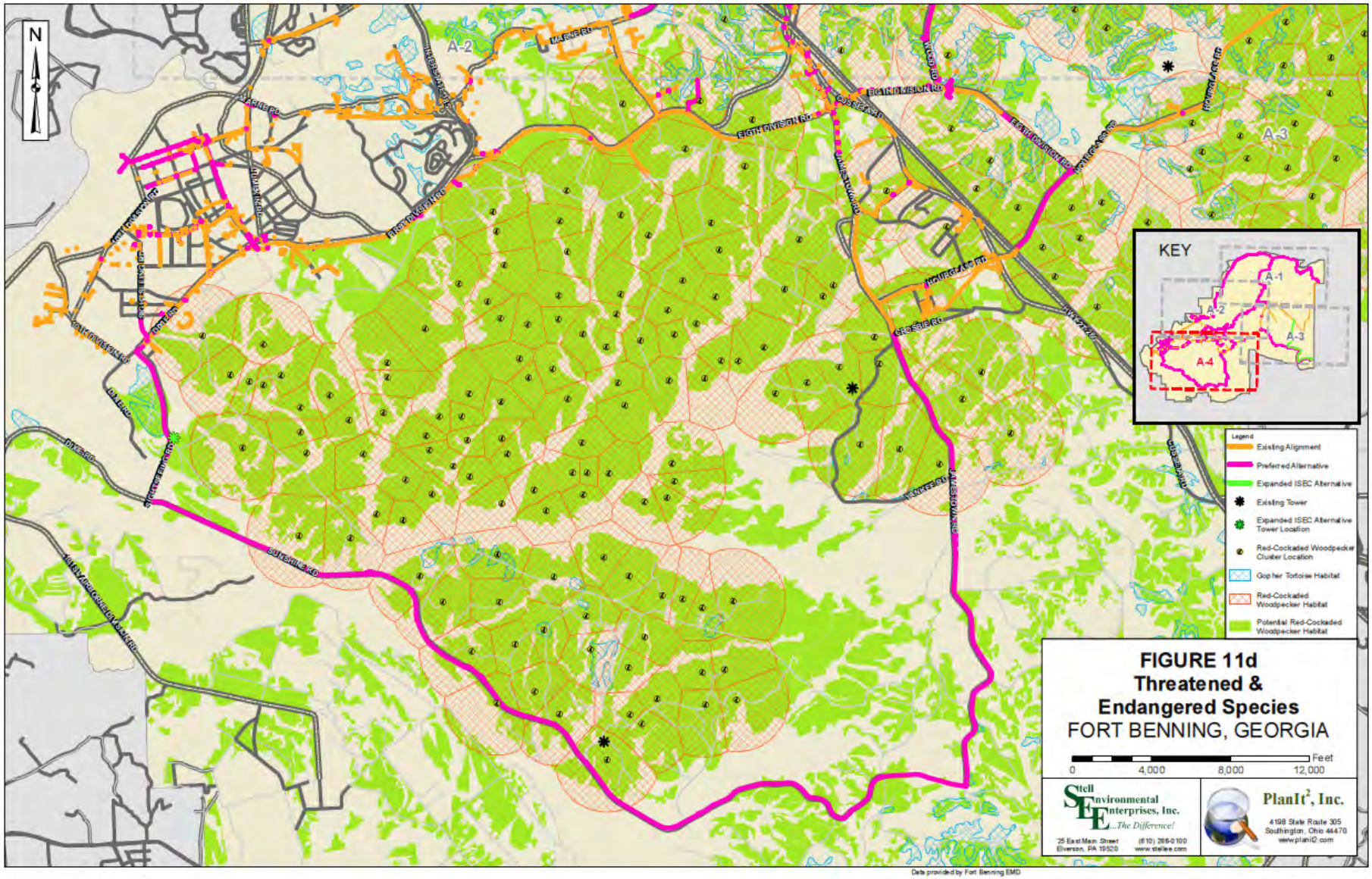
Data provided by Fort Benning EMD


N
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A-3
KEY
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A-2
A-3
A-4
Legend
Existing Alignment
Preferred Alternative
Expanded ISEC Alternative
Existing Tower
Expanded ISEC Alternative Tower Location
Red-Cockaded Woodpecker Cluster Location
Gopher Tortoise Habitat
Red-Cockaded Woodpecker Habitat
Potential Red-Cockaded Woodpecker Habitat
FIGURE 11d
Threatened &
Endangered Species
FORT BENNING, GEORGIA
Feet
0
4,000
8,000
12,000
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4198 State Route 305
Southington, Ohio 44470
www.planit2.com
Data provided by Fort Benning EMD

The RCW is a territorial, non-migratory species that lives in family units called groups. They are unique among all woodpeckers in that RCWs are the only species that excavates cavities in living pine trees for roosting and nesting. Each RCW group lives in an aggregation of cavity trees called a cluster. A cluster is defined as the aggregation of cavity trees previously or currently used and defended by a group of RCWs and includes a 200-foot wide buffer surrounding each tree. An active RCW cluster may be occupied by either a single bird, a mated pair, or a mated pair with helper birds. (https://www-benning.army.mil/emd/conservation/endangered/woodpecker.htm; Marston 2010). These clusters are surrounded by contiguous foraging habitat, extending 0.5 mile for each cluster. Discrete cluster sites are typically located where mature pine trees are more than 60 years old and equal to or greater than 10 inches dbh. Foraging habitat is more variable, and depends on habitat quality, proximity to cluster sites, and other factors (DA 2009). The breeding season for the RCW is 1 April through 31 July (RCW ESMP 2001; DA 2009).

Fort Benning has one of the larger RCW populations in the southeastern US. The most dense populations of the species occurs in the southern portions of the Installation; however, the species is widely dispersed throughout the Installation (see **Figures 11a-d**). As of 2009, there are currently 302 known active and 14 inactive RCW clusters at Fort Benning (https://www-benning.army.mil/emd/conservation/endangered/woodpecker.htm; Barron 2010).

In September 1994, the USFWS issued a Jeopardy Biological Opinion (JBO) stating that the on-going military training and related activities occurring at Fort Benning jeopardized the continued existence of the RCW population at Fort Benning. In response, Fort Benning prepared an Endangered Species Management Plan (ESMP) for the RCW. In 2002, the USFWS approved the ESMP and included a BO that identified specific management activities. This ESMP relieved Fort Benning from the 1994 JBO and allowed the implementation of the ~~"~~1996 Management Guidelines for the RCW on Army Installations." Fort Benning is also one of the 13 primary core locations selected by the USFWS to manage for RCW recovery populations (DA 2009). According to the 1994 USFWS JBO and the Installation RCW ESMP, coupled with more current data, Fort Benning's goal is currently set at 351 potential breeding groups (https://www-benning.army.mil/emd/ conservation/endangered/woodpecker.htm; Marston 2010).

In May 2009, Fort Benning received a JBO from the USFWS related to the MCOE Biological Assessment (BA) and EIS. This JBO outlined specific criteria that must be met in order for the Installation to proceed with its proposed MCOE actions, including environmental impact minimization measures to avoid "Incidental Take" of RCW groups and other RCW mitigation efforts across the Installation. These mitigation efforts are underway (Witter 2010). Currently, 63,150 acres of habitat are necessary at Fort Benning to support 421 clusters, providing 150 acres per cluster (Barron 2010).

Fort Benning performs impact analysis of the RCW through the use of the Fort Benning Form 144R environmental review process (see **Section 2.2.3**), and by determining the proposed pine tree removal (over 10" dbh) or ground disturbance within the drip line of such a tree. Any impacts to pine trees 10 inches dbh or greater within the Installation may be an adverse effect, potentially triggering the need for consultation with the USFWS under Section 7 of the ESA. In addition, construction limitations are mandated during the RCW breeding season (i.e., 1 April through 31 July).

All RCW cavity trees on Fort Benning are marked with two white bands. Each RCW cavity tree is protected by a 200-foot buffer zone that is marked with white signs. Activities within this 200-foot buffer zone are restricted throughout the year. During the breeding season, no construction within 200 feet of an RCW cavity tree is allowed. This zone is marked with unique yellow signs within construction areas. At all times, construction is limited to approved areas. Maintained roads and trails that pass through the 200-foot buffer zone may still be used during the breeding season (Barron 2010).

RCW's have benefited from frequent fires and non-agricultural land uses on Fort Benning. Frequent fire is the most necessary component of maintaining open pine stands, which when mature, provide adequate nesting and foraging habitat for the RCW. The timber management practices on Fort Benning include group selection, frequent use of prescribed fire, and single-tree selection for thinning. These methods create the mosaic of openings and age classes which are beneficial to RCW's and other species found in fire-dependent ecosystems (https://www-benning.army.mil/emd/conservation/ endangered/woodpecker.htm).

- ***Relict Trillium***

Relict trillium *(Trillium reliquum)*, a perennial herb with a stalk-less flower located in the center of a whorl of three strongly mottled leaves, is federally listed as endangered by the USFWS. This listing is due to population decline and loss or alteration of habitat (https://www.benning.army.mil/EMD/ conservation/ endangered/- relict_trillium.htm).

Five populations of Relict trillium are known to occur on Fort Benning. The species occurs primarily in the northeastern portions of the Installation (DA 2009; see **Figures 11a-d**). Management activities for the species include surveys, monitoring efforts, and protection of sensitive areas. The management strategies for the Relict trillium at Fort Benning are defined in an ESMP and consist of:

- Placing signs around Relict trillium populations
- Prohibiting digging and driving within and adjacent to known populations
- Monitoring and controlling kudzu and Japanese Honeysuckle (known invasive to the Relict trillium)
- Prohibiting timber harvest within 200 feet of known populations
- Prohibiting prescribed burning within the boundaries of populations
- Fencing to protect populations from feral pigs
- Conducting additional surveys for unknown populations.

- **State Listed Species**

Gopher Tortoise

The Gopher Tortoise (*Gopherus polyphemus*) is a State-listed threatened species. In January 2010, the USFWS initiated steps to determine if Federal listing of the species in Georgia was necessary, and completed a 90-day review under the ESA. Based on a review of the USFWS website (http://www.fws.gov/news/newsreleases/showNews.cfm?newsId=50D48AF4-9455-8214-DAAC8AC25F3D7196), the USFWS has not yet reached a decision. The USFWS extended the public comment period to March 2010. Therefore, for the purposes of this EA, the Gopher Tortoise is considered (only) a State-listed species.

The Gopher Tortoise is found within the northern two thirds and southeastern tip of Fort Benning, and is a critical component of the pine-scrub oak community (DA 2008). Over-harvesting and loss of habitat are the most prominent causes for the decline of the species. The Gopher Tortoise digs deep burrows in well-drained soils in open pine stands and scrub oak. Eggs are laid in May through July and hatch in 80 to100 days (DA 2008). Gopher Tortoises are considered to be a keystone species because their burrows provide refuge to many other vertebrate and invertebrate species (https://www.benning. army.mil/EMD/conservation/endangered/gopher_tortoise.htm).

Current management practices for this species at Fort Benning include protecting known tortoise colonies from disturbance by vehicles or digging, planting longleaf pine in marginal habitat, and burrow and habitat protection. In areas with high vehicular traffic, –Sensitive Area" signs are posted around known active and inactive tortoise burrows, and the burrows are marked. Digging activities and vehicles are required to stay 50 feet away from the burrows to protect the integrity of the burrow area (DA 2009). The general locations of Gopher Tortoises within Fort Benning are shown on **Figures 11a-d**. These figures provide generalized locations of the Gopher Tortoise on Fort Benning; these data incorporate approximately 90 percent of the Gopher Tortoise habitat on the Installation. There are, however, a few tortoise colonies that fall outside of these areas. In addition, all areas shown may not be currently occupied by the Gopher Tortoise (Thornton 2010).

- **Other Species of Interest**

Bald Eagle

Bald eagles have been de-listed by the USFWS and are no longer protected under the ESA; however, they are still protected under the Bald and Golden Eagle Protection Act (16 USC 668-668d) (DA 2009). Because there is no longer a bald eagle population at Fort Benning (J. Williams 2010), further discussion of this species is not included in this EA's analysis.

4.4.5 Cultural Resources

Cultural resources include: historic properties as defined in the NHPA, cultural items as defined in the NAGPRA, archaeological resources as defined in the Archaeological Resources Protection Act (ARPA), sacred sites as defined in EO 13007 to which access is provided under the American Indian Religious Freedom Act (AIRFA), and collections as defined in CFR 36 Part 79, *Curation of Federally Owned and Administered Collections*. Requirements set forth in the NEPA, NHPA, ARPA, NAGPRA, AIRFA, 36 CFR Part 79, EO 13007, and the *Presidential Memorandum on Government-to-Government Relations with Native American Tribal Governments* define the basis of the Army's compliance responsibilities for management of cultural resources. Regulations applicable to the

Army's management of cultural resource include those promulgated by the Advisory Council on Historic Preservation (ACHP) and the National Park Service, and are prescribed in Army Regulation (AR) 200-1.

Management of cultural resources on Fort Benning is accomplished through the Installation's ICRMP (ICRMP 2008). Fort Benning has also adopted the Army Alternate Procedures (AAP) for implementing the NHPA in an effort to improve efficiency in the Installation's Cultural Resources Management (CRM). In addition, the Historic Properties Component (HPC) of the ICRMP: 1) provides SOPs for assessing Proposed Actions and the potential effects on the Installation's historic properties; and 2) replaces the NHPA Section 106 procedures (DA 2006). Cultural resources found within the boundaries of Fort Benning include: archaeological resources, architectural resources and historic districts, cemeteries, and Native American resources. Each of these is discussed below.

Figures 12a-d identify NRHP-eligible archeological and architectural resources, historic districts, and other significant cultural resources sites within Fort Benning. To prevent unauthorized disturbance to sensitive cultural resources sites, **Figures 12a-d** are not included in the publicly distributed version of the Final EA.

Archaeological Resources

All of the areas of Fort Benning, except those that pose threats to human health and safety, have been surveyed and inventoried for archaeological resources (ICRMP 2008; DA 2009). As a result, 3,982 archaeological sites have been recorded on the Installation. Of these 3,982 sites:

- 3,062 sites have been determined ineligible for the NRHP; both the Georgia and Alabama State Historic Preservation Officers (SHPOs) have concurred with these determinations.
- 764 sites have not yet been evaluated for eligibility for listing on the NRHP, and are presumed eligible.
- 156 sites were determined eligible for the NRHP, including a National Historic Landmark, Yuchi Town.

CRM at Fort Benning is on-going and the eligibility of identified sites is continuously being determined. Sites that have not yet been evaluated are given the same protection as NRHP eligible sites until their eligibility can be formally determined (ICRMP 2008; DA 2009).

Architectural Resources/Historic Districts

Four architectural surveys have been completed within Fort Benning's cantonment and other developed areas (i.e., Main Post, Lawson Army Airfield, Custer Road, Sand Hill, Kelley Hill, Harmony Church, and the Ammunition Storage Point) since 1987. As a result, four historic districts were identified and include: The Main Post Historic District, the Lawson Army Airfield Historic District, The Parachute Jump Tower Historic District, and the Ammunition Storage Area Historic District (DA 2009; see **Figures 12a-d**).

Figure 12a

This Figure is not included in the publicly circulated version of the Final EA to prevent unauthorized disturbance to sensitive cultural resources sites.

Figure 12b

This Figure is not included in the publicly circulated version of the Final EA to prevent unauthorized disturbance to sensitive cultural resources sites.

Figure 12c

This Figure is not included in the publicly circulated version of the Final EA to prevent unauthorized disturbance to sensitive cultural resources sites.

Figure 12d

This Figure is not included in the publicly circulated version of the Final EA to prevent unauthorized disturbance to sensitive cultural resources sites.

In addition to identifying and documenting the four historic districts, the surveys also identified 1,782 buildings, structures, and objects within the cantonment and developed areas of the Installation. Of the 1,782 features identified, 21 are individually eligible for the NRHP, 1,095 are ineligible, and 28 have been demolished in accordance with a Nationwide Programmatic Agreement or in consultation with the Georgia SHPO (ICRMP 2008; DA 2009). The remaining 638 structures are contributing elements to the Main Post, Lawson Army Airfield, and Parachute Jump Tower Historic Districts (DA 2009).

In 1995, Fort Benning completed a Historic Tree Management Plan to aid in the management of the landscape associated with historic structures within Fort Benning's historic districts. The Plan ensures the historic structures and districts do not lose their defining characteristics (DA 2009). The historic districts, and trees managed under the Historic Tree Management Plan, are located within the cantonment areas of the Installation and are primarily located along the sides of roads.

Cemeteries

Approximately 80 historic cemeteries have been inventoried and delineated at Fort Benning. These cemeteries, managed by Fort Benning, are located throughout the Installation but are more frequent in the southeastern and northern portions (see **Figures 12a-d**).

Native American Resources and Consultation

In 2000, an ethnographic overview study identified federally recognized Native American Tribes that are potentially associated with Fort Benning lands (Deaver 2000). This study resulted in the identification of the following 11 Tribes:

1. The Alabama-Coushatta Tribe of Texas
2. The Alabama-Quassarte Tribal Town of the Creek Nation of Oklahoma
3. The Chickasaw Nation of Oklahoma
4. The Coushatta Tribe of Louisiana
5. The Kialegee Tribal Town of the Creek Nation of Oklahoma
6. The Muscogee (Creek) Nation of Oklahoma
7. The Poarch Band of Creek Indians
8. The Seminole Nation of Oklahoma
9. The Seminole Nation of Oklahoma
10. The Thlopthlocco Tribal Town
11. The Keetoowah Band of Cherokee Indians of Oklahoma.

Of the 11 Tribes listed above, no Tribe has identified a property of traditional religious or cultural importance on Fort Benning managed lands (DA 2009). Please refer to **Section 1.5.2** for a discussion of Fort Benning's established Native American Consultation process.

SECTION 5: ENVIRONMENTAL CONSEQUENCES

5.1 Introduction

5.1.1 Impact Analysis Overview

This Section identifies the potential direct, indirect, and cumulative effects of implementing the Proposed Action under the *Modified ISEC Layout Alternative* (Preferred Alternative), the *Expanded ISEC Layout Alternative*, and the *No Action Alternative*. These Alternatives are described in **Section 3.3**. Specifically, potential effects on each of the VECs retained for further analysis in this EA are analyzed. These VECs, identified in **Table 3** and discussed in **Section 4**, include *Aesthetics and Visual Resources, Soils, Water Resources and Wetlands, Biological Resources,* and *Cultural Resources*. In addition, potential effects of the three considered alternatives on each VEC are compared and contrasted.

In appropriate cases where a potential adverse impact is identified, reasonable mitigation measures are proposed that, if implemented, would further reduce the level of the identified effect. This section also identifies Best Management Practices (BMPs) routinely implemented by Fort Benning to minimize adverse soil erosion and sedimentation effects associated with construction activities (see **Section 5.3**).

5.1.2 Significance Criteria

Impacts are identified as either significant, less-than-significant (i.e., in the opinion of SMEs and NEPA experts, the anticipated effects would be *de minimis*, minor, or moderate, but would not reach the threshold level for significance), or no impact. As used in this EA, the terms ~~"e~~ffects" and ~~"i~~mpacts" are synonymous. Where appropriate and clearly discernable, each impact is identified as either adverse or positive.

The CEQ Regulations specify that, in determining the significance of effects, consideration must be given to both ~~"c~~*ontext*" and ~~"i~~*ntensity*" of the effect (40 CFR 1508.27):

- ***Context*** refers to the significance of an effect to society as a whole (human and national), to an affected region, to affected interests, or to just the locality. In other words, the context measures how far the effect would be ~~"f~~elt." For this Proposed Action, this is the ROI described in **Section 5.1.3**.

- ***Intensity*** refers to the magnitude or severity of the effect, whether it is positive or adverse. In other words, intensity refers to the ~~"p~~unch strength" of the effect within the ROI.

The significance of potential direct, indirect, and cumulative effects has been determined through a systematic evaluation of each considered alternative in terms of its effects on each individual VEC. Direct effects are those that occur at the same time and space as the action; indirect effects are those that occur further removed in time or space from the action. Potential cumulative effects of the Proposed Action are discussed in **Section 5.7**.

Significance criteria for VECs analyzed in this EA are as follows:

- *Geographic Setting and Location (Aesthetics and Visual Resources).* An alternative could significantly affect aesthetic and visual resources if it resulted in abrupt changes to the complexity of the landscape and skyline when viewed from points readily accessible by the public. Specifically, this includes changes to form, line, color, and/or texture that substantially degrade an existing viewshed or alter the character of a viewshed by the introduction of anomalous structures or elements. Actions that would result in changes in the expectations of viewers (i.e., as measured against the relative importance of those views) and result in a negative impression of the viewshed would be considered significant. The emphasis of this criterion is on views from *public* view areas. For the proposed I3MP action, this would include the introduction of new towers into identified on-Post historic districts, visual zones, or other important Fort Benning viewshed(s) readily accessible by the public (see **Section 4.4.1**).

- *Soils.* Impacts would be considered significant if ground disturbance or other activities would violate applicable Federal or State laws and regulations, such as the GESA, and would result in the potential for a Notice of Violation for the failure to receive applicable State permits, such as an NPDES construction permit, prior to initiating the Proposed Action.

- *Water Resources and Wetlands.* Impacts would be considered significant if the Proposed Action would result in long-term chemical, physical, or biological effects that would adversely alter the historical baseline or violate standard water quality conditions or criteria. Activities adversely impacting a water body currently considered impaired under the CWA also would be considered significant. An action also would have a significant effect on water resources if it would increase flooding or cause substantial sedimentation that would result in adverse upstream or downstream effects to people or property.

- *Biological Resources.* Impacts would be considered significant if one of more of the following conditions would result: substantial loss or degradation of habitat or ecosystem functions (natural features and processes) essential to the persistence of native plant and animal populations; substantial loss or degradation of a sensitive habitat, including wetlands that support high concentrations of special status species or migratory birds; disruption of a federally listed species, its normal behavior patterns, or its habitat that substantially impedes the Installation's ability either to avoid jeopardy or conserve and recover the species; or substantial loss of a population or habitat for a State-protected or non-listed but special status species, increasing the likelihood of Federal listing action to protect the species in the future. The definition of ~~-s~~ubstantial" is dependent on the species and habitats in question and the regional context in which the impact would occur. Impacts may be considered more adverse if the action affects previously undisturbed habitat or if the impact would occur over a large portion of available habitat in the region. According to information provided on the USFWS website regarding migratory birds, an activity would be determined to have a significant adverse effect when it is found within a reasonable period of time to diminish the capacity of a population of migratory bird species to sustain itself at a level that maintains its genetic diversity, to reproduce, and to function effectively in its native ecosystem (http://www.fws.gov/migratorybirds).

- *Cultural resources.* An alternative would have a significant effect on cultural resources if it would: result in damage, destruction, or demolition to an archaeological site or building that is eligible or listed on the NRHP (i.e., an historic property); promote neglect of such a resource, resulting in resource deterioration or destruction; introduce audio or visual intrusion to such a resource; or decrease access to resources of value to federally recognized Native American Tribes. The impact analysis for cultural resources focuses on properties that are listed on or considered eligible for the NRHP, as well as resources that are considered sensitive by federally recognized Native American Tribes (i.e., in accordance with the AIRFA, EO 13007, and NAGPRA). The threshold also applies to any cultural resource that has not yet been evaluated for its eligibility to the NRHP.

5.1.3 Region of Influence

As described in **Section 4.1**, the ROI for the Proposed I3MP Action is relatively small and primarily contained within the boundaries of Fort Benning; a few of the proposed towers may be visible from immediately adjacent properties. Effects beyond the viewshed of the proposed towers are not anticipated. In most cases, all areas within this viewshed are within Fort Benning (see **Section 5.2**).

5.1.4 Impact Assessment Methodology

The Proposed Action, under either Action Alternative, would involve installing, operating, and maintaining over 75 miles of underground communications cable and installing aboveground towers on Fort Benning. The Proposed Action would cross virtually the entirety of Fort Benning, an Installation that contains numerous sensitive environmental resources as described in **Section 4** and shown on **Figures 6a-d** through **12a-d**.

Given the large spatial coverage (i.e., in terms of linear distance) of this Proposed Action, and its general potential to adversely affect multiple sensitive resources over its length, Fort Benning undertook a comprehensive, proactive alternatives' screening analysis to ensure potential adverse effects would be minimized or avoided (see **Section 3.2**). This also was accomplished by incorporating into the Proposed Action the numerous Environmental Protection Measures identified in **Section 2.2.3**. Under either Action Alternative, these measures would be implemented, thereby avoiding adverse effects.

At present, only the general locations of the proposed underground communications cable are known. These locations are shown on **Figures 3** through **12a-d**. While the Proposed Action would follow these alignments, the specific locations of direct bury, boring, and Case Bore/Jack-and-Bore would be based on extant sensitive environmental resources, as identified throughout **Section 4**.

The proponent is currently preparing a detailed engineering design of the Action Alternatives that will clearly show the specific proposed locations of cable direct bury, cable directional bores, Case Bore/Jack-and-Bore, and the communications towers. This design, prepared at a sub-meter level of accuracy (i.e., within 3 feet), will incorporate Fort Benning's current and extensive GIS-based data that identify the locations of sensitive environmental resources and training operations (see **Section 4**). In addition, and to the extent possible per the Environmental Protection Measures, the design would be coordinated with utility providers to share existing utility ROWs, would be located within existing disturbed roadways and trails, and would be co-located within previously "designed" and approved construction areas (see **Figure 3** and **Sections 2.2.3 and 3.3.1**). The final, GIS-based design, as reviewed and approved by the EMD via the Fort Benning environmental review process, would ensure that the Environmental Protection Measures are fully implemented.

As the Proposed Action would be implemented over a period of up to three years, each project component, prior to construction authorization, would be subjected to the Fort Benning Form 144R environmental review process (see **Section 2.2.3**). This would include submission of each proposed tower facility and each segment of cable location, including proposed maintenance holes and hand holes. This would provide a second, current review of the project component to ensure that the Environmental Protection Measures are followed; that any future changes in the locations of environmental resources (e.g., such as changes in the locations of the RCW), utilities, or other elements are addressed with the most current information available; and that significant adverse impacts are avoided. This process would take advantage of the location flexibility of the Proposed Action. In other words, a segment of cable could be relocated to the other side of a road or to within a road to avoid a resource impact at the time its installation is proposed.

Based on the above, the impact analysis presented herein is more *programmatic* in nature than *site-specific*, recognizing the flexibility of the Proposed Action, its ability to avoid resources through sensitive design and placement, and changes that may occur over time in the location of resources. Rather than identifying every location where an impact to a sensitive resource might occur (e.g., the location of every NRHP-eligible cultural resource in the vicinity of the Proposed Action's alignment), the analysis relies on implementation of the Environmental Protection Measures to avoid the resource and the conduct of validation reviews through the Fort Benning Form 144R environmental review process. These elements, coupled with implementation of additional, programmatic mitigation measures presented in this EA's analysis, would ensure adverse effects are further reduced or avoided altogether.

5.2 Geographic Setting and Location

5.2.1 Effects of the Modified ISEC Layout Alternative (Preferred Alternative)

Under the Preferred Alternative, *no significant adverse effects* to the geographic setting and location, including aesthetics and visual resources, within the ROI would occur. This Alternative would not result in abrupt changes to the complexity of the landscape or skyline when viewed from points readily accessible by the public, and would not introduce new towers into identified on-Post historic districts, visual zones, or other important Fort Benning viewshed(s) readily accessible by the public.

Approximately 76.8 miles of underground cable would be laid across the installation as shown in **Figure 4**. Construction activities at any location would be short term, would be located within the confines of Fort Benning (a secure Installation) in locations not seen by the general public, and would not alter the viewshed. The proposed cable would be underground; associated maintenance holes and hand holes would be near or at grade. As such, these components would not produce any long-term adverse aesthetics and visual resources impacts.

Two 100-foot tall, self-supporting towers would be installed in the locations shown on **Figure 4**. Based on extant topography, the proposed height of the towers, the distance of the proposed towers to the Installation boundary, the distance of the proposed towers to the on-Post visual zones and historic districts, and existing heavy tree cover, the towers would not be readily noticeable by the general public and would not alter the viewshed of any historic property. The towers have been sensitively sited to avoid such effects. The scale and massing of the proposed towers would be consistent with or less than other existing towers at Fort Benning (see **Figure 4**). While noticeable from the immediate vicinity, the proposed towers would have an overall *less-than-significant, long-term adverse aesthetics and visual resources effect*.

5.2.2 Effects of the Expanded ISEC Layout Alternative

Under this Alternative, *no significant adverse effects* to the geographic setting and location, including aesthetics and visual resources, within the ROI would occur. This Alternative would not result in abrupt changes to the complexity of the landscape or skyline when viewed from points readily accessible by the public, and would not introduce new towers into identified on-Post historic districts, visual zones, or other important Fort Benning viewshed(s) readily accessible by the public.

While an additional 9.9 miles of underground cable and up to two additional towers would be installed under this Alternative, effects would be similar to those of the Preferred Alternative. Like the Preferred Alternative, none of the proposed towers are located within an existing NRHP-eligible historic district, visual zone, or sensitive viewshed. Overall, this Alternative would have a *less-than-significant, long-term adverse aesthetics and visual resources effect*.

5.2.3 Effects of the No Action Alternative

Under the No Action Alternative, *no adverse effects* to the geographic setting and location, including aesthetics and visual resources, within the ROI would occur.

5.2.4 Mitigation

None required.

5.3 Soils

5.3.1 Effects of the Modified ISEC Layout Alternative (Preferred Alternative)

Under the Preferred Alternative, *short-term, less-than-significant adverse effects* to soils within the ROI would occur. This impact would be maintained at acceptable levels through compliance with the NPDES permitting process, maintenance of minimum 25-foot setbacks from surface water features during construction as described in **Section 2.2.3**, and implementation of the specific BMPs identified in **Section 5.3.4**. This would include submission of a NOI and required attachments to the GaDNR-EPD, and submission of an appropriate ESPCP. During implementation, construction activities would conform to the permitting requirements and would follow the ESPCP. By complying with the NPDES permitting process and implementing an approved ESPCP, the Proposed Action would not exceed the significance criteria stated in **Section 5.1.2**.

No long-term effects to soils would be anticipated, as the proposed cable alignments and tower locations would be re-vegetated and allowed to return to a natural state following construction; long-term maintenance of the cable corridor would not be required. The proposed tower footprints would be maintained as old field growth and periodically mowed; the proposed tower access roads would be maintained as gravel roadways to provide access to the towers.

As shown in **Figures 8a-d** and described in **Section 4.4.2**, the proposed I3MP cable alignment would cross areas of highly erodible soils; the proposed towers would be located in areas with slightly erodible soils. Over 60 percent of the proposed alignment occurs within soils identified as having a high erosion potential. Overall, the proposed 76.8-mile cable alignment, with a maximum 15-foot width, could temporarily disturb up to 140 acres of land. The two proposed communications towers (0.1-acre footprint each), with associated access roads, could disturb up to an additional 2 acres of land. This would result in a total area of potential ground disturbance of up to 142 acres.

The total area of new ground disturbance, however, would be less than 142 acres by implementing the Environmental Protection Measures identified in **Section 2.2.3**. These include, but would not be limited to, locating the Proposed Action to the maximum extent possible within previously designed and approved construction areas (see **Figure 3**), boring several locations, and locating the Proposed Action within previously disturbed utility ROWs and roadways. The total amount of earth disturbance proposed will be determined through the final GIS-based design of the Proposed Action, as described in **Section 5.1.4**.

5.3.2 Effects of the Expanded ISEC Layout Alternative

Impacts under this Alternative would be similar to the Preferred Alternative. Under this Alternative, *short-term, less-than-significant adverse effects* to soils within the ROI would occur. This Alternative would include the erosion and sedimentation control BMPs, NPDES permitting requirements, and minimum 25-foot surface water setbacks as identified for the Preferred Alternative. No long-term effects to soils would be anticipated, as the proposed cable alignments would be re-vegetated and allowed to return to a natural state following construction; long-term maintenance of the cable corridor would not be required.

Under this Alternative, the proposed 86.7-mile cable alignment (i.e., including the additional 9.9-mile segment to Camp Darby), with a maximum 15-foot wide cable corridor, could temporarily disturb up to 158 acres of land. The four proposed communications towers (0.1-acre footprint each), with associated access roads, could disturb up to an additional 5 acres of land. The total area of new ground disturbance, however, would be less than the 163-acre total by implementing the Environmental Protection Measures identified in **Section 2.2.3**.

5.3.3 Effects of the No Action Alternative

Under the No Action Alternative, *no adverse effects* to the soils within the ROI would occur.

5.3.4 Mitigation

No project-specific mitigation measures are recommended. The following identifies soil erosion and sedimentation BMPs routinely implemented by Fort Benning during all on-Post construction projects.

Fort Benning would utilize appropriate BMPs and adhere to the terms of the GaDNR-EPD NPDES general permit to minimize erosion and sedimentation (and consequent surface water quality) impacts during construction-phase activities. Due to the impaired status of the Chattahoochee River in the vicinity of the Proposed Action along Sunshine Road (see **Section 4.4.3** and **Figure 9d**), the Proposed Action, under either Action Alternative, may be required to comply with Part III (C) of the Georgia NPDES permit in these locations. This requires inclusion of at least four of the 20 special BMPs listed within Part III (C) within the project's ESPCP, and implementation of these BMPs during construction. These requirements would be determined on a site-specific basis as part of the NPDES permitting process.

NPDES permit standards would be adhered to during all construction activities. The GaDNR-EPD would be responsible for reviewing and approving Fort Benning's NPDES permit application and ESPCP prior to permitting construction to proceed. Storm water runoff and erosion would be managed using BMPs, including silt fencing, hay bales, vegetative buffers and filter strips, and spill prevention and management techniques, as detailed in the approved ESPCP. All disturbed areas would be re-vegetated and monitored to ensure Notice to Terminate after construction is complete. If measures in the ESCP are approved and correctly utilized for proposed construction, direct soil

erosion and resulting indirect sedimentation impacts would be maintained at acceptable levels. Successful implementation of these measures would ensure that the Proposed Action is in compliance with State and Federal water quality standards and minimizes both the short- and long-term potential for erosion and sedimentation impacts to down-slope receiving waters.

Where the Proposed Action would be co-located with another designed and approved construction project, such as along Lorraine Road (see **Figure 3**), the project installer may be able to receive NPDES permitting coverage under that project's NPDES permit and associated ESPCP. The project installer would ensure the appropriateness of this application through consultation with, and approval by, the GaDNR-EPD in advance of proposed I3MP construction.

5.4 Water Resources and Wetlands

5.4.1 Effects of the Modified ISEC Layout Alternative (Preferred Alternative)

Under the Preferred Alternative, *short-term, less-than-significant adverse effects* to water resources and wetlands within the ROI would occur during construction. This impact would be maintained at acceptable levels through compliance with the NPDES permitting process, maintenance of minimum 25-foot setbacks from surface water features during construction, and implementation of other Environmental Protection Measures described in **Section 2.2.3**. Specific mitigation measures are proposed in **Section 5.4.4** to ensure these short-term effects are further reduced and maintained at acceptable, less-than-significant levels per the significance criteria described in **Section 5.1.2**.

No long-term effects to water resources or wetlands would be anticipated, as the proposed cable alignments and tower locations would be re-vegetated and allowed to return to a natural state following construction; long-term maintenance of the cable corridor would not be required. The proposed tower footprints would be maintained as old field growth and periodically mowed; the proposed tower access roads would be maintained as gravel roadways to provide access to the towers.

Specifically, all Preferred Alternative components and associated construction would be located at a minimum distance of 25 feet from the edge of wrested vegetation to either side of streams. In addition, such a 25-foot setback would be observed adjacent to all surface water features, including wetlands. No construction equipment or construction would occur within this buffer, in accordance with the GESA (see **Section 4.4.3**). The Proposed Action would be bored under each identified surface water feature and wetland at a sufficient, pre-determined depth so as to not affect the feature (see **Section 2.2.2**).

The proposed I3MP cable alignment would cross several wetlands and surface waters (see **Figures 9a-d** and **Section 4.4.3**). **Figures 9a-d**, based on current I3MP alignment data, identify specific locations where such features are located within the proposed cable corridors. Neither of the proposed towers are located within or near a surface water feature. It is important to note that within some of the proposed I3MP cable alignment locations, surface waters and wetlands have not been delineated (see **Section 4.4.3**). In such areas, a jurisdictional wetland delineation would be required as part of project planning and design. This is discussed in **Section 5.4.4**.

The Preferred Alternative components would not cross or be located within 100 feet of any stream segments identified as impaired or not meeting their designated use as listed by the State of Georgia under Section 303(d) of the CWA (see **Section 4.4.3** and **Figures 9a-d**). The nearest impaired stream is the Chattahoochee River, located south of the proposed alignment along

Sunshine Road (see **Figure 9d**). However, the proposed alignment would not adversely affect this stream; implementation of measures outlined in **Section 5.3.4** would minimize any potential adverse erosion and sedimentation effects to this impaired surface water.

The proposed I3MP cable alignment would cross 100-year floodplains in certain locations (see **Figures 10a-d** and **Section 4.4.3**). Neither of the proposed towers is located within a 100-year floodplain. As the Proposed Action would only involve short-term construction within the floodplain and would not result in any permanent development within a floodplain, adverse effects are not anticipated. Implementation of the soil erosion and stream setback protection measures would further protect floodplain areas. Over the long-term, flood flows and capacities would not be affected. As such, *no adverse effects* to floodplains are anticipated.

As described in **Section 4.4.3**, groundwater depth at Fort Benning varies from two feet to over 100 feet. Although the Proposed Action would be bored under surface water features and wetlands and may intersect the groundwater table in some locations, these effects would be minor and would not result in long-term adverse effects to groundwater quality, quantity, or flows. Each bore would be six inches in diameter and would have a *negligible effect* to groundwater.

5.4.2 Effects of the Expanded ISEC Layout Alternative

Impacts under this Alternative would be similar to the Preferred Alternative. This Alternative would not exceed the significance criteria stated in **Section 5.1.2**, and would result in *short-term, less-than-significant adverse effects* to water resources and wetlands within the ROI during construction. This impact would be maintained at acceptable levels through compliance with the NPDES permitting process, maintenance of minimum 25-foot setbacks from surface water features during construction, and implementation of other Environmental Protection Measures described in **Section 2.2.3**. Specific mitigation measures are proposed in **Section 5.4.4** to ensure these short-term effects are further reduced and maintained at acceptable, less-than-significant levels.

No long-term effects to water resources or wetlands would be anticipated, as the proposed cable alignments and tower locations would be re-vegetated and allowed to return to a natural state following construction; long-term maintenance of the cable corridor would not be required.

As shown in **Figures 9a-d** and described in **Section 4.4.3**, this Alternative would cross several wetlands and surface waters, including an additional approximately 0.50 acre (i.e., at five locations) of wetlands along Box Springs and Red Diamond Roads (as compared to the Preferred Alternative; see **Figure 9c**). None of the four proposed towers under this Alternative is located within or near a potential wetland. Like the Preferred Alternative, it is important to note that within some of the proposed I3MP cable alignment locations, surface waters and wetlands have not been delineated (see **Section 4.4.3**). In such areas, a jurisdictional wetland delineation would be required as part of project planning and design. This is discussed in **Section 5.4.4**.

Similar to the Preferred Alternative, adverse effects to 100-year floodplains, Section 303(d) listed impaired streams, and groundwater are not anticipated under this Alternative.

5.4.3 Effects of the No Action Alternative

Under the No Action Alternative, *no adverse effects* to water resources or wetlands within the ROI would occur.

5.4.4 Mitigation

In order to ensure impacts to water resources and wetlands are avoided or minimized, and in addition to the Environmental Protection Measures and NPDES permitting requirements described in **Sections 2.2.3** and **4.4.3**, specific mitigation measures are recommended for either Action Alternative.

Prior to construction, during the preparation of the final GIS-based engineering design (see **Section 5.1.4**), the proponent shall:

- Avoid surface waters and wetlands by locating the proposed cable alignment within previously disturbed areas, existing roadways, existing utility ROWs, or other existing crossings to the maximum extent possible.

- Field determine, at appropriate intervals, the depths of all surface water features to be crossed by the proposed I3MP cable to establish the appropriate boring depths. Depths shall be marked on the design drawings.

- Field delineate and flag the boundaries of all jurisdictional wetlands in portions of the alignment that have not yet been delineated. Boundaries shall be marked on the design drawings.

- Field flag the boundaries of all jurisdictional wetlands in portions of the alignment that have been delineated. Boundaries shall be marked on the design drawings.

- Using the above data, locate all project construction components at a minimum distance of 25 feet from the edge of wrested vegetation on streams in accordance with the GESA and the GaDNR-EPD's stream buffer requirement. In addition, locate all project construction components at a minimum distance of 25 feet from the edge of all wetlands and surface waters.

As described in **Section 5.1.4**, this final design shall be reviewed and approved by the EMD via the Fort Benning environmental review process. Any changes required by the EMD shall be made.

Prior to and during construction, the proponent shall:

- Re-validate each proposed project component, immediately prior to construction, via the Fort Benning Form 144R environmental review process to ensure that conditions have not changed. Implement any changes required by the EMD.

- Clearly field flag all wetlands and surface waters within and in the vicinity of the construction corridor, as well as the limits of the construction area. Comply with the limits of construction in accordance with the final design and any adjustments made during the immediately pre-project environmental review. All wetlands and surface waters within the proposed cable alignment shall be bored under at a sufficient depth, as determined during the pre-construction analysis; boring entry and exit work locations shall be a minimum of 25 feet from the edge of the field-marked resource boundary.

- Monitor construction activities in the vicinity of pre-delineated and flagged surface water features to ensure construction is conducted in accordance with the final design and water resources effects are avoided. A qualified mitigation monitor from the EMD should monitor activities on-site during construction activities in such locations.

- Obtain authorization from the USACE, Savannah District, via a Nationwide Permit (NWP) under Section 404 of the CWA, including submitting to the USACE a Pre-Construction Notification (PCN), in cases where wetland avoidance is not possible. Obtain a stream buffer variance from the GaDNR-EPD in cases where stream buffer setbacks cannot be maintained.

Following completion of construction, the proponent shall:

- Restore and re-vegetate disturbed construction areas to pre-project conditions, in compliance with the NPDES permit and the ESPCP. Native species of vegetation, as approved by the Fort Benning EMD, should be used to the extent possible.

- Monitor the site for a sufficient period to ensure re-vegetation efforts are successful; implement required corrective actions in areas where re-vegetation is not successful, sufficient to meet requirements for Notice to Terminate.

Implementation of these detailed mitigation measures would ensure that adverse effects to water resources and wetlands are further reduced or avoided during and after project implementation under either Action Alternative.

5.5 Biological Resources

5.5.1 Effects of the Modified ISEC Layout Alternative (Preferred Alternative)

Under the Preferred Alternative, *short-term, less-than-significant adverse effects* to biological resources, specifically to the federally listed RCW and the State-listed Gopher Tortoise, within the ROI would occur during construction. This impact would be maintained at acceptable levels through implementation of the Environmental Protection Measures described in **Section 2.2.3**. These include generally locating the Proposed Action components in prior designed construction areas (see **Figure 3**), within existing utility ROWs (see **Figures 6a-d**), and within or adjacent to disturbed roadways and trails. Specific mitigation measures are proposed in **Section 5.5.4** to ensure these short-term effects are further reduced and maintained at acceptable, less-than-significant levels per the significance criteria described in **Section 5.1.2**.

No long-term effects to biological resources would be anticipated, as the proposed cable alignments and tower locations would be re-vegetated and allowed to return to a natural state following construction; long-term maintenance of the cable corridor would not be required. The proposed tower footprints would be maintained as old field growth and periodically mowed; the proposed tower access roads would be maintained as gravel roadways to provide access to the towers.

As described in **Section 2.2.3**, the following Environmental Protection Measures are incorporated into the Proposed Action to avoid impacts to sensitive biological resources:

- To the maximum extent possible, the Proposed Action would be located within existing, disturbed roadways, trails, or utility ROWs.

- Where the Proposed Action coincides with a "designed" construction area (see **Figure 3**), the Proposed Action would be located within that footprint.

- To avoid adverse effects to the RCW, all pine trees measuring equal to or greater than 10 inches dbh, including their drip lines, would be avoided during construction. This includes avoiding construction within 200 feet of a designated RCW cluster during the 1 April through 31 July breeding season.

- To avoid adverse effects to the Relict trillium and the Gopher Tortoise, known populations would be avoided during construction.

- To avoid adverse effects to migratory birds protected under the MBTA, the proposed communications towers would be self-supporting, without guy wires; of lattice or monopole design; and no more than 100 feet in height.

As shown in **Figures 11a-d** and discussed in **Section 4.4.4**, the proposed I3MP cable alignment would:

- Cross several areas identified as RCW habitat and be located near RCW cavity trees/cluster locations.

- Be located near several identified Gopher Tortoise (burrow) locations.

- Be located near one known Relict trillium population location near the northern Installation boundary (see **Figure 11a**). However, the limit of this population is clearly marked in the field and is not located within the proposed corridor; as such, adverse effects to this population are not anticipated. In this location, the Proposed Action would stay within the limits of disturbance for Fort Benning Project Number. 65554 (i.e., Northern Boundary Road), and no additional impacts to the Randall Creek Relict trillium population would occur.

Through careful siting during the planning phase, neither of the proposed towers are located within existing protected species locations or habitat; the proposed Hastings Tower, although located near multiple Gopher Tortoise locations, is located in a specific area not inhabited by the Gopher Tortoise (see **Figure 11a**).

Per the significance criteria in **Section 5.1.2**, the Preferred Alternative would not result in significant adverse effects to any migratory bird populations. The Proposed Action would not diminish the capacity of a population of migratory bird species to sustain itself at a level that maintains its genetic diversity, to reproduce, and to function effectively in its native ecosystem. The Proposed Action would only affect a limited area of primarily previously disturbed ground, representing less than 0.10 percent of the land area within Fort Benning. For such bird populations, the potential loss or unintentional ~~t~~take" would be minimal. In accordance with the INRMP (INRMP Section 12.9.4.4), Fort Benning employs management/conservation efforts, to the greatest extent feasible, that lessen the impacts on and, in some circumstances, benefit on-site migratory bird species. One minimization effort implemented at Fort Benning, if and when feasible, is to minimize disturbance to areas during peak nesting season (DA 2001).

To ensure adverse effects to protected species at Fort Benning are avoided or minimized during construction, specific mitigation measures are proposed. These mitigation measures are described in **Section 5.5.4**.

Although this Alternative could affect up to 142 acres of ground, due to the location of the Proposed Action generally within disturbed areas and restoration of these areas following construction, impacts to general vegetation communities and wildlife species at Fort Benning would be *short-term and negligible*.

5.5.2 Effects of the Expanded ISEC Layout Alternative

Impacts under this Alternative would be similar to the Preferred Alternative. This Alternative would not exceed the significance criteria stated in **Section 5.1.2**, and would result in *short-term, less-than-significant adverse effects* to biological resources within the ROI during construction. This impact would be maintained at acceptable levels through implementation of the Environmental Protection Measures described in **Section 2.2.3**. Specific mitigation measures are proposed in **Section 5.5.4** to ensure these short-term effects are further reduced and maintained at acceptable, less-than-significant levels.

No long-term effects to biological resources would be anticipated, as the proposed cable alignments and tower locations would be re-vegetated and allowed to return to a natural state following construction; long-term maintenance of the cable corridor would not be required.

As shown in **Figures 11a-d** and discussed in **Section 4.4.4**, this Alternative would result in similar effects to protected species as the Preferred Alternative. The additional proposed cable segment along Box Springs Road and Red Diamond Road would be located in additional areas supporting the RCW and the Gopher Tortoise (see **Figure 11c**). None of the two additional proposed tower locations under this Alternative would be located in areas known to support the RCW, Gopher Tortoise, or Relict trillium (see **Figures 11a and 11d**).

Although this Alternative could affect up to 163 acres of ground, due to the location of the Proposed Action generally within disturbed areas and restoration of these areas following construction, impacts to general vegetation communities and wildlife species, including migratory birds, at Fort Benning would be *short-term and negligible*.

5.5.3 Effects of the No Action Alternative

Under the No Action Alternative, *no adverse effects* to biological resources within the ROI would occur.

5.5.4 Mitigation

In order to ensure impacts to significant biological resources, and notably protected species, are avoided or minimized, and in addition to the Environmental Protection Measures described in **Section 2.2.3**, specific mitigation measures are recommended for either Action Alternative.

Prior to construction, during the preparation of the final GIS-based engineering design (see **Section 5.1.4**), the proponent shall:

- Avoid areas supporting natural vegetation communities and containing protected species by locating the proposed cable alignment to within previously disturbed areas, or existing roadways or utility ROWs to the maximum extent possible.

- Field determine the locations of all pine trees measuring equal to or greater than 10" dbh, including their associated drip lines, within the proposed cable alignments and tower locations. All such trees occurring within and adjacent to the proposed 15-foot wide construction corridor and all tower construction locations shall be identified. These trees and their drip lines shall be marked on the design drawings.

- Identify the locations of all RCW cavity trees and cluster locations within 200 feet of the Proposed Action on the design drawings (see **Figures 11a-d**). Note on all project design maps that construction within these areas is prohibited between 1 April and 31 July.

- Field determine the locations of all Gopher Tortoise burrows within the proposed cable alignments and tower locations. These locations shall be marked on the design drawings.

- Using the above data, locate all project construction components outside the drip line of delineated trees. Avoid Gopher Tortoise burrows and areas within 200 feet of RCW cavity trees and cluster locations to the maximum extent possible.

As described in **Section 5.1.4**, this final design shall be reviewed and approved by the EMD via the Fort Benning environmental review process. Any changes required by the EMD shall be made.

Prior to and during construction, the proponent shall:

- Re-validate each proposed project component, immediately prior to construction, via the Fort Benning Form 144R environmental review process to ensure that conditions have not changed. Implement any changes required by the EMD.

- Clearly field flag and comply with the limits of construction, in accordance with the final design and any adjustments made during the immediately pre-project environmental review.

- Minimize the removal of native vegetation during construction.

- Relocate unavoidable Gopher Tortoises during construction in accordance with Fort Benning management SOPs for the Gopher Tortoise.

- Monitor construction activities in the vicinity of pine trees measuring equal to or greater than 10 inches dbh and in the vicinity of Gopher Tortoise locations to ensure construction is conducted in accordance with the final design and adverse effects are avoided. A qualified mitigation monitor from the EMD should monitor activities on-site during construction activities in such locations.

- Do not conduct construction within 200 feet of in-use RCW cavity trees during the 1 April through 31 July breeding season. Construction shall be timed in such locations to avoid impacts within this breeding period. These areas within the construction zone shall be marked with unique yellow signs identifying the edge of the 200-foot buffer zone during the breeding season.

- To the extent possible and in accordance with the Fort Benning INRMP (DA 2001), time construction to avoid the primary nesting periods (April through July) of migratory birds protected under the MBTA.

Following completion of construction, the proponent shall:

- Restore and re-vegetate disturbed construction areas to pre-project conditions, in compliance with the NPDES permit and the ESPCP. Native species of vegetation, as approved by the Fort Benning EMD, should be used to the extent possible.

- Monitor the site for a sufficient period to ensure re-vegetation efforts are successful; implement required corrective actions in areas where re-vegetation is not successful, sufficient to meet requirements for Notice to Terminate.

Implementation of these detailed mitigation measures would ensure that adverse effects to biological resources are further reduced or avoided during and after project implementation under either Action Alternative.

5.6 Cultural Resources

Similar to the ROI described in **Section 5.1.3**, Fort Benning has determined that the Area of Potential Effect (APE) for cultural resources associated with this Proposed Action is limited. The APE is defined as areas directly within the proposed cable alignment that could be affected during construction, as well as within the viewshed of the proposed towers. This viewshed is generally limited to within the boundaries of Fort Benning. Within on-Post historic districts, views are generally limited and obscured by various buildings, vegetation, topography, and infrastructure (see **Figures 12a-d** and **Sections 4.4.1 and 4.4.5**).

5.6.1 Effects of the Modified ISEC Layout Alternative (Preferred Alternative)

Under the Preferred Alternative, *short-term, less-than-significant adverse effects* to cultural resources within the APE would occur during construction. This impact would be maintained at acceptable levels through implementation of the Environmental Protection Measures described in **Section 2.2.3**. These include generally locating the Proposed Action components in prior designed construction areas (see **Figure 3**), within existing utility ROWs (see **Figures 6a-d**), and within or adjacent to disturbed roadways and trails. Specific mitigation measures are proposed in **Section 5.6.4** to ensure these short-term effects are further reduced and maintained at acceptable, less-than-significant levels per the significance criteria described in **Section 5.1.2**. Through the above-described Environmental Protection Measures, this Alternative would not result in damage, destruction, or demolition to an archaeological site or building that is eligible or listed on the NRHP (i.e., an historic property); promote neglect of such a resource, resulting in resource deterioration or destruction; introduce audio or visual intrusion to such a resource; or decrease access to resources of value to federally recognized Native American Tribes.

No long-term effects to cultural resources would be anticipated, as the proposed cable alignments and tower locations would be re-vegetated and allowed to return to a natural state following construction; long-term maintenance of the cable corridor would not be required. As none of the proposed towers under this Alternative is located within the viewshed of any NRHP-eligible historic structures or districts, *no long-term adverse effects* to cultural resources are anticipated (see **Section 5.2.1**).

As described in **Sections 1.5.2 and 4.4.5**, Fort Benning regularly consults with 11 federally recognized Native American Tribes. Although no Tribe has identified a property of traditional religious or cultural importance on Fort Benning managed lands, Fort Benning will provide a copy of this Final EA to these 11 Tribes for review and comment prior to making any decision concerning this Proposed Action in accordance with applicable requirements and Fort Benning's established Native American consultation process. Any additional mitigation measures identified as needed during the Native American consultation process would be implemented, as appropriate. As discussed in **Section 4.4.5** and shown on **Figures 12a-d**, most of Fort Benning lands have been surveyed and inventoried for archaeological resources.

As described in **Section 2.2.3**, the following Environmental Protection Measures are incorporated into the Proposed Action to avoid impacts to sensitive cultural resources:

- To the maximum extent possible, the Proposed Action would be located within existing, disturbed roadways, trails, or utility ROWs.
- Where the Proposed Action coincides with a "designed" construction area (see **Figure 3**), the Proposed Action would be located within that footprint.
- The Proposed Action would be bored to a minimum depth of 10 feet beneath all NRHP-eligible archaeological sites.
- The proposed communications towers would be no more than 100 feet in height to minimize potential viewshed impacts to historic properties.

As shown in **Figures 12a-d** and described in **Section 4.4.5**, the proposed I3MP cable alignment would cross or be in close proximity to several NRHP-eligible cultural resources sites and cemeteries. Through careful siting during the planning phase, neither of the proposed towers are located within or near any identified NRHP-eligible cultural resources sites or cemeteries, or within the viewshed of any historic structure or district (see **Figure 12a**).

In addition, the proposed I3MP cable alignment would be installed within portions of on-Post NRHP-eligible historic districts (see **Figure 12d**). While long-term effects to the historic districts, historic structures, or contributing elements would not be anticipated (i.e., the cable would be underground), short-term adverse impacts to these resources are possible during construction (e.g., through short-term audio or visual intrusion). To ensure adverse effects to NRHP-eligible historic districts, buildings, and sites at Fort Benning are avoided during construction, specific mitigation measures are proposed. These mitigation measures are described in **Section 5.6.4**.

5.6.2 Effects of the Expanded ISEC Layout Alternative

Impacts under this Alternative would be similar to the Preferred Alternative. This Alternative would not exceed the significance criteria stated in **Section 5.1.2**, and would result in *short-term, less-than-significant adverse effects* to cultural resources within the APE during construction. This impact would be maintained at acceptable levels through implementation of the Environmental Protection Measures described in **Section 2.2.3**. Specific mitigation measures are proposed in **Section 5.5.4** to ensure these short-term effects are further reduced and maintained at acceptable, less-than-significant levels. Any additional mitigation measures identified as needed during the Native American consultation process also would be implemented by Fort Benning.

While an additional 9.9 miles of underground cable and up to two additional towers would be installed under this Alternative, effects would be similar to those of the Preferred Alternative. The two proposed additional towers would not affect any NRHP-eligible cultural resource structure, site, or district (see **Figures 12a and 12d**). No long-term effects to cultural resources would be anticipated, as the proposed cable alignments and tower locations would be re-vegetated and allowed to return to a natural state following construction; long-term maintenance of the cable corridor would not be required.

As shown in **Figure 12c**, this Alternative's additional proposed cable segment along Box Springs Road and Red Diamond Road would not be located within any identified NRHP-eligible cultural resources sites or cemeteries. While four NRHP-eligible cultural resources sites are located within 45 to 175 feet of this proposed additional alignment, none are located within the proposed alignment.

Identical to the Preferred Alternative, the proposed I3MP cable alignment would be installed within portions of on-Post NRHP-eligible historic districts (see **Figure 12d**). While long-term effects to the historic districts, historic structures, or contributing elements would not be anticipated (i.e., the cable would be underground), short-term adverse impacts to these resources are possible during construction (e.g., through short-term audio or visual intrusion). To ensure adverse effects to NRHP-eligible historic districts, buildings, and sites at Fort Benning are avoided during construction, specific mitigation measures are proposed. These mitigation measures are described in **Section 5.6.4**.

5.6.3 Effects of the No Action Alternative

Under the No Action Alternative, *no adverse effects* to cultural resources within the ROI would occur.

5.6.4 Mitigation

In order to ensure that adverse affects to NRHP-eligible cultural resources (i.e., as defined under Section 106 of the NHPA; 36 CFR 800) are avoided, specific mitigation measures are proposed for either Action Alternative. With implementation of these measures, combined with the Environmental Protection Measures (**Section 2.2.3**), Fort Benning has made a finding that, pursuant to 36 CFR 800.5(a)(1), either Action Alternative (i.e., undertaking) would result in "No Adverse Effects to Historic Properties."

Prior to construction, during the preparation of the final GIS-based engineering design (see **Section 5.1.4**), the proponent shall:

- Avoid areas containing NRHP-eligible cultural resources and cemeteries by locating the proposed cable alignment to within previously disturbed areas, existing roadways, or utility ROWs to the maximum extent possible.

- Field determine and flag the boundaries of all cemeteries and NRHP-eligible cultural resources sites within the proposed cable alignments. All such sites occurring within and adjacent to the proposed 15-foot wide construction corridor shall be identified. These sites shall be marked on the design drawings.

- Within the developed cantonment areas, including on-Post historic districts, field determine the locations of all trees (and their associated drip lines) protected under the Historic Tree Management Plan. These features shall be marked on the design drawings.

- Using the above data, locate all project construction components at a minimum distance of 25 feet from the edge of all NRHP-eligible cultural resources sites and outside of the drip line of trees protected under the Historic Tree Management Plan.

As described in **Section 5.1.4**, this final design shall be reviewed and approved by the EMD via the Fort Benning environmental review process. Any changes required by the EMD shall be made.

Prior to and during construction, the proponent shall:

- Re-validate each proposed project component, immediately prior to construction, via the Fort Benning Form 144R environmental review process to ensure that conditions have not changed. Implement any changes required by the EMD.

- Clearly field flag and comply with the limits of construction, in accordance with the final design and any adjustments made during the pre-project environmental review. All cultural resources sites within the proposed cable alignment shall be bored under at a minimum depth of 10 feet; boring entry and exit work locations shall be a minimum of 25 feet from the edge of the field-marked resource boundary.

- Monitor construction activities in the vicinity of cemeteries, NRHP-eligible cultural resources, and historic trees to ensure construction is conducted in accordance with the final design and adverse effects are avoided. A qualified mitigation monitor from the EMD should monitor activities on-site during construction activities in such locations.

- In the event of an inadvertent discovery of human remains or cultural items as defined by NAGPRA during project construction, construction shall be terminated and the area cordoned off until the Fort Benning CRM is contacted to properly identify and appropriately treat discovered items in accordance with applicable Federal law(s). As appropriate, notification of concerned Tribes would occur once an initial determination is made by a qualified archaeologist.

- Limit construction in on-Post historic districts to minimize short-term noise and visual intrusion within these areas. Do not conduct construction outside of normal business hours and limit the number of construction vehicles present to the absolute minimum required to accomplish the construction.

Following completion of construction, the proponent shall:

- Restore and re-vegetate disturbed construction areas to pre-project conditions, in compliance with the NPDES permit and the ESPCP. Native species of vegetation, as approved by the Fort Benning EMD, should be used to the extent possible.

- Monitor the site for a sufficient period to ensure re-vegetation efforts are successful; implement required corrective actions in areas where re-vegetation is not successful, sufficient to meet requirements for Notice to Terminate.

Implementation of these detailed mitigation measures would ensure that adverse affects to NRHP-eligible sites, buildings, and historic districts, as well as on-Post cemeteries, are avoided during and after project implementation under either Action Alternative.

5.7 Cumulative Effects

5.7.1 Key Factors in Evaluating Cumulative Effects

As defined by CEQ Regulations in 40 CFR Part 1508.7, cumulative effects are those which ~~r~~result from the incremental impact of the Proposed Action when added to other past, present, and reasonably foreseeable future actions, without regard to the agency (Federal or non-Federal) or individual who undertakes such other actions." Cumulative effects analysis captures the effects that result from the Proposed Action in combination with the effects of other actions taken during the duration of the Proposed Action in the same ROI (i.e., at the same time and place). Cumulative effects may be accrued over time and/or in conjunction with other pre-existing effects from other activities in the area (40 CFR 1508.25); therefore, pre-existing impacts and multiple smaller impacts should also be considered. Overall, assessing cumulative effects involves defining the scope of the other actions and their interrelationship with the Proposed Action to determine if they overlap in space and time. Because of extensive influences of multiple forces, cumulative effects are the most difficult to analyze.

The NEPA, CEQ, and Army NEPA Regulations require the analysis of cumulative environmental effects of a Proposed Action on resources that may often be manifested only at the cumulative level, such as traffic congestion, air quality, noise, biological resources, cultural resources, socioeconomic conditions, utility system capacities, and others. Cumulative effects can result from individually minor, but collectively significant actions taking place at the same time, over time. As noted above, cumulative effects are most likely to arise when a Proposed Action is related to other actions that could occur in the same location and at a similar time.

Cumulative effects analysis must determine if the I3MP actions proposed in this EA have the possibility to result in either adverse or positive incremental impacts when considering other past, present, and future projects in the I3MP's ROI. For this EA, the defined ROI includes the lands within Fort Benning (see **Section 5.1.3**). The timeframe applied for this analysis covers the next 5 years, the most appropriate planning horizon for the proposed I3MP action and other activities reasonably foreseeable and planned at Fort Benning. The scope of the cumulative, incremental impacts

analysis, therefore, includes those activities associated with the I3MP and those identified in prior and current final NEPA documents for Fort Benning. These reasonably foreseeable future projects extend to approximately FY2014.

5.7.2 Recent and Planned Projects in the Region of Influence

As described in **Section 1.5.3**, the ROI for the proposed I3MP generally includes lands within the boundaries of Fort Benning. Fort Benning is undergoing robust growth and development in response to multiple, Army-required initiatives including, but not limited to, BRAC 2005, Army Modular Force, Grow the Army, and the associated MCOE. Multiple development projects within Fort Benning have been recently constructed, are underway, or are planned (see **Figure 3**). These projects have been assessed in compliance with the NEPA, and an appropriate decision document has been signed. Relevant previous NEPA disclosure and decision documents can be found at Fort Benning's public notices webpage (https://www.benning.army.mil/EMD/program/legal/index.htm), and include:

1. Final EIS and ROD for the BRAC 2005 and Transformation Actions at Fort Benning, Georgia (October 2007).
2. Final EIS and ROD for the MCOE at Fort Benning, Georgia (June 2009).
3. Final EIS and ROD for the Fort Benning Proposed DMPRC (2004).
4. Final EA and FNSI for the Privatization of the Water Treatment and Distribution System and the Wastewater Collection and Treatment System at Fort Benning (2002).
5. Final EA and FNSI for the National Infantry Museum at Fort Benning (2004).
6. Final EA and FNSI for the Construction of a Shopping Center at Fort Benning (2005).
7. Final EA and FNSI for the Temporary Brigade Combat Team (BCT) Support Facilities and BCT Training at Fort Benning (2004).
8. Final EA and FNSI for the Integrated Pest Management Plan at Fort Benning (2005).
9. Final EA and FNSI for the RCI at Fort Benning (2005).
10. Final EA and FNSI for the Infantry Platoon Battle Course at Fort Benning (2005).
11. Final EA and FNSI for the Multi-Role Bridge Company at Fort Benning (2005).
12. Final EA and FNSI for the Uchee Creek Campground Expansion in Russell County, Alabama (2007).
13. Supplemental Final EA and FNSI for the Infrastructure Footprint Reduction Program at Fort Benning (2008).
14. Final EA and FNSI for the Outdoor Recreation Plan at Fort Benning (2009).

In addition, the following actions are also undergoing current (not yet complete) NEPA analysis at Fort Benning, and are considered reasonably foreseeable:

- EA for Proposed Army Lodging at Fort Benning.
- EA for the Proposed Warrior Training Center at Fort Benning.
- EA for the 3rd Infantry Division BCT Motorpool Expansion at Fort Benning (J. Williams 2010).

Overall, Fort Benning is anticipated to increase in population by over 16,500 persons in the next few years, bringing the total on-Post population to over 50,000 (please see **Section 1.1** for more information). The following provides a discussion of actions completed and planned within the Fort Benning ROI.

Actions Completed in the Last Five Years at Fort Benning

The following provides an overview discussion of several of the recent actions identified in the above-listed, completed NEPA documents for Fort Benning, within the I3MP ROI:

Privatization of the Water and Wastewater Treatment System (FY04) – The wastewater treatment system at Fort Benning, which consists of three facilities and a network of underground piping, has been privatized. The contract for the system included the day-to-day upkeep of the system and requires the contractor to abide by applicable Federal, State, and Installation policies and guidelines. The process includes either the ~~"m~~othballing" or demolition (to the concrete slab) of the existing water and wastewater treatment facilities and the construction of a series of new underground utility transport lines, for the purpose of connecting the existing on-Post facilities to the new owner's off-Post facilities. The approximate size of the overall project area is 50 to 60 acres. An EA, FNSI, and Supplemental EA were prepared for this action.

Communications Tower (FY04) – A communication tower was constructed in the South Harmony Church area, west of Cusseta Road and south of El Caney Road.

New Army and Air Force Exchange Service Post Exchange (FY06) – Work consisted of constructing a new Exchange on the land across the street from the existing Exchange on Custer Road, Main Post, Fort Benning. The old Exchange will be reutilized in another format; it is not scheduled for demolition at this time. Work included landscaping and parking lot construction. The approximate size of the overall project area is 10 to 15 acres. An EA and FNSI were prepared.

Infantry Platoon Battle Course (FY06) – Work consisted of the construction of a new Infantry Platoon Battle Course in the A12 portion of Fort Benning and included tree clearing, grading, cut-and-fill, construction of the range and target firing area, and placement of targetry, in addition to the construction/emplacement of support facilities, access roads and trails, and associated utilities. The approximate size of the overall project area is 1,000 acres. An EA was prepared for this action.

Digital Multi-Purpose Range Complex (DMPRC) (FY05) - The DMPRC was constructed near the D13 area on Fort Benning. The DMPRC provides a state-of-the-art range facility for conducting advanced gunnery exercises in a realistic training environment. Support facilities associated with the DMPRC are located adjacent to the range. The DMPRC design includes as many as 22 water

crossings, and up to 1,500 acres of vegetation removal. An EIS and a ROD were prepared, and the DMPRC was constructed on approximately 1,800 acres of land at Fort Benning.

Infantry Squad Battle Course (FY04) – Work consisted of the conversion of an existing Fort Benning range, Galloway Range, into an Infantry Squad Battle Course and included the removal/replacement and upgrading of existing targetry, the construction of associated support facilities, the demolition of currently existing temporary buildings on the site, and associated utility placement. The approximate size of the overall project area was 180 to 190 acres.

National Infantry Museum (FY04) – A new infantry museum was constructed on the land between South Lumpkin and Fort Benning Roads on the Installation's border with the City of Columbus. Work consisted of establishing a World War II Company Street. The existing museum building, located on Baltzell Avenue, Main Post, Fort Benning, was reutilized. The approximate size of the overall project area was 20 to 30 acres. An EA, FNSI, and errata sheet were prepared for this action by the Army.

Uchee Creek Campground Expansion (FY07) – Approximately 19 acres of improvements at the existing Fort Benning Uchee Creek Campground were included in this project. The campground is in Russell County, Alabama, adjacent to the Chattahoochee River. Improvements included construction of up to 29 additional pull-through recreational vehicle sites, 10 chalets, a new playground, and upgrades to existing playgrounds and common areas. An EA and FNSI were prepared for this action.

Outdoor Recreation Plan (FY09) - In recognition that Fort Benning's population growth is expected to increase demand for outdoor recreational activities, the Installation developed a plan to upgrade or improve existing recreational facilities. The plan included construction of new outdoor athletic facilities, trails, RV and camp sites, and chalets for quality recreational opportunities. Through an outdoor recreation planning process, 11 areas were identified for specific construction and improvement. An EA and FNSI were prepared for the Fort Benning Outdoor Recreation Plan.

Current Actions at Fort Benning

The following provides an overview discussion of several of the ongoing actions identified in the above-listed, completed NEPA documents for Fort Benning, within the I3MP ROI:

Residential Community Initiative (RCI). Consistent with authorities contained in the 1996 Military Housing Privatization Initiative, Fort Benning has transferred responsibility for providing housing and ancillary supporting facilities to Fort Benning Family Communities LLC. Fort Benning conveyed existing homes in 10 housing areas and provided a 50-year lease of the land underlying existing homes, as well as an additional 536-acre site for new housing. An EA, FNSI, and errata sheet have been prepared for this action. Between 2005 and 2015, plans call for an end state of 4,200 homes and an incremental program for the demolition of approximately 2,200 homes; construction of approximately 2,400 new/replacement homes; and renovation of approximately 1,600 homes. The remainder of the homes are existing units that would not have any major work done on them within this timeframe.

BRAC, Transformation, and MCOE Actions at Fort Benning. Consistent with the BRAC 2005 Realignment/Transformation and MCOE EISs and RODs, Fort Benning is in the process of implementing these projects. **Table 5** presents a list of FY2007 and FY2008 projects that were analyzed in the BRAC 2005 Realignment/Transformation EIS and ROD; **Table 6** presents a list of

FY2009 through FY2013 BRAC 2005 Realignment/Transformation projects that were included in the MCOE EIS under the No Action Alternative; **Table 7** presents a list of ongoing and future projects approved in the MCOE EIS and ROD. Collectively, these projects represent a list of ongoing and future planned BRAC 2005 Realignment, Transformation, and MCOE projects at Fort Benning over the next 5 years. The MCOE projects, collectively, will affect approximately 10,045 acres of land at Fort Benning (DA 2009).

It is important to note, as described in **Section 2** of this EA, that the proposed I3MP action is designed to complete the IT connectivity associated with multiple BRAC, Transformation, and MCOE projects, as listed in **Tables 5** through **7**. As such, these projects are interrelated in terms of time, space, and function, and are assessed for their potential cumulative effects in this analysis. This analysis considers the incremental effects of the proposed I3MP action on the backdrop of all of the other past, present, and planned projects within the Fort Benning ROI.

Table 5: BRAC 2005 Realignment/Transformation FY2007 and FY2008 Projects

Project Number	Project Title
46676	Child Development Center (Indianhead)
54931	Child Development Center, Ages 6-10
62956	Health Clinic-Winder, Sand Hill
64080	Troop Medical/Dental Clinic
64368	Soloman Dental Clinic, Sand Hill
64370	Trainee Barracks Complex 1
64459	Training Support Brigade Complex, Phase 1
64462	Reception Station, Phase 1
65032	Fire & Movement Range 1
65041	Trainee Barracks Complex 3
65044	Modified Record Fire with Location of Hit and Miss System 2
65045	Modified Record Fire 3
65046	Modified Record Fire 4
65048	Modified Record Fire 6
65056	Brigade Headquarters Complex
65068	Trainee Barracks Complex 2, Sand Hill
65251	Vehicle Maintenance Facility
65253	16th Cavalry General Instruction Complex 1
65285	Maintenance & Repair Of Maneuver Center
65287	Training Support Center
65382	Tank F/V Stationary Gunnery Range
65394	Special Operations Forces Battalion Complex
65396	Special Operations Forces Headquarters Building Addition
65397	Special Operations Forces Tactical Equipment Shop
65439	Fire Station Anti-Terrorism/Force Protection Access Control Marne Road/Lindsay Creek Parkway Intersection
65862	Training Support Brigade Complex, Phase 2
67648	Simulations Training Facility
70138	135-Capacity Child Development Center

Table 6: BRAC 2005 Realignment/Transformation FY2009 through FY2013 Projects

FY	Project Number	Project Title
09	48644	Central Wash Facility
09	51256	Reception Barracks, Phase 2
09	64460	DS/GS Vehicle Maintenance Facility
09	64797	Tracked Vehicle Drivers Course
09	72017	Vehicle Recovery Training Area *
09	65035	Rifle/Machinegun Zero Range 1*
09	65036	Rifle/Machinegun Zero Range 2*
09	65037	Rifle Machinegun Zero Range 3
09	65038	Rifle Machinegun Zero Range 4
09	65039	Rifle/Machinegun Zero Range 5*
09	65047	Modified Record Fire 5
09	65080	Consolidated Troop Medical Clinic
09	65081	Medical Treatment Facility, Increment 1*
09	65286	Armor Officer Basic Course Headquarters
09	65322	General Instruction Building Complex, Phase 1
09		Convert Non Unaccompanied Personnel Housing/Billeting Space to Transient
09		Infantry Basic Officers Course Headquarters Complex Building
09		Student Dining Facility Main Post
09	65383	Stationary Tank Range 2*
09	65438	Vehicle Maintenance Instruction Facility
09	65578	Criminal Investigation Command Group/Brigade Headquarters Building
09	67419	Reception Station, Phase 3
09	67457	Infrastructure Support, Increment 2*
09	69358	Range Access Road—Good Hope Maneuver Training Area*
09	69668	Good Hope Training Area Infrastructure*
09	69742	Northern Training Area Infrastructure*
09	69743	Southern Training Area Infrastructure*
09	65554	Construct Training Area Roads Paved*
09	69741	Training Area Infrastructure – 19D/K OSUT*
09	65034	Fire and Movement Range 3*
10	62207	Combined Arms Collective Training Facility, Phase 2
10	64491	Army Reserve Center/Operations and Maintenance Services/Unheated Storage
10	65061	Armor Climate Control Storage Facility
10	65079	Automated Combat Pistol/Military Police Qualification Course*
10	65284	MCOE Headquarters Expansion/Capabilities Development and Integration
10	65405	Equipment Concentration Site
10	65557	Repair Existing Training Area Roads*
10	67458	General Instruction Building Complex (Increment 2)
10	67461	Hospital Replacement (Increment 2)*
11	38134	Barracks Complex Main Post
11	63799	3rd Infantry Division Brigade Combat Team (Heavy) Complex
11	65395	SOF Ranger Support Company
11	67012	Qualification Training Range
12	65246	Community Activity Center*
12	65248	Physical Fitness Center*
12	62953	Rail Loading Facility Expansion*
12	64790	Battle Command Training Center
13	62952	Brigade Complex Headquarters, 14th Combat Support Hospital
13	65065	Chapel Harmony Church
13	65249	Chapel Sand Hill

Note: Items noted with an asterisk (*) are projects that changed since the BRAC/Transformation ROD and were evaluated under the MCOE EIS Preferred Action Alternative (see **Table 7**).

Table 7: MCOE EIS and ROD Preferred Action Alternative Projects (approved projects)

Project Number	FY	Project Name/Location/Size	
Installation Wide			**Disturbance Area Footprint (Acres)**
65554	09	Construct Training Area Roads Paved	715
67457	09	Infrastructure Support, Increment 2 (Includes Security Fence and Dixie Road Expansion from Michaels Street to Sightseeing Road)	246
65557	10	Repair Existing Training Area Roads, Phase 1	352
Cantonment Area—Harmony Church			
71065	09	Troop Store – Army and Air Force Exchange Service (Non-Appropriated Funds)	6
64460	9	Direct Support/General Support Vehicle Maintenance Facility	36
65322	09	Shop 1 Maintenance Facility	10
65246	12	Recreation Centers in Harmony Church and Sand Hill	28
65248	12	Physical Fitness Center, Harmony Church	39
62953	12	Rail Loading Facility Expansion	134
Cantonment Area—Main Post			
70235	09	Hospital Replacement	137
69999	09	Warrior in Transition Complex	46
71473	10	Water Treatment Plant Upgrade and Expansion	47
69151	10	Dining Facility to Support Advanced Skill Training	10
65250	10	Maneuver Battle Lab	27
71620	10	Dental Clinic Addition (Bernheim Site)	10
Cantonment Area—Sand Hill			
69147	09	Trainee Complex Upgrade	81
70027	10	Classrooms with Battalion Dining Facilities	72
64481	10	Blood Donor Center	12
70026	10	Classrooms with Battalion Dining Facilities	50
72322	10	Training Barracks Complex, Phase 1	131
69150	10	Classrooms & Dual Battalion Dining Facilities	66
72324	11	Training Barracks Complex, Phase 2	Note 1
72456	11	Training Dining and Classroom Facilities, Phase 2	Note 2
72457	11	Training Dining and Classroom Facilities, Phase 2	Note 3
69745	12	Training Barracks Complex, Phase 3	Note 1
65249	13	Chapel	0 (already disturbed)
Ranges North of U.S. Highway 27/280			
72017	09	Vehicle Recovery Course	192
65035	09	Basic 10M – 25M Firing Range 1	23
65039	09	Basic 10M – 25M Firing Range 5	22
65036	09	Basic 10M – 25M Firing Range 2	9
65049	09	Modified Record Fire 7 – 5.56mm: M855 Ball	38
65043	09	Modified Record Fire 1 – 5.56mm: M855 Ball	59

Table 7: MCOE EIS and ROD Preferred Action Alternative Projects (approved projects) (cont.)

Ranges North of U.S. Highway 27/280)contd.)			
64551	09	Multi-Purpose Training Range 1 – 25mm,120mm,7.62mm, 5.56mm & .50 Caliber	Note 4
65033	09	Fire and Movement Range 2 – 5.56mm: M855 Ball	89
69741	09	19D/K OSUT (Heavy Mounted/Dismounted Training in TA- L1, O12-14, and portions of O15 and Heavy Mounted Training in TA-O14, O15, and L1-5)	271
69742	09	Northern Training Area Infrastructure (Heavy Mounted Training in TA-O1,O3,O11,O14, and O15)	260
69743	09	Southern Training Maneuver Area Infrastructure	2,936
65034	10	Fire and Movement Range 3 – 5.56mm: M855 Ball	44
65383	09	Stationary Tank Range 2	279
64797	09	Drivers Training Course (Access Roads)	18
Ranges South of U.S. Highway 27/280			
65078	09	Anti-Armor Tracking And Live Fire Complex 1	57
69358	09	Range Access Road – Good Hope Maneuver Training Area	162
69668	09	Good Hope Training Area Infrastructure	4,112

Note 1: *Both Project Numbers 72324 and 69745 occur at the same location as 72322*
Note 2: Project Number 72456 occurs at the same location as Project Number 70026
Note 3: Project Number 72457 occurs at the same location as Project Number 70027
Note 4: *The MPTR is being constructed as an upgrade to the Hastings Range, so no additional acreage impacts would occur.*

Reasonably Foreseeable Future Actions within Fort Benning

The following provides an overview discussion of several of the reasonably foreseeable future actions identified in the above-listed, to-be-completed NEPA documents for Fort Benning, within the I3MP ROI:

Movement of the Material Recycling Center. This project consists of disassembling Building 4000 in its current location and reassembling it in vicinity of the 718th Military Police Building 4960. No digging or grading is proposed to relocate the facility. After the project is completed, the asphalt slab on which the building previously stood would be removed.

Army Lodging Facility. This project includes the proposed construction of an 860-room, five-story hotel in the Fort Benning area adjacent to on-Post housing and several community facilities. The hotel would include 60 standard rooms, 740 extended family rooms, and 60 family suites. This project would provide an adequate Army lodging facility to accommodate Temporary Duty personnel and Permanent Change of Station personnel and their family members traveling on official orders into or out of the Fort Benning area. This facility would also support students who are part of the Institutional Training Directed Lodging and Meals program. There are no existing facilities in the Fort Benning community capable of being economically renovated to meet the required number of guest rooms and to meet the required lodging standards. It is expected that near-future re-stationing planned actions would generate a high level of official travelers to Fort Benning.

Georgia Army National Guard Warrior Training Center. The Georgia Army National Guard proposes to expand and update existing Warrior Training Center training capabilities to accommodate evolving and changing training requirements and additional National Guard Soldiers. The Warrior Training Center is located on approximately 40 acres at Camp Butler, in the Harmony Church cantonment area. The Proposed Action would add up to two Companies, construct new

facilities, renovate and demolish some existing buildings and roads, and refurbish training areas to better meet the training curriculum within the existing 40-acre site. An EA is being prepared for this action.

3rd Infantry Division BCT Complex Motorpool Expansion (Project Number 63799). While the this proposed FY2011 Complex was assessed in the BRAC/Transformation and MCOE EIS (No Action Alternative), this proposed action is anticipated to change in size and be relocated from the original Harmony Church location to Kelley Hill. This change would be assessed in a future NEPA document.

Other potential future cumulative projects at Fort Benning, as identified in the MCOE EIS (DA 2009), include:

- **Construction of a Tactical Unmanned Aerial Vehicle Hangar (FY14);**
- **Expansion and Renovation of the 3rd Battalion, 75th Ranger Regiment, Battalion Headquarters (FY11);**
- **Construction of a Military Working Dog Kennel (FY15);**
- **Harmony Church Car Wash and Java Cafe (FY11);**
- **Legal and Judicial Center (FY10);**
- **Army and Air Force Exchange Facilities Services Projects for the Armor School (FY11); and**
- **Additional Family Restaurants (FY11).**

The reader is referred to the MCOE EIS for additional information on these other proposed future actions (DA 2009).

In addition, Fort Benning is currently planning additional LMR radio towers, and possibly other communications towers and infrastructure, at the Installation. While there are no current plans to connect these additional communications infrastructure components to the I3MP network, such connectivity may be proposed in the future. These future, currently un-programmed and un-funded projects are in the early planning stages and are not yet sufficiently developed for analysis. Once additional data become available, Fort Benning, working with the project proponent, will conduct the appropriate level of NEPA analysis on these proposed projects. This approach is fully consistent with the NEPA and CEQ Regulations (40 CFR 1502.20). These regulations specify that such potentialities should be introduced, but can be deferred to future analyses and documentation when more complete information becomes available. As, such, this concurrency does not violate the CEQ Regulations. The individual and cumulative potential effects of such a proposal will be properly and fully evaluated once additional planning data become available.

5.7.3 Cumulative Effects Analysis

Analysis of the proposed I3MP action, under either Action Alternative, resulted in a finding of short-term, less-than-significant adverse effects on *Soils*, *Water Resources and Wetlands*, *Biological Resources*, and *Cultural Resources* that will be further analyzed in this section of the EA. As shown in the below analysis, these less-than-significant adverse impacts do not contribute to significant adverse cumulative effects when considering all other past, present, and reasonably foreseeable future construction and training increases at Fort Benning.

The remaining VECs, as analyzed in this EA, would not be adversely affected by the proposed I3MP action. As such, the Proposed Action would not contribute incrementally to cumulative adverse effects to any of these VECs within the Fort Benning ROI; these VECs are not further assessed herein.

The thresholds for cumulative effects are the same as for the direct and indirect effects analysis as described in **Section 5.1.2**. Please refer to that section for a discussion of the significance criteria developed and applied for this EA's analysis.

Soils. The proposed I3MP action is relatively small in size (i.e., including up to 142 to 163 acres of primarily previously disturbed land). No significant adverse effects to soils are expected because erosion control measures, as required by the NPDES permitting process and associated ESPCP, would be utilized. Long-term soils effects are not anticipated. Construction sites would be restored to pre-project conditions; proposed tower locations and access roads would be improved and hardened, as appropriate, to prevent any long-term erosion effects. Other projects at Fort Benning to support BRAC, Transformation, MCOE, and other on-going activities will occur during this same timeframe; these projects are also required to minimize erosion and sedimentation in compliance with applicable NPDES requirements. Based on the limited areas of disturbance involved in the proposed I3MP action and the regulatory requirements to minimize soil erosion, neither Action Alternative would result in adverse cumulative effects to Fort Benning soils resources when considering the past, present, and future projects in the ROI.

Water Resources and Wetlands. The proposed I3MP action, through implementation of the incorporated Environmental Protection Measures, would not result in significant adverse effects to water resources or wetlands within the Fort Benning ROI. Short-term, less-than-significant adverse effects would be further reduced and controlled via implementation of the mitigation measures proposed in this EA. Through these combined measures, adverse effects to water resources and wetlands from either Action Alternative would be substantially reduced or avoided altogether. Therefore, it is anticipated that the Proposed Action would not result in cumulative adverse effects to water resources or wetlands when considered together with other past, present, or reasonably foreseeable actions within the Fort Benning ROI.

Biological Resources. Adverse cumulative effects to vegetation, wildlife, and protected species at Fort Benning are not likely to occur due to the additional habitat disturbance resulting from the removal associated with the proposed I3MP action. Under either Action Alternative, up to 163 acres of primarily previously disturbed vegetation communities would be affected. These areas would be disturbed during construction, and would be re-vegetated following construction. No long-term maintenance would be required; thus, no long-term effects to biological resources are anticipated. Similarly, no adverse effects to migratory bird species are identified.

Short-term, less-than-significant adverse effects to the RCW and Gopher Tortoise have been identified in this EA's analysis. However, with implementation of the Environmental Protection Measures, coupled with the mitigation measures recommended in this EA, these affects would be maintained at acceptable levels or avoided altogether. No effects to the RCW would occur; this would be achieved through avoidance of existing and potential cavity trees, avoidance of pine trees with a 10-inch dbh or greater, and sensitive timing of construction. The proposed I3MP action specifically would comply with the RCW habitat restrictions for construction currently imposed at Fort Benning. Gopher Tortoises would be avoided or re-located, under the supervision of a qualified monitor. Again, no long-term effects are anticipated.

The USFWS, in preparation of its JBO for the RCW at Fort Benning in May 2009 (see **Section 4.4.4**), considered the impacts of other actions that have undergone formal Section 7 consultation up to time of the issuance of the JBO. The JBO considered on-going and future activities by Fort Benning to protect listed species, such as the Army Compatible Use Buffer program at Fort Benning. In its determination for the proposed MCOE action, the USFWS considered the RCW population at Fort Benning at its current levels and the modeled levels of the population into the future under a number of scenarios. Combined with the population recovery trends elsewhere in the US, the USFWS determined that the proposed MCOE action was likely to jeopardize the RCW, in part due to long-term cumulative effects. However, implementation of the Reasonable and Prudent Alternative for the MCOE action, along with the mandatory Reasonable and Prudent Measures, Incidental Take Statement, and Terms and Conditions, allowed the MCOE action to avoid the adverse (jeopardy) cumulative effects that would otherwise occur. The USFWS concurred that jeopardy would be avoided if the Biological Assessment, Biological Opinion, and Reasonable and Prudent Alternative terms were implemented by Fort Benning, although the ultimate recovery of the RCW would be delayed. These elements were and are being implemented by Fort Benning.

Implementation of the proposed I3MP action would not contribute to these cumulative adverse effects to the RCW, as direct and indirect effects to this species would be minimized or avoided. The Proposed Action would not adversely affect Fort Benning's on-going management activities designed to recover the RCW at Fort Benning, in accordance with the above requirements.

Cultural Resources. The proposed I3MP action, through implementation of the incorporated Environmental Protection Measures, would not result in significant adverse effects to cultural resources within the Fort Benning ROI. Short-term, less-than-significant adverse effects would be further reduced and controlled via implementation of the mitigation measures proposed in this EA. Through these combined measures, adverse effects to cultural resources, including Tribal resources, from either Action Alternative would be avoided. Therefore, it is anticipated that the Proposed Action would not result in cumulative adverse effects to cultural resources when considered together with other past, present, or reasonably foreseeable actions within the Fort Benning ROI. In addition, all present and future proposed actions at Fort Benning would be conducted in accordance with applicable cultural resources management plans (i.e., the ICRMP and the HPC of the ICRMP), requirements, regulations, laws, and directives. As such, cumulative adverse effects to cultural resources are not anticipated.

5.7.4 Cumulative Effects Summary

Fort Benning is growing and developing, producing various effects on the natural, cultural, and socioeconomic resources both within and around the Installation. This on-going growth and development places pressures on area infrastructure and resources. Through the NEPA process and proactive planning, Fort Benning has minimized adverse environmental, cultural, and socioeconomic effects to the extent possible.

The Proposed Action, under either Action Alternative, would not result in or contribute to significant adverse cumulative effects to any VEC analyzed in this EA within the Proposed Action's ROI. Under either Action Alternative, less than 163 acres of land (i.e., less than 0.1 percent of the total 182,000-acre Fort Benning land area) would be affected. The total area of new ground disturbance would be minimized by implementing the Environmental Protection Measures identified in **Section 2.2.3**. These include, but are not limited to, locating the Proposed Action to the maximum extent possible within previously designed and approved construction areas (see **Figure 3**), boring several locations, and locating the Proposed Action within previously disturbed utility ROWs, roadways, and trails.

Based on the data and analyses presented in **Sections 4 and 5** of this EA, the Proposed Action would produce *no adverse effects* to the geographic setting and location of Fort Benning, land use, geology or topography, utilities (i.e., energy, water, waste water, electricity), airspace, or HTMW. As such, the Proposed Action would not contribute any adverse cumulative effects on these VECs. Only minimal aesthetics and visual resources effects would occur, and these would be limited to the proposed new towers. These aesthetics and visual resources effects generally would be consistent with the land use of Fort Benning, would be similar in scale and massing as other on-Post infrastructure, and would not contribute to a significant adverse cumulative effect. As discussed in **Section 5.7.3**, no adverse cumulative effects to soils, water resources and wetlands, biological resources, or cultural resources are anticipated.

From a socioeconomic perspective, no adverse effects to any socioeconomic resources would occur. The Proposed Action, valued at $30 million, would produce positive economic effects during construction (i.e., via construction jobs and spending) and positive human health and safety effects during operation (i.e., via improved emergency services communication on Fort Benning). Therefore, no cumulative adverse socioeconomic effect is identified.

The Proposed Action would not produce any long-term adverse effects to roads, railroads, or associated traffic. During construction of the Proposed Action, traffic would be maintained through use of temporary signals, signage, and other routine traffic control measures. As such, no cumulative adverse effect to transportation or traffic is identified.

Overall, the Proposed Action would not consume open space, produce additional pressures on area infrastructure, or contribute to a decline in natural or cultural resources. In addition, careful planning, monitoring, and communication between involved Fort Benning divisions and involved agencies will ensure growth in the area is managed and cumulative adverse impacts are avoided.

Under the No Action Alternative, however, a long-term, less-than-significant adverse cumulative effect to on-Post land use is possible. Without implementation of the I3MP, some of Fort Benning's facilities (i.e., planned, under construction, and existing) would remain unconnected to the IT network. While this would not preclude the use of new or existing facilities, this would result in diminished capability and function, and the potential inability to use these facilities to their full potential.

Also under the No Action Alternative, failing to install the I3MP would continue to limit emergency services communication on Fort Benning. This would result in police, fire protection, forestry, environmental staff, and some Army units continuing to rely on personal cellular phones to maintain communications in portions of the Installation (see **Figure 2**). Use of personal cellular phones does not provide for effective, reliable communication that meets the requirements on the Installation. This on-going deficient condition represents a less-than-significant adverse cumulative effect to public health and safety on the Installation.

SECTION 6: COMPARISON OF ALTERNATIVES AND CONCLUSIONS

6.1 Introduction

This EA has evaluated the potential direct, indirect, and cumulative environmental, cultural, and socioeconomic effects of the DA's proposed construction and operation of the I3MP at Fort Benning, Georgia. Three alternatives were evaluated:

- **Modified ISEC Layout Alternative (Preferred Alternative):** Implement the proposed I3MP generally as designed by ISEC. This alternative includes modifications to ISEC's original design to avoid impacts to existing sensitive environmental resources and range operations at Fort Benning. This alternative includes approximately 76.8 miles of underground cable and two 100-foot, self-supporting communications towers. This alternative is described in **Section 3.3.1** and shown on **Figure 4**.

- **Expanded ISEC Layout Alternative:** Implement the proposed I3MP generally as designed by ISEC (and as modified under the Preferred Alternative), but including additional communications towers and underground infrastructure to provide increased system operability at Fort Benning. This alternative includes an *additional* approximately 9.9 miles of underground cable (as compared to the Preferred Alternative) and a total of four 100-foot, self-supporting communications towers. This alternative is described in **Section 3.3.2** and shown on **Figure 5**.

- **No Action Alternative:** Continue with operations as currently conducted and "approved" and do not implement the I3MP. This would include continuing to rely on deficient communications methods across Fort Benning, and operating facilities at below design capacities. This alternative is described in **Section 3.3.3** and shown on **Figure 2**.

6.2 Comparison of the Environmental Consequences of the Alternatives

Implementation of the Preferred Alternative or the Expanded ISEC Layout Alternative would result in similar environmental effects. As compared to the Preferred Alternative, the Expanded ISEC Layout Alternative would improve I3MP system redundancy to Camp Darby and complete the redundant circuit of IT connectivity in the southeastern portion of Fort Benning. In addition, this Alternative would also provide additional communications tower coverage on the Installation as compared to the Preferred Alternative. Therefore, the Expanded ISEC Layout Alternative would better meet the purpose of and need for the Proposed Action, and would better improve emergency services communication (i.e., health and safety). A significant, long-term positive telecommunications effect would occur under either Action Alternative; the more robust Expanded ISEC Layout Alternative would result in greater positive effects. However, both Action Alternatives would satisfy the Proposed Action's purpose and need.

The enhanced operability of the Expanded ISEC Layout Alternative would result in only minor additional environmental effects as compared to the Preferred Alternative. These include potential adverse effects to one additional intermittent stream and approximately 0.50 acre of additional wetlands. Under the Expanded ISEC Layout Alternative, minor additional ground disturbance would occur at the additional construction locations as compared to the Preferred Alternative; the Expanded ISEC Layout Alternative would affect up to 21 additional acres of ground within Fort

Benning (i.e., 163 acres versus 142 acres). However, implementation of the Environmental Protection Measures would ensure these minor additional adverse effects are maintained at acceptable levels or avoided. Overall, either Action Alternative would result in the following effects:

Long-term positive effects to:
- ✓ Socioeconomics (emergency response services, health and safety).
- ✓ Utilities (telecommunications and IT infrastructure).

Short-term, positive effects to:
- ✓ Socioeconomics (economy, including construction jobs/spending).

No effects to:
- ✓ Land use.
- ✓ Geology and topography.
- ✓ Socioeconomics (population, housing, Protection of Children, and Environmental Justice).
- ✓ Utilities (energy, water, waste water, electricity).
- ✓ Transportation and Traffic (roads, railroads; traffic during construction would be maintained).
- ✓ Airspace.
- ✓ HTMW.

Less-than-significant adverse effects to:
- ✓ Geographic Setting and Location - Aesthetics and Visual Resources (long-term, towers)
- ✓ Air Quality (short-term; construction emissions).
- ✓ Noise (short-term; construction noise).
- ✓ Soils (short-term; construction erosion and sedimentation).
- ✓ Water resources and wetlands (during construction - mitigation measures proposed).
- ✓ Biological resources (during construction - mitigation measures proposed).
- ✓ Cultural resources (during construction - mitigation measures proposed).

Adverse effects would be avoided or maintained at below levels of significance through implementation of Environmental Protection Measures (**Section 2.2.3**), which are incorporated into the Proposed Action; mitigation measures (**Section 5**) are also proposed in this EA to ensure potential less-than-significant adverse effects to Water Resources and Wetlands, Biological Resources, and Cultural Resources are further reduced or avoided altogether. No significant adverse cumulative impacts are anticipated.

The No Action Alternative was not found to satisfy the purpose of and need for the Proposed Action. In addition, this Alternative would result in two long-term, less-than-significant adverse effects. These include:

Land use - Without implementation of the I3MP, some of Fort Benning's facilities (i.e., planned, under construction, and existing) would remain unconnected to the IT network. While this would not preclude the use of new or existing facilities, this would result in diminished capability and function, and the potential inability to use these facilities to their full potential. This would be a long-term adverse effect to the safety, security, and operational efficiency of training and support activities at Fort Benning.

Emergency services/health and safety - Failing to install the I3MP would continue to limit emergency services communication on Fort Benning. This would result in Army units, police, fire protection, forestry, and environmental staff continuing to rely on personal cellular phones to maintain communications in portions of the Installation. Use of personal cellular phones does not provide for effective, reliable communication that meets the requirements on the Installation. This on-going deficient condition represents a long-term, less-than-significant adverse to emergency services and associated public health and safety on Fort Benning.

Table 2 presented a summary of impacts expected from implementation of the Proposed Action under each of the three considered alternatives. This summary provides a brief description of each impact, correspondent with the detailed discussions provided in **Section 5**.

6.3 Conclusions

The Preferred Alternative and the Expanded ISEC Layout Alternative would result in the effects identified throughout **Section 5** and summarized in **Table 2**; overall, these effects are very similar under both Action Alternatives. The Expanded ISEC Layout Alternative would provide a superior method to achieve the purpose of and need for the Proposed Action as compared to the Preferred Alternative. However, both Action Alternatives would achieve the purpose of and fulfill the need for action. The Expanded ISEC Layout Alternative's superior performance and increased communications connectivity would come with only minor additional potential environmental effects. All effects would be maintained at acceptable levels through avoidance and careful project design, via the Environmental Protection Measures. While neither of the Action Alternatives would result in significant adverse impacts, mitigation measures are proposed for less-than-significant adverse effects to *Water Resources and Wetlands*, *Biological Resources*, and *Cultural Resources* under either Alternative to further reduce or avoid effects. Adverse effects to *Soils* would be mitigated through the NPDES compliance process. These mitigation measures are described in this EA.

Neither Action Alternative would contribute to a cumulative adverse effect within the Proposed Action's ROI or APE. Both Action Alternatives would result in significantly improved communications infrastructure and capabilities across Fort Benning.

The No Action Alternative would not meet the purpose of or need for the Proposed Action, and could result in long-term, less-than-significant adverse individual and cumulative effects to land use and emergency services/public health and safety on Fort Benning.

Implementation of either Action Alternative, including the integral Environmental Protection Measures, would not produce any significant adverse direct, indirect, or cumulative impacts. Implementation of mitigation measures identified in this EA would further reduce or avoid identified less-than-significant adverse effects. Either Alternative would fulfill the purpose of and need for the Proposed Action, allowing Fort Benning to accomplish its mission. This EA's analysis determines, therefore, that an EIS is unnecessary for implementation of the Preferred Alternative or the Expanded ISEC Layout Alternative, and that a mitigated FNSI is appropriate.

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SECTION 7: LIST OF INTERESTED AGENCIES AND INDIVIDUALS

The following provides the distribution list for the NOA of the Final EA and Draft FONSI.

I. MUNICIPAL AND COUNTY ELECTED AND APPOINTED OFFICIALS

Honorable Jim Wetherington
City of Columbus, Mayor
100 10th St. 6th Floor
Government Center Tower
Columbus, GA 31901

Mayor Sonny Coulter
601 12th Street
Phenix City, AL 36867

Commission Chairman
Cusseta-Chattahoochee Co. Govt.
P.O. Box 299
Courthouse Annex
Cusseta, GA 31805

II. STATE, COUNTY, AND LOCAL GOVERNMENT OFFICIALS

Governor Sonny Perdue
Office of the Governor
Georgia State Capitol
Atlanta, GA 30334

Senator Saxby Chambliss
416 Russell Senate Office Bldg.
Washington, DC 20510

Senator Johnny Isakson
120 Russell Senate Office Bldg.
Washington, DC 20510

Rep. Sanford Bishop, Jr.
Georgia – 2nd District
2429 Rayburn HOB
Washington, DC 20515-1002

III. LOCAL AND REGIONAL ADMINISTRATORS, FEDERAL AGENCIES, OR COMMISSIONS WITH REGULATORY INTEREST IN FORT BENNING

U.S. Fish & Wildlife Service
Attn: John Doresky
P.O. Box 52560
Fort Benning, GA 31995

Colonel Edward Kertis
Savannah District USACE
P.O. Box 889
Savannah, GA 31402

Mr. Tom Fisher, Regulatory Branch
USACE, Albany Field District
1104 North Westover Road
Albany, GA 31707

Ms. Barbara Jackson, Administrator
Georgia State Clearinghouse
270 Washington Street SW, 8th Floor
Atlanta, GA 30334

Mr. Ben Mosely
GSWCC, Region 5
4344 Albany Highway
Dawson, GA 39842

Mr. F. Allen Barnes, Director
Georgia DNR-Environmental Protection Division
2 Martin Luther King Jr. Drive SE
Suite 1152 East
Atlanta, GA 30334

Mr. Chris Clark, Commissioner
Georgia Department of Natural Resources
2 Martin Luther King Jr. Drive SE
Suite 1252 East
Atlanta, GA 30334

Mr. David C. Crass, Acting Director
Georgia DNR, Historic Preservation Division
254 Washington Street SW
Ground Level
Atlanta, GA 30303

Mr. A. Stanley Meiburg
Region IV, Acting Administrator
U. S. EPA
61 Forsyth Street SW
Atlanta, GA 30303

Columbus Consolidated Government
Planning Division
10th Street; 6th Floor
Government Center Tower
Columbus, GA 31901

Mr. Willie Taylor, Director
USDI, Office of Environmental Policy and Compliance
1849 C Street NW (MS 2462)
Washington, DC 20240

Mr. Gregory Hogue
USDI, Office of Environmental Policy and Compliance
75 Spring Street SW
Russell Federal Building; Suite 114
Atlanta, GA 30303

IV. CITIZEN ADVISORY GROUPS AND LOCAL INTEREST GROUPS OR PERSONS

Sierra Club, Georgia Chapter
1447 Peachtree Street N.E.
Suite 305
Atlanta, GA 30309

National Wildlife Society
1401 Peachtree Street N.E.
Suite 240
Atlanta, GA 30309

Wade Harrison, Project Director
The Nature Conservancy
Chattahoochee Fall Line Office
P.O. Box 52452
Columbus, GA 31905

USDA Forest Service
Southern Region
Attn: Elizabeth Agpaoa
1720 Peachtree Road NW
Atlanta, GA 30309

Defenders of Wildlife National Headquarters
Attn: Laura Turner Seydel
1130 17th Street NW
Washington, DC 20036

Georgia DNR
Georgia Wildlife Resources Division
2070 U.S. Hwy. 278, SE
Social Circle, GA 30025

Mr. Frank White, Executive Director
Alabama State Historic Preservation Officer
Alabama Historic Commission
468 South Perry Street
Montgomery, AL 36130

Southern Environmental Law Center
The Candler Building
127 Peachtree St., Suite 605
Atlanta, GA 30303-1840

V. NATIVE AMERICAN TRIBAL REPRESENTATIVES (All Provided CDs)

Mr. Carlos Bullock
Representative
Alabama/Quassarte Tribe of OK
P.O. Box 187
Wetumka, Oklahoma 74880

Ms. Augustine Asbury
Tribal Hist. Pres Officer
Alabama-Coushatta Tribe of Texas
571 State Park Road 56
Livingston, Texas 77351

Ms. Gingy Nail
Director of Cultural Res.
Chickasaw Nation
126 North Oak Street
Ada, Oklahoma 74820

Mr. Henry Harjo
Representative
Kialegee Tribal Town
P.O. Box 332
Wetumka, Oklahoma 74883
74884

Mr. Robert Thrower
Representative
Poarch Band of Creek Indians
5811 Jack Springs Rd
Atmore, Alabama 36502

Ms. Natalie Deere
HP Officer
Seminole Nation of OK
P.O. Box 1498
Wewoka, Oklahoma

Mr. Ken Carlton
Tribal Hist. Pres Officer
Mississippi Band of Choctaw Indians
P.O. Box 6010
Choctaw, Mississippi 39350

Mr. Willard Steele-Historic Pres. Officer
Seminole Tribe of Florida
AH-THA-THI-KI Museum
HC 61, Box 21A
Clewiston, Florida 33440

Mr. Charles Coleman
Representative
Thlopthlocco Tribal Town
P.O. Box 188
Okemah, Oklahoma 74859

Ms. Joyce Bear-Preservation Officer
Muscogee (Creek) Nation of OK
Cultural Preservation Office
P.O. Box 580
Okmulgee, Oklahoma 74447

Ms. Lisa Stopp - Representative
United Keetoowah Band of the Cherokee Indians of Oklahoma
P.O. Box 746
Tahlequah, Oklahoma 74465

VI. LOCAL NEWS, MEDIA, AND LIBRARIES (* = provided hardcopies)

Columbus Ledger-Enquirer
P.O. Box 830
Columbus, GA 31902

*W.C. Bradley Memorial Library
1120 Bradley Dr.
Columbus, GA 31906

*Sayers Memorial Library (Fort Benning Main Post Library)
Building 93
Fort Benning, GA 31905

*Columbus Public Library
3000 Macon Road
Columbus, GA 31906

*South Columbus Branch Library
2034 South Lumpkin Road
Columbus, GA 31903

The Bayonet
Attn: Public Affairs Office
35 Ridgway Loop; Suite 381
Benning, GA 31905

*Phenix City-Russell County Public Library
1501 17th Avenue
Phenix City, AL 36867

*Donovan Research Library
8150 Marne Road
Bldg. 9230 Ste. 181
Fort Benning, GA 31905

*North Columbus Branch Library
5689 Armour Road
Columbus, GA 31909

VII. FORT BENNING AND OTHER ARMY OFFICIALS

Major General Michael Ferriter
Commanding General
Building 35
Fort Benning, GA 31905

Director, Installation Management Command
Southeast Region
1593 Hardee Avenue
Fort McPherson, GA 30330

Installation Management Command
Northeast Region Office
5A North Gate Road
IMNE-ZA
Fort Monroe, Virginia 23651-1048

NEPA Manager
HQ FORSCOM (AFEN-ENE)
1777 Hardee Avenue NW
Fort McPherson, GA 30330

Office of the Staff Judge Advocate
7021 Ingersoll St.
Bldg. 359
Fort Benning, Georgia 31905

Commander, Maneuver Center of Excellence
Directorate of Operations and Training
Building 35
Fort Benning, Georgia 31905

Garrison Commander
ATTN: IMSE-BEN-ZA
6751 Constitution Loop
Suite 550
Fort Benning, Georgia 31905

Deputy Garrison Commander
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Fort Benning, Georgia 31905

SECTION 8: LIST OF PREPARERS

Department of Army Staff

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Mr. John E. Brown - NEPA Program Manager, DPW-EMD, Fort Benning, Georgia.
Ms. Jodi Williams - NEPA Project Planner, DPW-EMD, Fort Benning, Georgia.
Mr. Henry Haas - BRAC NEPA Manager, DPW-EMD, Fort Benning, Georgia.
Dr. Christopher Hamilton - Chief, Environmental Programs Management Branch, Fort Benning, Georgia.
Ms. Linda Veenstra - Environmental Attorney, Office of Staff Judge Advocate, Fort Benning, Georgia.
Mr. Larry Lalka - Chief, Service and Management Division, Network Enterprise Center, Fort Benning, Georgia.

LGS Staff (Contractor for the I3MP)

Mr. Frank Riva - Project Manager, LGS Communications, Inc.
Mr. Jeffrey Fischer - Program Manager, LGS Communications, Inc.
Mr. John Webb - Project Site Manager, LGS Communications, Inc.

Consultant Staff (Stell Environmental Enterprises, Inc. & PlanIt^2, Inc.)

Name	Project Role	Degree	Years of Experience
Amy Altimare, MEM	Project Manager, Affected Environment, Senior QA/QC Reviewer	Masters in Environmental Management (MEM), Duquesne University 2009	13
Brian W. Boose	Technical Lead, Document Preparation, DOPAA, Environmental Impact Analysis	B.S., Biological Sciences/Ecology 1990	21
John DeLoretta	GIS Analysis; Mapping; Graphics	B.S., Geoenvironmental Studies 2008	2
Christa Stumpf	Environmental Technical Analyses	M.S., Forest Resources and Land Use Planning; University of Idaho 1996	14
Thomas J. Humes	Document Readability per the NEPA and CEQ Regulations, Technical Staff	B.A., Journalism 2009	2

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SECTION 9: REFERENCES

9.1 References

Deaver, S. An Ethnographic Overview of the Fort Benning Military Reservation. Georgia and Alabama. November 2000.

Department of the Army, Fort Benning, GA, "Integrated Natural Resources Management Plan," September 2001 (DA 2001).

Department of the Army, Fort Benning, GA, –Environmental Assessment and Finding of No Significant Impact Privatization of the Water Treatment and Distribution System and Wastewater Collection and Treatment System, Fort Benning, GA and AL" August 2002 (DA 2002).

Department of the Army, Fort Benning, GA, –Final Environmental Impact Statement Digital Multi-Purpose Range Complex Fort Benning, Georgia," April 2004 (DA 2004).

Department of the Army, Fort Benning, GA. "Historic Properties Component of the Integrated Cultural Resources Management Plan For Certification under the Army Alternate Procedures for Historic Properties," February 2006 (DA 2006).

Department of the Army, Fort Benning, GA, –Final Environmental Impact Statement BRAC 2005 and Transformation Actions at Fort Benning, GA," October 2007 (DA 2007).

Department of the Army, Fort Benning, GA, –Endangered Species Management Plan – Red-cockaded Woodpecker." July 2001 (RCW-ESMP 2001).

Department of the Army, Fort Benning, GA, –Installation Design Guidelines" 95% Submittal, June 2009 (IDG 2009).

Department of the Army, Fort Benning, GA, –Integrated Cultural Resources Management Plan" August 2008 (ICRMP 2008).

Department of the Army, Fort Benning, GA, –Supplemental Environmental Assessment for the Digital Multi-Purpose Range Complex (DMPRC) Vegetation Removal and Range Modifications Fort Benning, GA," February 2008 (DA 2008).

Department of the Army, Fort Benning, GA, –Final Environmental Impact Statement Maneuver Center of Excellence Fort Benning, GA," June 2009 (DA 2009).

Fort Benning Website Data:

https://wwwbenning.army.mil/emd/conservation/endangered/woodpecker.htm)
https://www.benning.army.mil/EMD/conservation/endangered/relict_trillium.htm
https://www.benning.army.mil/EMD/conservation/endangered/gopher_tortoise.htm
https://www.benning.army.mil/EMD/program/legal/index.htm

Georgia Department of Natural Resources - Environmental Protection Division (GaDNR-EPD) Website Data:
http://www.gaepd.org/Files_PDF/305b/Y2010_303d/Y2010_Streams_DRAFT
http://www.gaepd.org/Documents/305b.html
http://www.state.ga.us/gswcc

Georgia Department of Natural Resources (GaDNR) Website Data:
http://www.georgiaair.org/airpermit/html/planningsupport/naa.htm

Natural Resources Conservation Service, United States Department of Agriculture. Official Soil Series Descriptions [Online WWW]. Available URL:
http://soils.usda.gov/technical/classification/osd/index.html

US Army Information Systems Engineering Command (ISEC) - Initial Concept Design of the Proposed I3MP at Fort Benning, GA, 2009. (ISEC 2009).

United States Fish and Wildlife Service (USFWS) website data:
http://www.fws.gov/news/newsreleases/showNews.cfm?newsId=50D48AF4-9455-8214-DAAC8AC25F3D7196
http://www.fws.gov/migratorybirds

Various Environmental Assessments conducted for Proposed Actions at Fort Benning, Georgia, 2000-2009.

9.2 Persons Consulted

Michael Barron, RCW Program Manager, Fort Benning, 2010.

John Brown, NEPA Program Manager, Fort Benning, 2010.

Tim Marston, Wildlife Biologist, Fort Benning, 2010.

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Ted Williams, Hazardous Waste/UST Program Manager, Fort Benning, 2010.

Kristina Witter, Wildlife Biologist, Fort Benning, 2010.

Frank Riva, Project Manager, LGS, 2010.

John Webb, Site Manager, LGS, 2010.

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APPENDIX A: PERTINENT CORRESPONDENCE